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D1.3 FINAL MODEL OF DIVERSITY:
Findings from the pre-pilots study

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Authors	Ivano Bison, Miriam Bidoglia, Matteo Busso, Ronald Chenu Abente, Martina Cvajner, Marcelo Dario Rodas Britez, George Gaskell, Giuseppe Sciortino, Sally Stares, Giuseppe Alessandro Veltri,
Reviewers	Fausto Giunchiglia (UNITN)

Abstract	In this report, we present the outcome of the analysis carried out on the pre-pilot's data. The data collected were very rich and, therefore, further analysis might be explored in the near future for scientific research. However, in this report, we present a comprehensive overview of the data collected using descriptive statistics and modelling.

	Despite the difficult conditions in carrying the data collection of the pre-pilots that affected, in some cases, the quantity and quality of some of the data, the dataset collected revealed to be very useful to gain insights about the not apparent form of diversity across students' community. Although the limits, the preliminary analysis highlight several points that the development of the future platform should consider: 1. Diversity should be considered a manifestation of a complex interplay between dispositional aspects, contextual elements highlighted by social practices that are not simply accountable with manifest traits, the so-called surface diversity, such as gender, age, or education. 2. Diversity appears to be as much within groups than between groups, meaning that we should assume homogeneity of views in a cultural unit. This is in line with recent findings in the sociology of culture. 3. Hence, the best strategy to account for diversity, in this context, is to consider it at the level of practices rather than ascribable to stable features such as personality, value orientation and similar measure.
Keywords	Research protocol, diversity, pre-pilots, design

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** R: Document, report (excluding the periodic and final reports)*

DEM: Demonstrator, pilot, prototype, plan designs

DEC: Websites, patents filing, press & media actions, videos, etc.

OTHER: Software, technical diagram, etc.

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ABBREVIATIONS

AAU	Aalborg University (DK)
JLU	Jilin University (CN)
LSE	London School of Economics (UK)
NUM	National University of Mongolia (MN)
UC	Universidad Católica "Nuestra Señora de la Asunción" (PY)
UNITN	University of Trento (IT)

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1. Introduction

In this report, we present the outcome of the analysis carried out on the pre-pilots data. The data collected were very rich and, therefore, further analysis might be explored in the near future for scientific research. However, in this report, we present a comprehensive overview of the data collected using descriptive statistics and modelling.

In section 2, we present a brief overview of the study's measurement instruments, a section necessary to understand the results.

In section 3, we give a short presentation of the survey protocol, and the entire protocol has been previously submitted as part of D1.4.

Section 4, 5 and, 6 contain the results presented in this paper. Section 4 show the descriptive tables concerning sports activities and cooking and relative practices in the different communities surveyed by the pre-pilots. Section 5 focuses on the classification of cultural activities using latent class analysis, and the group identified are crossed with the personality and values scales. Section 6 focuses on the values and personality-based segmentation, indicating that they are not a good proxy of cultural diversity, at least in the communities considered, but more of an individual level type of marker. In the same section 6, the second part, we explore the relationship between psychographic segmentation and social practices concerning physical activities and cooking.

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2. Tools and measurement

As mentioned above for the survey data collection process, we developed several measurement tools: synchronic (closed-ended questionnaire) and diachronic (time diary and streaming data from smartphones). In this section, we describe their structure.

2.1. The synchronic measurements instruments (The questionnaire)

Diversity is a complex, multidimensional and multi-layered phenomenon. In other words, it is a latent concept that cannot be captured as a whole with a single measuring instrument but requires to be dissected into elementary parts that can be measured and reconstructed as a combination of its observed elemental parts.

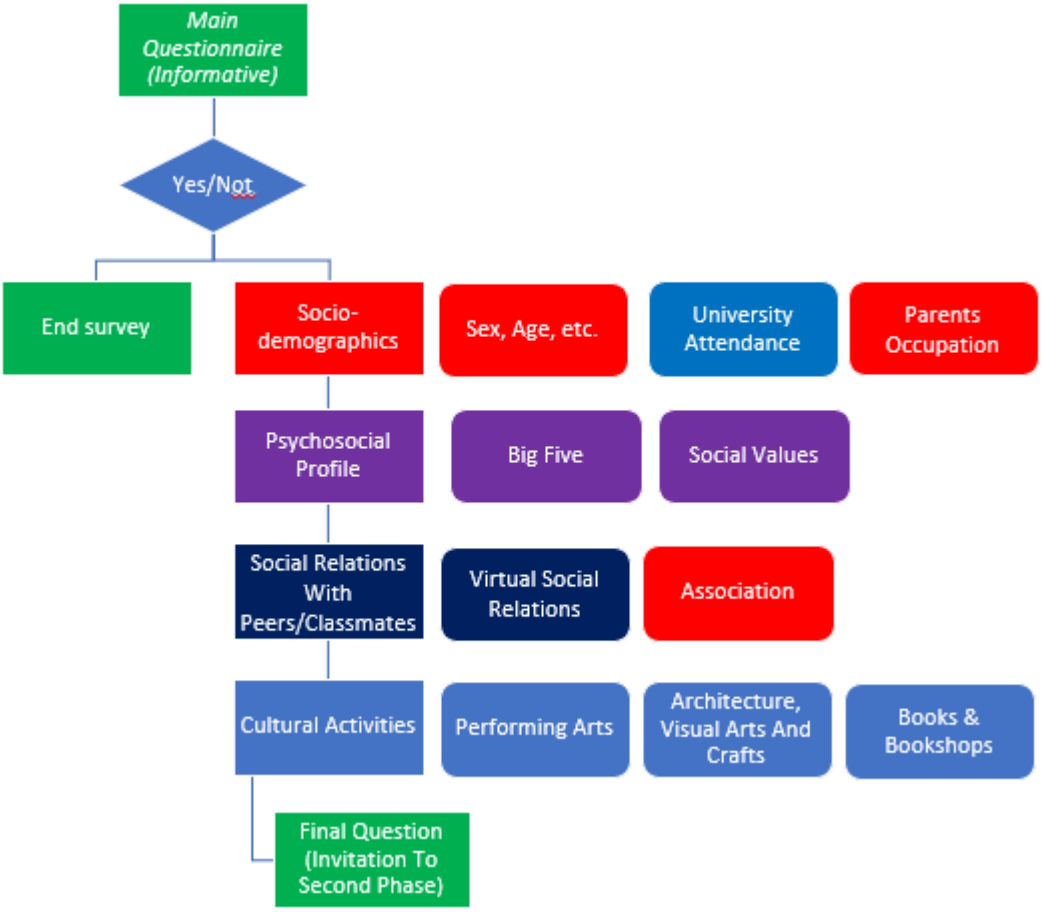

FIGURE 1 STRUCTURE OF THE QUESTIONNAIRE (MAIN) ADMINISTERED TO THE WHOLE POPULATION.
LEGEND: (RED) MATERIAL COMPONENTS; (PURPLE) MEANING COMPONENTS; (BLUE) COMPETENCE COMPONENTS; (GREEN) OTHERS INFORMATION'S.

In this first attempt to develop tools for observing diversity, we decide to focus on only a few specific subsets of diversity areas. Furthermore, in order to increase the amount of information collected and reduce the burden on respondents, the entire questionnaire was divided into three sub-questionnaires. The former (figure 5) was

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administered to the whole population with the aim of collecting a broad general set of information related mainly to superficial diversity and, secondly, to cultural consumption and leisure (deep diversity), and, finally, to some dimensions pertaining to social relations (virtual and real). The second (figure 6) and third parts were administered only to i-Log participants and mainly devoted to finding deep diversity information. The second is mainly focused on exploring specific social practices, such as moving, cooking and shopping, and physical activities. The third (figure 7), explores the user's experience with the app and testing a multiple intelligence scale. Moreover, according to the social practice approach, all three the questionnaire gathered information related to material, competence, and meaning.

FIGURE 2 STRUCTURE OF THE QUESTIONNAIRE (I-LOG.1) ADMINISTERED TO ONLY THE I-LOG PARTICIPANTS.
LEGEND: (RED) MATERIAL COMPONENTS; (PURPLE) MEANING COMPONENTS; (BLUE) COMPETENCE COMPONENTS; (GREEN) OTHERS INFORMATION'S; (GREY) SOCIAL PRACTICE

The structure of the questionnaires and their content are self-evident. Each question and scale can be used as a single elementary piece of information on specific diversity characteristics. Their combination, in turn, can be used as a complex measure of

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diversity on specific social practices. Their use and the first empirical evidence will be the content of deliverable 1.3.

However, in the following, we will devote a few words to the questions we have decided to use to measure the meaning of social practices. However, these instruments can be used on their own to measure specific characteristics of diversity not directly related to particular social practices, but as a comparison between specific groups of subjects.

In the diversity pilot, we focused on five different scale for measure meaning: two scales for measure personality traits – Big Five (Donnellan, M. B., et al. (2006), and in a Jungian perspective (Jung, C. G. (1971); Briggs Myers, I. (1980, 1995); Mascarenas DDL, 2016; Wilde, D.J. (2009, 2011); Ewa Andrejczuk (2020) –; two scale to measure to measure human values (Schwartz 1994, Schwartz et al., 2001 & Valdiney V.G., 2014). Moreover, we use a multiple intelligence scale (Tirri, Nokelainen, 2008) as proxy to measure general competence of the subjects to use in addition with the specific competence gathered with other specific questions in the questionnaires.

In a few words, the first four scales have been chosen to map, from a different perspective, the meaning acting on daily routine behaviour and defining attitudes in general. I stress that the study of diversity is primarily an enquiry to test and develop instruments to capture diversity. The decision to use similar tools is justified because we do not know whether these tools can be discriminating or work properly with an electronic administration such as the one envisaged in the survey.

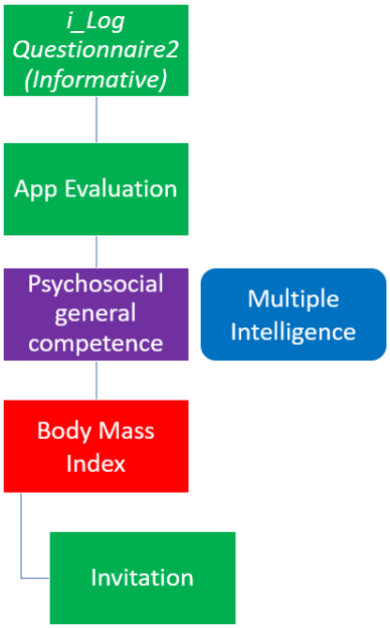

FIGURE 3 STRUCTURE OF THE QUESTIONNAIRE (I-LOG.2) ADMINISTERED TO ONLY THE I-LOG PARTICIPANTS.
LEGEND: (RED) MATERIAL COMPONENTS; (PURPLE) MEANING COMPONENTS; (BLUE) COMPETENCE COMPONENTS; (GREEN) OTHERS INFORMATION'S; (GREY) SOCIAL PRACTICE

The last scale, multiple intelligence, instead of being considered an additional personality trait, is considered a proxy for the subjects' actual or potential abilities. Moreover, this scale is used primarily to test it in its electronic form of administration, and secondly to observe the degree of correlation with individual specific skills of the subjects.

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2.2. The diachronic measurements instruments (the time diary and the sensor data)

Time Use Surveys (TUS) aims to measure time use by individuals and households. In more detail, TUS measure the frequency and duration of human activities, offering a detailed view of society's social behaviour. In this scenario, the time diary diachronic research method and tool to gather data about user behaviours, activities, and experiences. Since the diary studies are recorded sequentially over time, it can be used to investigate time-based phenomena, temporal dynamics, and fluctuating phenomena such as moods. In a diary study, data is self-reported by participants longitudinally underlying activity sequences in time episodes that can range from a few days to even a month or longer (in our case up to one month) with a regular time interval (in our case half an hour for the first two weeks and one hour for the second two weeks). In other words, such type of data is usually collected by a self-completed time-diary that allows registering, at fixed time intervals, the sequence of an individual's activities. For each main activity in each interval, additional information is usually recorded, like information about "where" and "with whom" this activity was done.

In the diversity pilot, we develop two different time diaries with different timings and different objectives. The first one collects information about the beginning and the end of the day. At the beginning of the day (at 08:00), the subject must answer two qualitative questions. The first one asks about the quality of sleep "How would you rate your sleep quality last night?" and the second one asks how the subject expects the day to be "How do you expect your day to be?". Both are measured with a five-point scale.

At the end of the day (at 10pm) we ask subjects a general question about how the day was "How was your day?", plus a series of specific questions related to whether they had a problem at college/university "Did you have any problem at [college (weekdays)] today?", what and how did they solve the problem "What was the problem you had?", "Where you able to solve the problem (alone or with help of someone)?", and what was the effect of COVID-19 in limiting their life that day "Is there anything that you would have liked to do today that was not possible because of the Covid-19 virus?".

The second is a standard time diary with special sections on three main activities. Every half hour for the first two weeks and every hour for the second two weeks participants received a notification on their smartphone with four questions and were asked to fill in the following information:

- their activity "What are you doing?" with 34 answer categories such as sleeping, eating, working, etc.,
- the current location "Where are you?" with 26 categories such as home, workplace, university, restaurant, etc.,
- the persons being with the participants at the time of the question "Who is with you?" with 8 categories such as nobody, partner, friends, etc,
- and their mood "What is your mood?".

When the subject states that (s)he has or was "eating", "travelling" and "doing sport", (s)he is invited to answer some additional questions. Specifically:

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- When (s)he eats they must report what main foods and drinks they ate with 20 categories such as rice, potatoes, meat, beer, etc.
- When (s)he is doing sport, they have to state the type of sport with 9 categories such as jogging and running: water sports, etc.
- When (s)he travels they have to state (a) the reason for the travel with 7 categories such as study, social life, etc. and (b) the means of transport with 16 categories such as car, bus, etc.

Moreover, at 10:00; 12:00; 15:00; 17:00; 19:00; 22:00; 24:00; 02:00; 04:00; 06:00 the subjects receive one additional question in addition to the four it regularly receives. This question asking the subject if they had eaten in the las two hour and what they ate or drink ate with 26 categories such as rice, potatoes, meat, beer, crackers/biscuits, etc.

Simultaneously, the i_Log app collects in the background information from the following 32 *hardware* (e.g., accelerometer, gyroscope, GPS, etc.) and *software* (e.g., when a new notification pops-up, or when the device connects to a Wi-Fi network, etc.) sensors, plus 3 related to the time diary, during the day.

TABLE 1 LIST OF I-LOG SENSORS

id	Sensor	Estimated Frequency
1	Accelerometer	up to 20 times per second
2	Linear Acceleration	up to 20 times per second
3	Gyroscope	up to 20 times per second
4	Gravity	up to 20 times per second
5	Rotation Vector	up to 20 times per second
6	Magnetic Field	up to 20 times per second
7	Orientation	up to 20 times per second
8	Ambient Temperature	up to 20 times per second
9	Pressure	up to 20 times per second
10	Relative Humidity	up to 20 times per second
11	Proximity	up to 20 times per second
12	Location	Once every minute
13	WIFI Network Connected to	On change
14	WIFI Networks Available	Once every minute
15	Bluetooth Devices	Once every minute
16	Bluetooth LE (Low Energy) Devices	Once every minute
17	Running Applications	Once every 5 seconds
18	Screen Status [ON/OFF]	On change
19	Airplane Mode [ON/OFF]	On change
20	Battery Charge [ON/OFF]	On change
21	Battery Level	On change
22	Doze Mode [ON/OFF]	On change
23	Headset Status [ON/OFF]	On change
24	Ring mode [Silent/Normal]	On change
25	Music Playback (no track information)	On change
26	Notifications received	On change
27	Touch event	On change
28	Cellular network info	Once every minute
29	Movement Activity	Once every 30 seconds
30	Step Counter	up to 20 times per second
31	Step Detection	On change
32	Light	up to 20 times per second

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33	Time Diaries answers	On change
34	Time Diaries confirmation	On change
35	Time Diaries questions	On change

All data are generated as time-series, consisting of a tuple composed of a timestamp and one or more values on a technical level. As briefly mentioned above, the smartphone generates and stores data locally before synchronising it with the backend server for permanent storage. The device stores time-series tuples in a buffer in memory and as soon as the buffer is full, it is unloaded in a compressed and encrypted file on the device local storage, inside the application sandbox that prevents other applications from assessing them. On average, we expect a modern smartphone to generate 500MB per day of uncompressed data. A data collection with 500 participants would generate around 7.5TB, without redundancies and backups, in one month.

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3. Survey Protocol

This section describes the entire survey preparation protocol, concerning both the questionnaires and the i-Log app. Each of these steps follows the submission and approval of all ethical and legal documents described above.

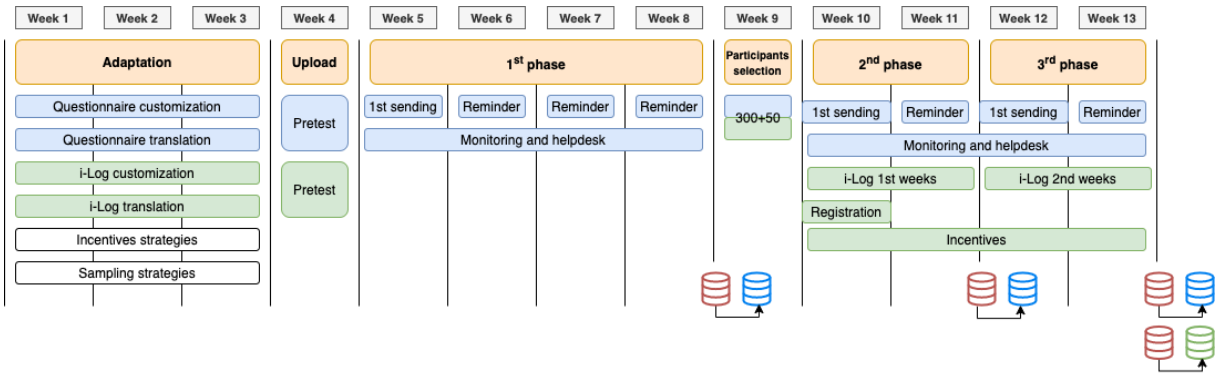

FIGURE 4 SURVEY PROTOCOL

In total, three questionnaires were sent: a first invitation questionnaire sent to the entire student population; a second at the beginning of the survey with i-Log and a third in the middle of the survey.
The preparation and management of each of the questionnaires was carried out on the basis of the activities described in fig. 3. The figure describes the operational sub-phases for the execution of the survey, concerning both the questionnaires and i-Logs.
As regards the questionnaires, the sub-phases are:

1. **Questionnaire preparation**: the various phase to upload a final version of the questionnaire to be sent to students
2. **Data Collection**: data from questionnaire is collected.
3. **Server Decommission**: the technical infrastructure for the survey is decommissioned.
4. **Data Preparation**: the collected data is prepared by anonymizing, pseudonymizing and putting it into a data structure that will facilitate its analysis.

As regards i-Log, the sub-phases are:

1. **Functional & Technical Service Specification**: used to agree what is the technical configurations that will be needed for the expected size of the survey.
2. **Server Deploy**: deployment of all the technical infrastructure needed for the execution of the survey.
3. **Registration**: users may register to participate in the survey.
4. **Tech Test**: testing for sensors and questions are done towards early identification of problems in participants.
5. **Data Collection Period**: data from sensors and questions is collected.
6. **Server Decommission**: the technical infrastructure for the survey is decommissioned.
7. **Data Preparation**: the collected data is prepared by anonymizing, pseudonymizing and putting it into a data structure that will facilitate its analysis.

To facilitate the execution of the different phases, two templates have been produced, concerning both the questionnaires and the log:

- WP7_Monitoring_Protocol _template
- WP7_Survey_Protocol _Template

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which can be found in Appendix 2.
The next sections will describe in detail the activities for each partner related to the sub-phases of preparation and management of the survey, as well as the related templates. The preparation consists of 7 sub-phases, to be done before the administration to the participants. They are:

1. Adaptation and Translation
2. Uploading
3. Sampling strategy
4. Incentives design
5. Sending and monitoring mailings
6. Data preparation
7. Data collection

Both AAU and UNITN supported towards the correct customization, translation, upload the questionnaire.

3.1. Adaptation and Translation

The first phase involved the adaptation of the survey tools by the partners involved. In this phase, each of the partners received both the questionnaires and the version of the app, including the time diaries and sensors collected. These tools were then evaluated and adapted to the specific contexts and needs of the partners, in accordance with the survey objectives mentioned above. The various questions present in the questionnaire which concerned specific contexts were therefore adapted - e.g. the name of the Departments or the list of daily activities within the time diaries - and modified the parts deemed sensitive in the different sites - e.g. the list of nationalities.
Once this part was finished, the two complete instruments of all parts in English were translated. Each partner therefore has:

1. Identifying the batteries present in the questionnaire already translated into their own language
2. Translating the remaining questions.

All partners have taken steps to:

1. Select two translators who do the translation separately
2. Select a reviewer who would evaluate the translations obtained

Each translated questionnaire and time diaries were then reviewed and validated.

3.2. Uploading and decommission

The translated versions of the questionnaires and time diaries have been uploaded to the respective platforms (LimeSurvey and i-Log) by UNITN.
Once the upload and the reviews were completed, the partners involved conducted:

- a pre-test for each of the questionnaires both in English and in the language of the country of origin
- a pre-test of the app

Each of the partners produced a questionnaire review document, specifying the necessary corrections and changes that have been made by UNITN.
To allow the various partners greater autonomy in the management of the connected questionnaires, an instruction booklet was produced, in addition to the information shared during the project meetings (see Appendix 2).

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Once the upload phase was completed, the access permissions to the survey were changed, excluding partners not authorized to access the personal contents of the survey. Subsequently, each partner uploaded on LimeSurvey the list of emails and identifiers of the students present in their respective universities, following the instructions described in the annex and with the support of UNITN.

3.3. Sampling strategy

This sampling strategy is based on the experience related to previous surveys conducted at the University of Trento. Based on this, a first sample was defined in the entire population of students regularly enrolled in the various universities that took part in the survey. These were sent a first email invitation to the survey containing the link to the first questionnaire (see attachments).
Among the participants who filled out the first questionnaire, all those who met the following requirements were selected:

1. Having consented to the processing of personal data
2. Having agreed to participate in the second part of the survey
3. Have consented to be contacted
4. Having a smartphone with a version of Android 6.0 or higher installed

In the second phase of the survey, the goal was to reach around 250 participants. Given the high dropout rate in the registration and app installation phase, 350 participants were randomly selected. The first 300 participants received two email invitations, one for the second questionnaire and one for the installation of i-Log (see attachments). After the first 3 days of registration, a second invitation email was sent to the remaining 50 participants, with the aim of integrating the sample.

3.4. Incentives design

The general strategy was based on monetary incentives, as well as on reminders, both for the questionnaires and for the i-Log, and the support of the helpdesk (see 6.7. Sending and monitoring mailings).
Given the sampling strategy, no incentives other than reminders were provided for filling in the questionnaires. Within the first questionnaire, however, the invitation to take part in the second phase of the paid survey was specified.
As regards the second phase, 3 different types of incentives have been provided:

1. Payments for completing 85% of the survey
2. Daily prizes
3. Final prizes

Each of the partners has adapted the incentive strategy and remuneration based on the specifics of their country and sampling (see table below).

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TABLE 2 INCENTIVES

	AAU	JLU	LSE	NUM	UC	UNITN
Questionnaire	.	8rmb	.	.	.	.
1st weeks	150kr	100rmb	.	10,000MNT	25.000 Gs	20€
2nd weeks	150kr	100rmb	.	10.000MNT	25.000 Gs	20€
Daily prizes	5 of 40kr	.	.	5.000MNT	10 vouchers	5 of 5€
Final prizes						
1st weeks	3 of 800kr	3 of 100rmb	£150 (1/50)	100.000MNT	1 voucher restaurants	3 of 100€
2nd weeks	3 of 1200kr	3 of 100rmb	£150 (1/50)	150.000MNT		3 of 150€

In the case of UNITN, AAU, UC, JLU and NUM, it was decided to pay the participants with the consideration of € 20 for the first two weeks of the survey with i-Log and € 20 for the second two, adjusted according to the basket of goods that can be purchased in each of the countries. Thus, a participant who completed at least 85% of the notifications for the entire month received a compensation of € 40.
As for the weekly prizes, only UNITN, AAU, UC, and NUM have chosen to adopt this strategy, with the consideration of 5 € for 5 participants drawn randomly every day for the first two and for the second two weeks of the survey. with i-Log and € 5 for the second two, adjusted according to the basket of goods that can be purchased in each of the countries. In the case of UC, it was preferred to dispense 5 vouchers for a lunch for one person in a restaurant every two weeks.
For UNITN, AAU, JLU and NUM finals the final prizes were defined as 3 prizes of € 100 (or corresponding) for the completion of the first two weeks, to be randomly awarded among the most active participants; and 3 prizes of € 150 (or equivalent) for the most active participants who attended the entire month. Otherwise, LSE placed 1 prize for every 50 participants of £ 150 for both the first and second two weeks. Instead, UC has placed as a final prize 1 voucher for a dinner for two at the restaurant.
Given the impossibility of contacting the participants via email, JLU has chosen to encourage the compilation of the questionnaire by paying around 1 € for each participant.

3.5. Sending and monitoring mailings

The sending of invitations and communication with participants took place in three phases.
In the first phase, an email was sent containing the description of the survey, the invitation to the first questionnaire and information on the second part of the survey (specified in the first questionnaire). This invitation was then reiterated through 4 reminders sent every week to all students who had not yet completed the survey.
At the end of the first phase, the participants in the second part of the survey were selected. To these were sent:

1. The second questionnaire at the beginning of the first two weeks of the survey with i-Log followed by a reminder after one week

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2. The third questionnaire at the end of the first two weeks of survey, followed by a reminder after one week

In conjunction with the sending of the second questionnaire, an email was sent with instructions for downloading i-Log, accompanied by a short specification manual (see appendix).
At the end of the survey a last email was sent, with the steps to follow before uninstalling the app as well as a last reminder to fill in the second and third questionnaires - for the few participants who have not yet done so.
To facilitate the monitoring of users during the survey with i-Log and identify any problems, UNITN has produced daily reports containing:

- The number of notifications each participant responded to
- The amount of data collected by the individual sensors

Using this information, the field supervisors were able to contact the inactive participants during the survey every 3 days and support them in solving problems.
A further element of contact was the daily sending of the results of the daily prize draw to interested participants.
For each of the phases, the templates of the emails and the description of the survey and the invitation were produced to be sent to the participants (see Appendix 2).
Each of the phases was managed by the field supervisors appointed by each partner who took part in the survey. Field supervisors played the main role of providing support to the participants throughout the investigation. In order to prepare the field supervisors for the various tasks, specific meetings were held with each of them and a manual was produced, containing the description of i-Log and the FAQs found in the previous surveys conducted by UNITN (see appendix 2).

3.6. Data Preparation

Data preparation consists of two parts:

1. Selection of participants in the second phase of the survey
2. Anonymization of datasets and uploads to the research infrastructure

As regards the first part, a protocol document was produced (see appendix 2) to guide the partners in downloading the data of the first survey and in selecting the participants.
Regarding the selection of participants, a script in R was produced which:

- Read the .csv dataset generated from the download
- Select the list of participants according to the survey prerequisites
- Select a subsample of 350 participants
- Create a dataset with the information needed to:
    a. Upload the participant list in the second and third questionnaire
    b. Contact the students
- Export the data in an excel format

Concerning the second part, namely the preparation of the datasets for uploading to the research infrastructure, in addition to the protocol document, a script in R was produced for the anonymization (deletion) of the personal data of the participants, i.e., name and addresses for the contact of the participants.
As for i-Log, the entire preparation and anonymization process is managed by UNITN.

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3.7. Data Collection

To support and monitor the execution of the entire data collection, a table shared with partners (shown below) was produced. The table was updated daily with the dates scheduled for each of the sub-phases, highlighting the tasks already conducted.

TABLE 3 PART 1 - SURVEY DATES

Steps1/Partner	1.[UNITN] Documents ready	2.[LPARTNER] Digital DPA signed	3.[LPARTNER] Paper DPA signed	4.[LPARTNER] Upload of participants / link for surve available	5.[LPARTNER] Testing	6.[LPARTNER] Lime Surveys Campaign Start	7.[UNITN] Week1 end Update
AAU	2020/09/13	2020/09/25	2020/10/18	2020/09/25	2020/09/26	2020/09/28	2020/10/08
JLU	2020/09/13	2020/09/18	2020/11/08	2020/10/06	2020/10/07	2020/10/12	2020/10/15
LSE	2020/09/13	2020/10/09	2020/11/08	2020/10/13	2020/10/16	2020/10/19	2020/10/22
NUM	2020/09/13	2020/10/18	2020/10/18	2020/09/21	2020/09/21	2020/09/28	2020/10/08
UC	2020/09/13	2020/10/18	2020/10/18	2020/09/25	2020/09/26	2020/09/28	2020/10/08
UNITN1	-	-	-	-	-	2020/09/28	-
UNITN2	2020/09/13	2020/10/18	2020/10/18	2020/09/18	2020/09/19	2020/09/28	2020/10/08

TABLE 4 PART 2 - SURVEY DATES

Steps1/Partner	8.[UNITN] Week2 end Update	9.[UNITN] Materials for Data Preparation given	10.[UNITN] Week3 end Update	11.[UNITN] Week4 end Update	12.[LPARTNER] Lime Survey Campaign End	13.[LPARTNER] Start of data preparation	14.[LPARTNER] Data Preparation End
AAU	2020/10/15	2020/10/12	2020/10/22	2020/10/29	2020/11/05	2020/11/06	2020/11/06
JLU	2020/10/22	2020/10/12	2020/10/29	2020/11/05	2020/11/05	2020/11/06	2020/11/06
LSE	2020/10/29	2020/10/12	2020/11/05	-	2020/11/05	2020/11/06	2020/11/06
NUM	2020/10/15	2020/10/12	2020/10/22	2020/10/29	2020/10/05	2020/11/06	2020/11/06
UC	2020/10/15	2020/10/12	2020/10/22	2020/10/29	2020/10/29	2020/11/02	2020/11/06
UNITN1	-	-	-	-	2020/10/29	2020/11/02	2020/11/06
UNITN2	2020/10/15	2020/10/12	2020/10/22	2020/10/29	2020/10/29	2020/11/02	2020/11/06

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TABLE 5 PART 3 - SURVEY DATES

Steps1/Partner	15.[UNITN] Second Survey ready and translated	16.[LPARTNER] Second survey for i-Log start	17.[LPARTNER] Second Survey for i-Log end	18.[LPARTNER] 2nd survey Data Preparation End	19.[UNITN] All data Uploaded in Research Infr.	20.[UNITN] Training session start/end	21.[UH] Cloud Server Ready
AAU	2020/10/30	2020/11/09	2020/11/23	2020/11/25	2020/12/02	2020/11/02	2020/10/30
JLU	-	-	-	-	-	-	-
LSE	2020/10/30	2020/11/17	2020/12/07	2020/12/09	2020/12/15	2020/10/29	2020/10/30
NUM	2020/10/30	2020/11/09	2020/11/23	2020/11/25	2020/12/02	2020/10/23	2020/10/30
UC	2020/10/30	2020/11/09	2020/11/23	2020/11/25	2020/12/02	2020/10/30	2020/10/30
UNITN1	-	-	-	-	2020/12/02	-	2020/10/01
UNITN2	2020/10/30	2020/11/09	2020/11/23	2020/11/25	2020/12/02	2020/10/23	2020/10/30

TABLE 6 PART 4 - SURVEY DATES

Steps1/Partner	22.[UNITN] Server Deployment Finished	23.[LPARTNER] Field supervisor has selected emails from LimeSurvey	24.[LPARTNER] Registration and Helpdesk starts	25.[UNITN] Data Collection starts	26.[UNITN] Eo first day Update meeting	27.[UNITN] Eo Week1 Update meeting	28.[UNITN] Eo Week2 Update meeting
AAU	2020/11/06	2020/11/06	2020/11/10	2020/11/13	2020/11/13	2020/11/19	2020/11/26
JLU	-	-	-	-	-	-	-
LSE	2020/11/13	2020/11/16	2020/11/18	2020/11/20	2020/11/23	2020/11/30	2020/12/06
NUM	2020/11/06	2020/11/06	2020/11/10	2020/11/13	2020/11/13	2020/11/19	2020/11/26
UC	2020/11/06	2020/11/06	2020/11/10	2020/11/13	2020/11/13	2020/11/19	2020/11/26
UNITN1	2020/10/05	-	2020/10/12	2020/10/13	-	-	-
UNITN2	2020/11/06	2020/11/06	2020/11/10	2020/11/13	2020/11/13	2020/11/19	2020/11/26

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TABLE 7 PART 5 - SURVEY DATES

Steps1/Partner	30.[UNITN] Eo Week3 Update meeting	31.[UNITN] i-Log Data Collection ends	32.[UNITN] Eo Data Collection Update meeting	33.[UNITN] Start of data preparation	34.[UNITN] Data Preparation End	35.[UNITN] Server decommision request	36.[UNITN] Data Upload in Research Infr.
AAU	2020/12/03	2020/12/11	2020/12/10	2020/12/10	2021/01/15	2021/02/08	2021/01/22
JLU	-	-	-	-	-	-	-
LSE	-	2020/12/18	2020/12/18	2020/12/18	2021/01/29	2021/02/08	2021/02/05
NUM	2020/12/03	2020/12/11	2020/12/07	2020/12/10	2021/01/15	2021/02/08	2021/01/22
UC	2020/12/03	2020/12/11	2020/12/08	2020/12/10	2021/01/15	2021/02/08	2021/01/22
UNITN1	-	2020/10/25	-	2020/10/25	2020/11/16	2020/11/26	2020/11/26
UNITN2	2020/12/03	2020/12/11	2020/12/10	2020/12/10	2021/01/15	2021/02/08	2021/01/22

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4. Findings: Descriptive Statistics

In this section, we report the descriptive tables and charts concerning the two modules of activities, physical/sport and cooking, that was covered in all the pilots data collection.

4.1. Convenient samples features

4.1.1. Student demographics

4.1.1.1. Gender

QA01 What is your gender?

Valid %	AAU	LSE*	UNITN	NUM	JLU	UC
Female	56	71	60	68	57	60
Male	44	29	40	32	43	40
N	202	1099	3773	1793	802	495

**'Other' gender recoded as missing system*

4.1.2. In the departmental community

4.1.2.1. Study groups

QD02 Are you in any informal study groups (beside the ones you are assigned to as part of your course organisation)?

Valid %	AAU	LSE	UNITN	NUM	JLU	UC
Yes	23	36	17	51	21	49
No	77	64	83	49	79	51
N	202	1108	3788	1802	807	497

4.1.3. In the student community

4.1.3.1. Associations

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QF01 Are you a part of, or are you a member of, any student association or group and/or other nonstudent associations?

Valid %	AAU	LSE	UNITN	NUM	JLU	UC
Only student association(s)	6	35	4	12	31	7
Only nonstudent association(s)	18	7	30	16	3	18
Both	8	12	3	6	9	11
No, neither	68	46	63	65	57	64
Total	100	100	100	100	100	100
N	202	1108	3788	1802	807	497

4.1.3.2. Students' societies

QF02 How many student associations do you belong to?

Valid %		AAU	LSE	UNITN	NUM	JLU	UC
N	Valid	64	519	1385	622	350	179
	Missing	145	598	2514	1214	494	337
Mean		1.2	2.9	0.4	2.9	1.7	1.5
Median		1	2	0	1	1	1
Mode		1	1	0	1	1	1
Std. Deviation		1.3	3.9	0.8	8.7	1.5	1.3
Minimum		0	1	0	0	0	0
Maximum*		6	70	11	100	22	5

**Values > 100 and <0 have been excluded from the analysis*

Note that large maximum values can drag the means up.

4.1.4. Categories of interest

QF03 Please mark the categories of interest of the student society(ies) you belong to.

Student associations

Selected category %	AAU	LSE	UNITN	NUM	JLU	UC
Faith	0.5	5.0	0.2	3.1	0.0	4.9
Arts & Performance	1.0	7.7	0.0	2.5	9.3	2.9
Amateur or specialist	1.0	1.9	0.5	4.3	6.9	2.3
Cultural & National	2.4	16.3	1.5	2.1	0.8	2.3
Careers	3.8	18.4	1.0	6.6	5.8	6.4
Volunteering & Charity	1.9	11.1	1.0	6.5	16.4	6.6
Political	3.4	13.8	1.8	1.0	1.2	3.7
Media	1.4	3.1	0.8	0.9	4.3	0.8
Sport	1.0	13.0	0.6	2.1	6.1	4.3
Recreational	1.4	7.0	0.6	1.5	6.0	2.9

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QF04 Please mark the categories of interest of the non-student society(ies) you belong to.

Non-student associations

Selected category %	AAU	LSE	UNITN	NUM	JLU	UC
Faith	1.9	4.6	6.7	2.6	0.4	15.4
Arts & Performance	4.8	2.1	5.1	3.1	1.4	2.9
Amateur or specialist	1.4	0.9	1.2	3.6	1.5	4.7
Cultural & National	3.8	2.2	3.3	1.3	0.4	3.5
Careers	1.4	2.4	0.4	6.2	0.8	1.6
Volunteering & Charity	8.7	6.0	13.4	8.7	3.6	10.3
Political	6.3	6.6	3.4	1.6	0.4	4.1
Media	0.0	0.4	0.4	0.8	0.2	1.0
Sport	10.1	3.2	13.3	4.3	2.3	8.0
Recreational	4.3	1.5	3.6	1.3	2.7	7.0

4.1.5. On social media community

4.1.5.1. 4.1 Social networks: frequency of use

QE01 How often do you use the following social networking channels?

	AAU			LSE			UNITN			NUM			JLU			UC		
% Frequency of use	No account	Passive account	Active account	No account	Passive account	Active account	No account	Passive account	Active account	No account	Passive account	Active account	No account	Passive account	Active account	No account	Passive account	Active account
Twitter	56	33	12	35	21	44	69	18	13	59	27	14	15	36	48	19	24	57
Facebook	3	6	92	10	29	61	24	26	50	1	2	97				7	26	68
LinkedIn	16	28	57	15	36	49	68	21	12	69	24	7	65	31	4	43	43	14
YouTube	2	14	85	4	15	82	7	14	79	2	4	94				2	10	89
Instagram	15	13	73	11	10	78	12	4	84	6	8	86				5	8	88
Telegram	73	16	12	61	28	11	28	21	51	73	18	9	67	29	4	40	40	20
Pinterest	46	40	15	52	40	9	61	25	14	46	25	29	69	28	4	26	37	37
Reddit	56	25	19	60	29	11	80	11	9	74	17	9	67	29	4	52	40	8
Flickr	80	18	2	78	22	0	91	8	0	83	14	3				57	42	1
Facebook Messenger	3	1	96	17	32	51	38	46	16	2	2	97				25	48	27
Whatsapp	28	21	52	2	5	93	2	2	97	69	21	10				2	2	96
Google Hangouts	62	33	6	52	41	6	62	33	5	64	20	16				31	34	35
Skype	19	73	8	23	65	12	31	61	8	60	31	9	65	31	4	43	47	10
Zoom	20	59	21	2	6	92	3	17	81	50	34	15	60	35	5	12	25	63
Snapchat	41	30	28	39	30	31	69	24	7	51	34	15				36	47	17
Tinder	65	23	12	68	24	8	88	9	3	79	17	4	68	29	3	54	43	4
WeChat	82	17	1	63	18	19	92	8	1	61	28	11	8	4	88	56	42	1
Viber	72	22	7	74	23	3	92	8	1	67	24	9				57	42	1
TikTok	72	18	11	60	20	20	76	10	14	51	28	21	34	37	29	33	35	32

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Bilibili													5	25	70				
Acfun													56	36	8				
Ivzhou													59	36	5				
Huaban													68	29	3				
Xiaohongshu													37	42	21				
Tieba													20	54	27				
Douban													48	40	12				
Tencent Meeting													11	70	20				
DingDing													19	65	16				
Tantan													68	30	3				
Momo													69	28	3				
QQ													7	7	86				
Kuaishou													52	39	9				
Huoshan													63	34	4				

Recoded variable
No account = no account
Passive account = Every few weeks, Rarely/Never
Active account = Several times a day, About once a day, A few times a week

4.1.5.2. Frequency of use of social networking sites for academic, social and leisure purposes

QE02 How often do you use social networking sites…?

Academic purposes

	AAU			LSE			UNITN			NUM			JLU			UC		
	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often
To solve an academic problem	22	54	24	21	55	24	19	48	32	2	26	72	1	45	54	12	52	36
To do research work	25	51	24	30	51	19	26	44	30	6	31	63	4	62	34	15	43	42
For online academic group discussion	17	36	46	14	38	48	21	37	42	14	40	46	6	65	29	19	37	43
To prepare for an exam	10	31	59	30	49	20	33	45	22	6	39	54	3	47	51	24	37	40
To communicate with friends for an exam	15	46	39	8	33	59	8	26	65	4	23	74	2	47	51	9	26	65
For collaborative learning	9	34	57	11	43	45	24	40	36	4	29	67	4	53	43	10	38	52
To keep up to date with uni activities	56	34	10	7	33	61	10	35	56	2	27	71	2	42	56	5	26	68
To seek help from teachers	6	33	62	40	44	16	49	41	11	12	46	42	6	62	32	21	47	32

Social purposes

	AAU			LSE			UNITN			NUM			JLU			UC		
	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often
To be sociable	25	45	30	4	21	75	11	34	56	7	32	61	24	54	22	14	49	37
To create your social identity	9	40	52	13	43	44	25	46	29	14	41	45	22	52	26	23	51	26
To attend social gatherings	3	11	87	9	40	51	21	50	30	11	41	48	15	59	26	19	43	38
To keep in touch with friends	6	28	67	1	8	91	2	14	84	5	31	63	0	21	79	2	16	81
To keep in touch with relatives	4	26	70	3	16	81	10	32	58	8	38	54	1	19	81	5	24	72
To get info about current social events	18	46	36	2	25	72	10	40	49	1	17	82	2	27	71	11	39	50
For sharing pictures	12	39	49	8	36	57	10	43	47	12	41	47	6	39	54	10	45	45

Leisure & miscellaneous purposes

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	AAU			LSE			UNITN			NUM			JLU			UC		
	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often	Never	Not often	Often
To look at funny stories	26	35	39	6	32	62	9	32	59	6	33	61	5	35	61	10	38	52
For watching movies	10	32	58	17	37	46	26	34	40	11	34	55	6	48	46	14	33	53
To get relief from academic stress	10	32	59	3	18	79	12	31	57	7	30	63	2	30	67	7	22	71
For reading news	29	47	24	3	25	71	4	27	69	3	28	69	4	42	53	4	28	68
To share new ideas	15	43	42	14	46	40	21	51	28	9	37	54	6	45	49	15	46	39
For getting work-related information	15	43	42	11	42	47	24	50	26	11	35	54	6	46	48	11	37	53

Recoded variable
Never = Never
Not often = Sometimes, Rarely
Often = Often, Always

4.2. Physical/ Sport activities

FIGURE 5 PHYSICAL ACTIVITIES (TYPOLOGY) BY GENDER

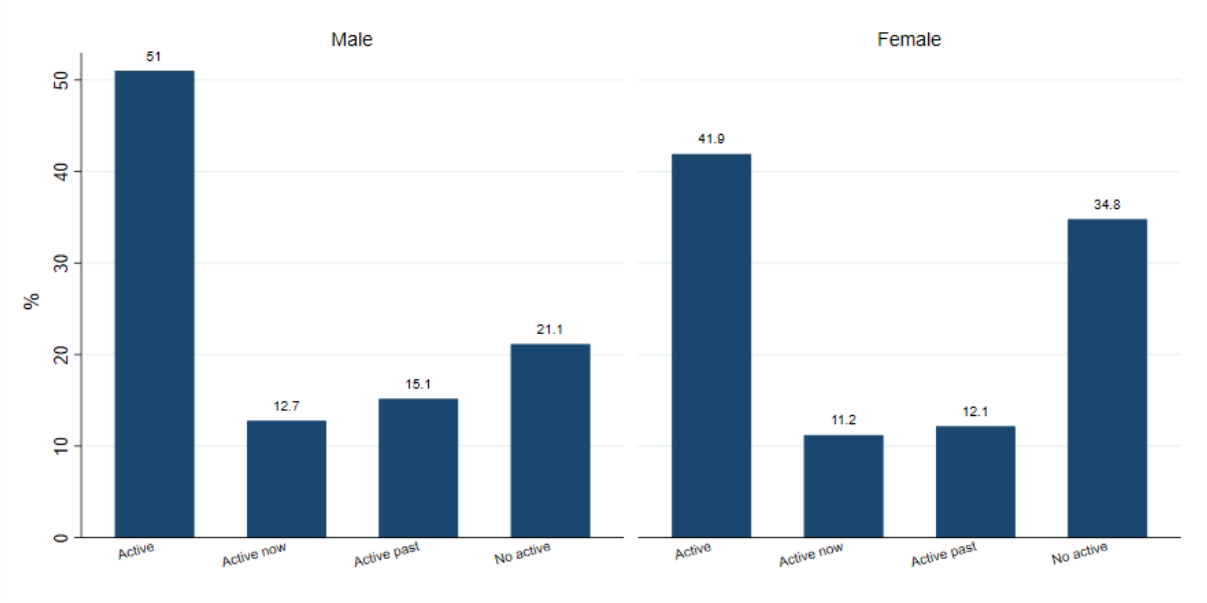

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FIGURE 6 PHYSICAL ACTIVITIES (TYPOLOGY) BY PILOT

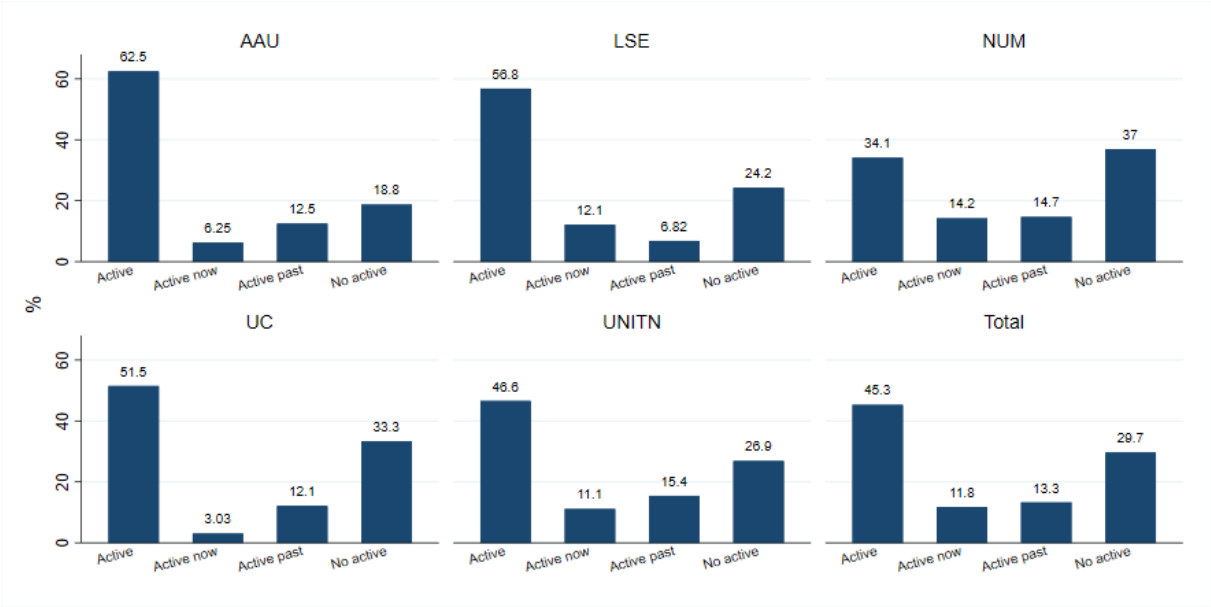

FIGURE 7 DURING THE LAST YEAR OR SO, HOW OFTEN HAVE YOU DONE THE FOLLOWING TYPES OF SPORT ACTIVITIES? (CLUSTER) BY GENDER

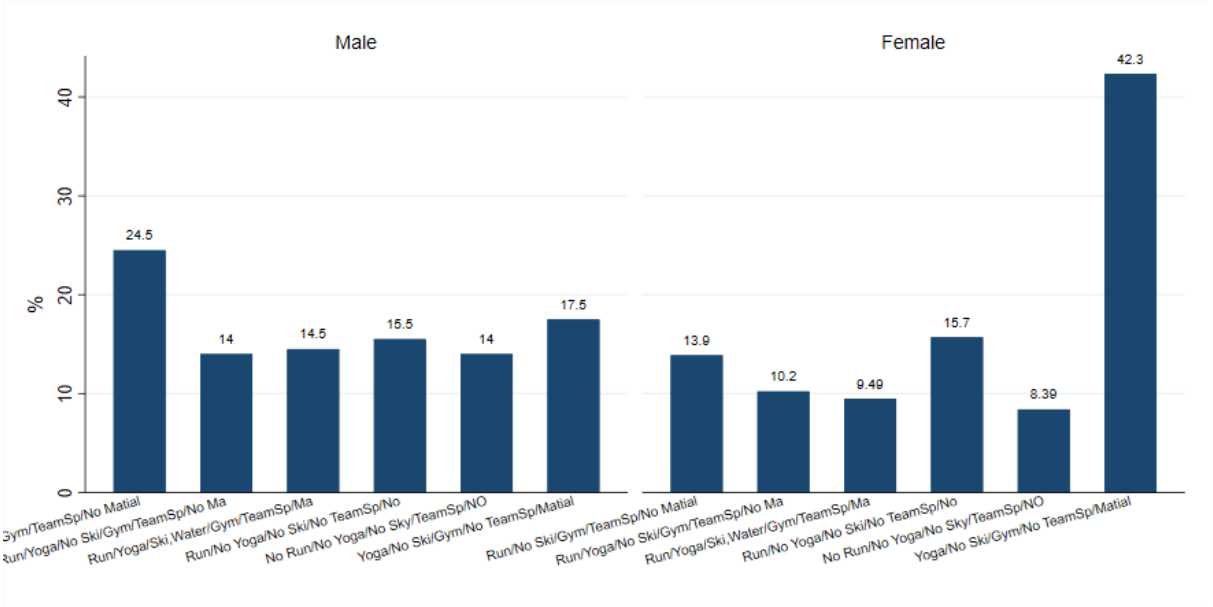

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FIGURE 8 DURING THE LAST YEAR OR SO, HOW OFTEN HAVE YOU DONE THE FOLLOWING TYPES OF SPORT ACTIVITIES? (CLUSTER) BY PILOT

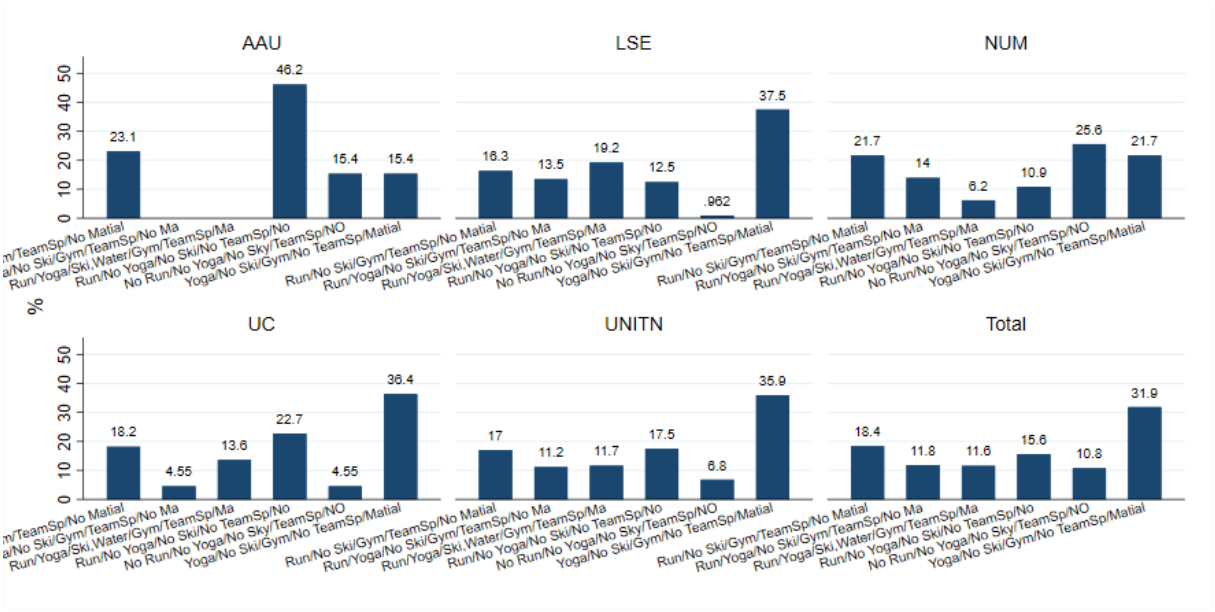

FIGURE 9 DURING THE LAST YEAR OR SO, HOW OFTEN HAVE YOU DONE THE FOLLOWING TYPES OF SPORT ACTIVITIES? (CLUSTER) BY PILOT (MALE)

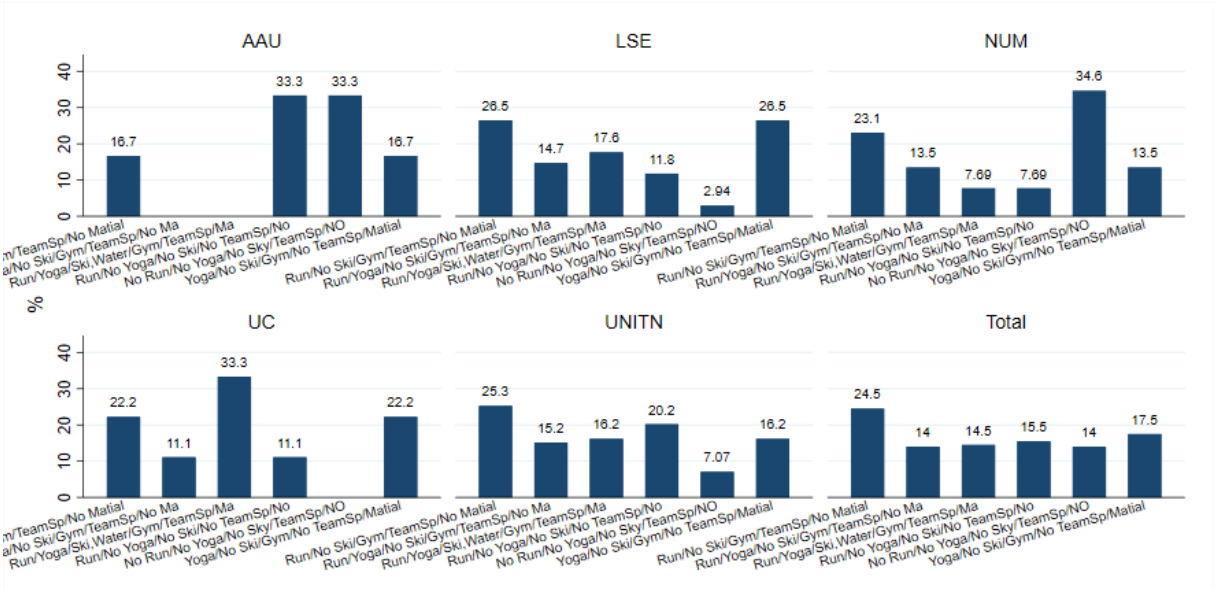

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FIGURE 10 DURING THE LAST YEAR OR SO, HOW OFTEN HAVE YOU DONE THE FOLLOWING TYPES OF SPORT ACTIVITIES? (CLUSTER) BY PILOT (FEMALE)

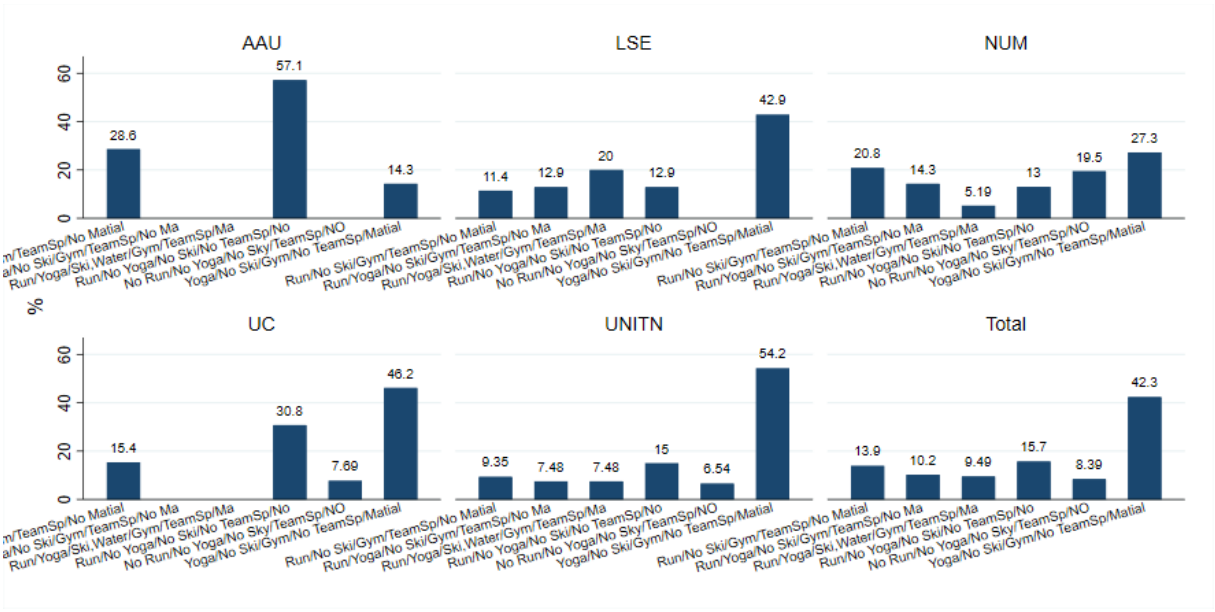

FIGURE 11 HOW OFTEN DO YOU EXERCISE… (PHYSICAL ACTIVITIES WITH WHOM). CLUSTER, BY GENDER

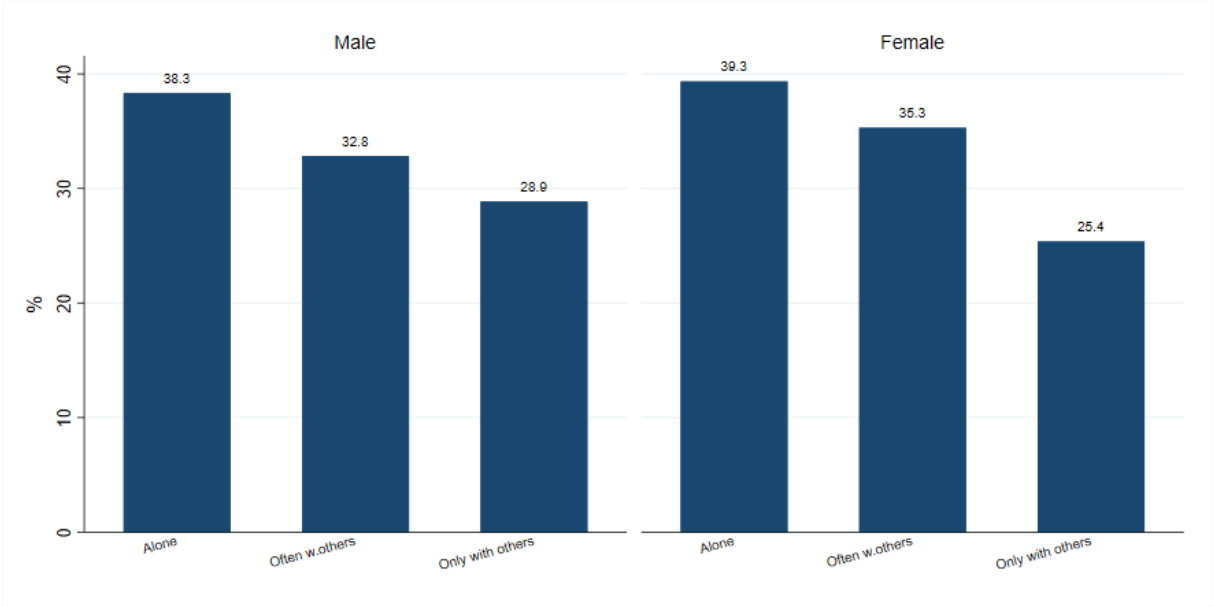

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FIGURE 12 HOW OFTEN DO YOU EXERCISE… (PHYSICAL ACTIVITIES WITH WHOM). CLUSTER, BY PILOT

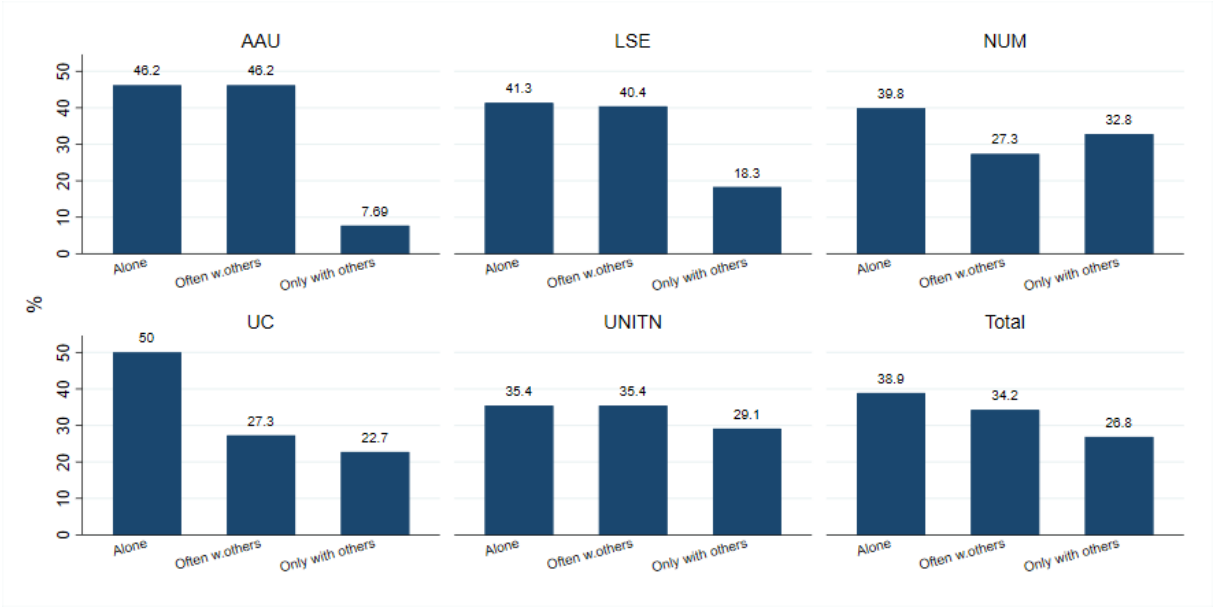

FIGURE 13 WHEN EXERCISING, WHICH OF THE FOLLOWING DEVICES DO YOU USE? (CLUSTER) BY GENDER

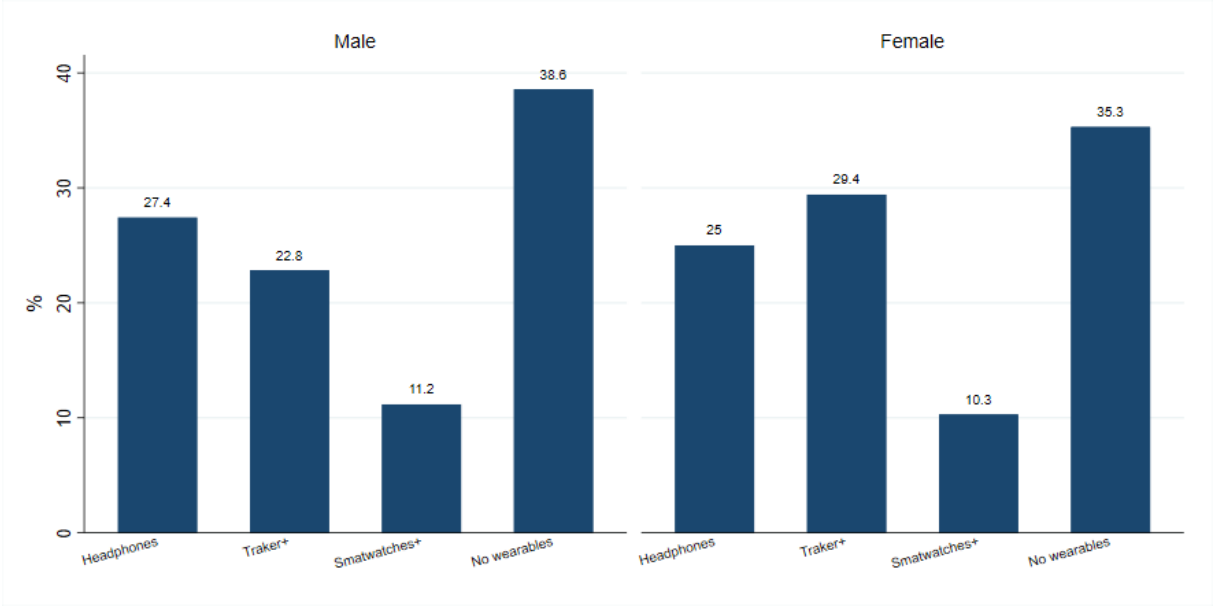

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FIGURE 14 WHEN EXERCISING, WHICH OF THE FOLLOWING DEVICES DO YOU USE? (CLUSTER) BY PILOT

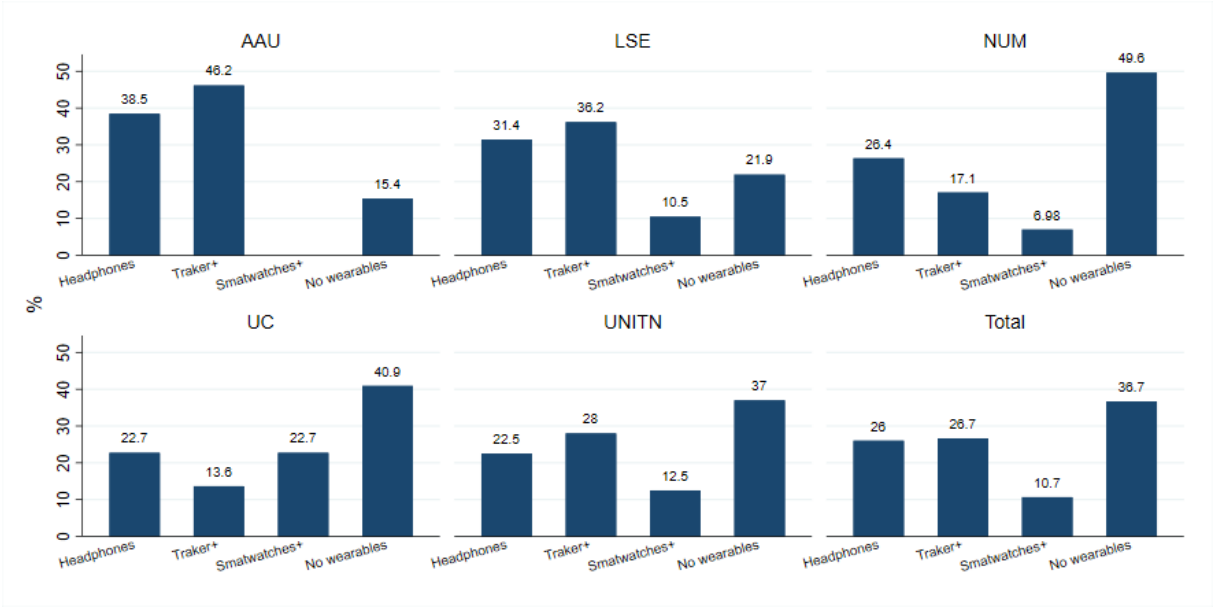

FIGURE 15 READ THE FOLLOWING STATEMENTS AND INDICATE HOW OFTEN YOU DO THE FOLLOWING: SOURCES OF INFORMATION (CLUSTER) BY GENDER

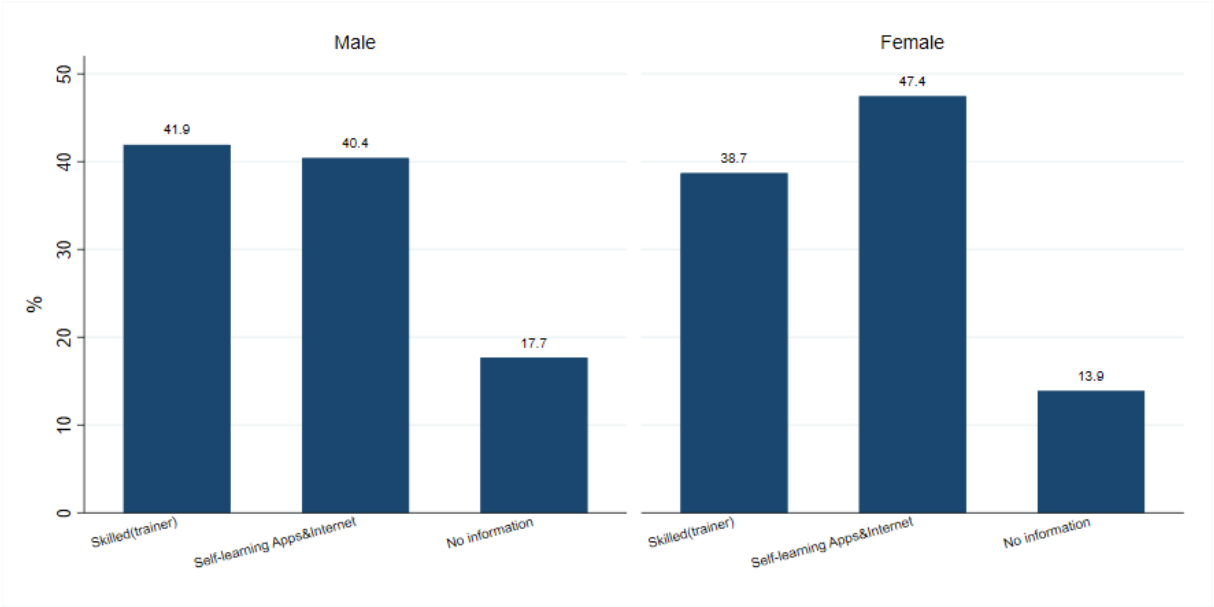

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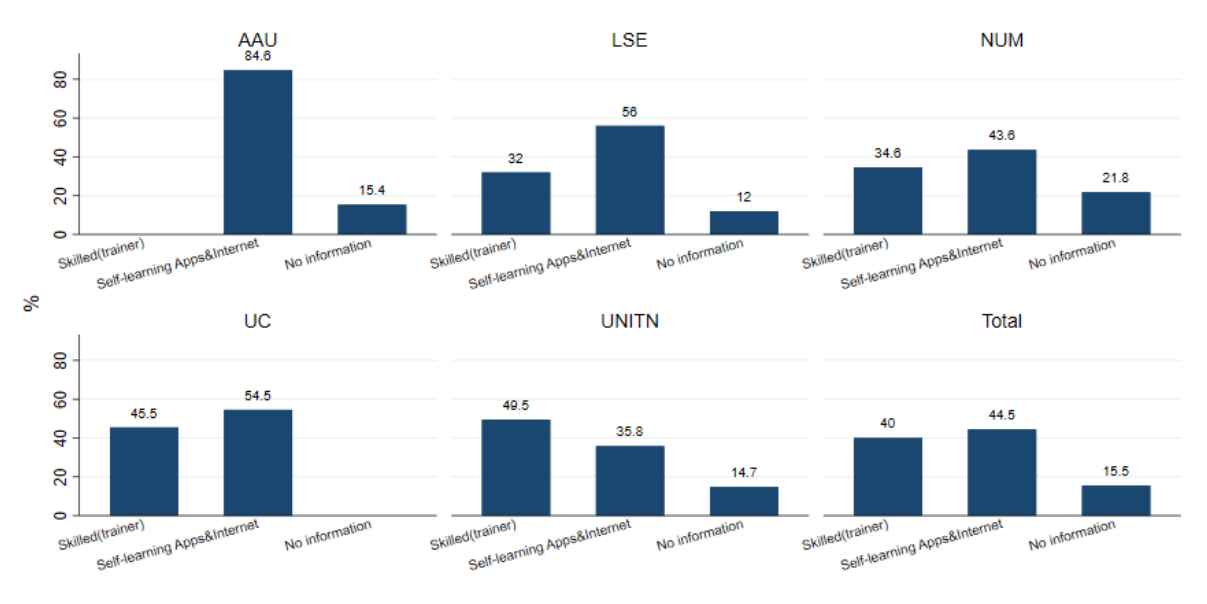
FIGURE 16 READ THE FOLLOWING STATEMENTS AND INDICATE HOW OFTEN YOU DO THE FOLLOWING: SOURCES OF INFORMATION (CLUSTER) BY PILOT



4.3. Cooking and Grocery Shop Practices

FIGURE 17 WOULD YOU SAY YOU KNOW HOW TO COOK? BY GENDER

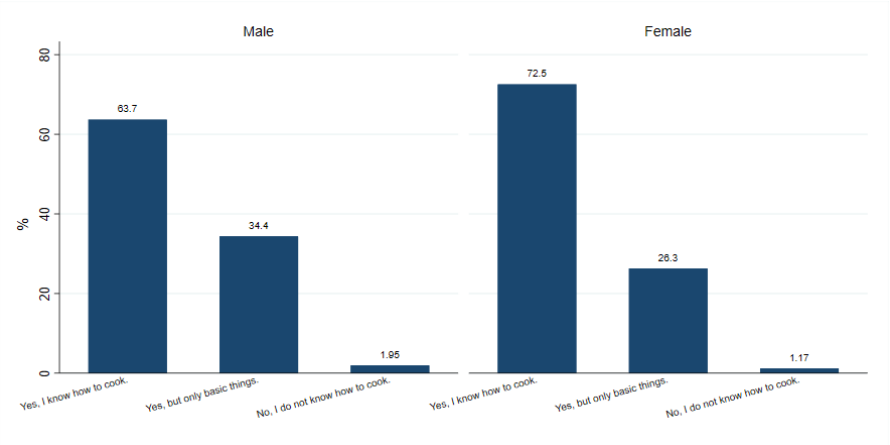


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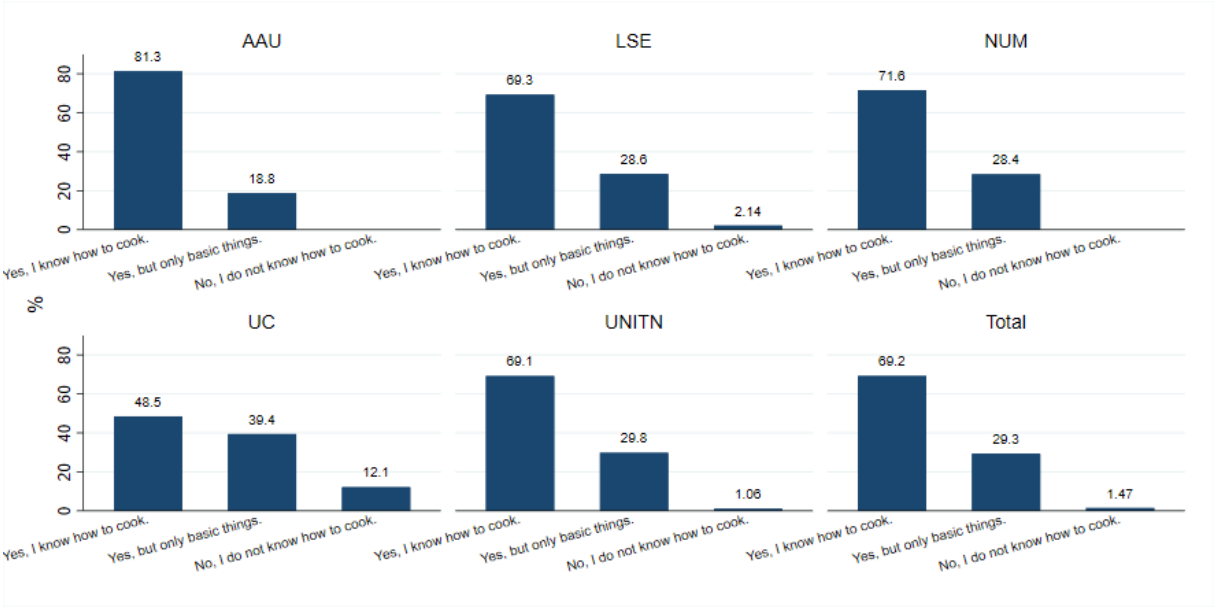
FIGURE 18 WOULD YOU SAY YOU KNOW HOW TO COOK? BY PILOT



For variable C03 we test whether food preparation skills are organised on a continuum from can do everything to can't do. The Crombach alpha below says (0.71) that there is a continuum of competence ranging from a minimum (0) to a maximum (100)

Crombach Alpha Test.

Label	alpha	Sign	Obs
Baking for example, cakes, cupcakes, cookies, bread from raw ingredients	0.66	+	638
peeling and chopping for example, raw vegetables (potatoes, carrots, onions,	0.67	+	647
preparing and cooking raw meat (red meat and poultry)	0.65	+	628
preparing and cooking raw fish	0.64	+	607
following recipes when cooking	0.67	+	644
Test Scale	0.71		

Below the radar plot of the additive scale on items related to the abilities to prepare food normalised to 100.

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FIGURE 19 HOW GOOD YOU ARE AT EACH OF THE FOLLOWING TASKS (SCALE) BY PILOT

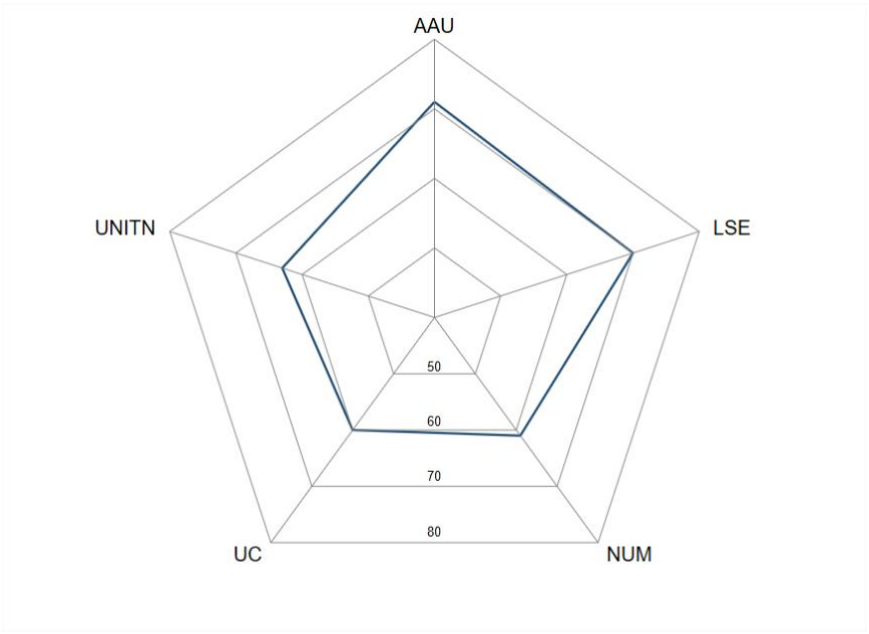

FIGURE 20 HOW GOOD YOU ARE AT EACH OF THE FOLLOWING TASKS (SCALE) BY GENDER AND PILOT

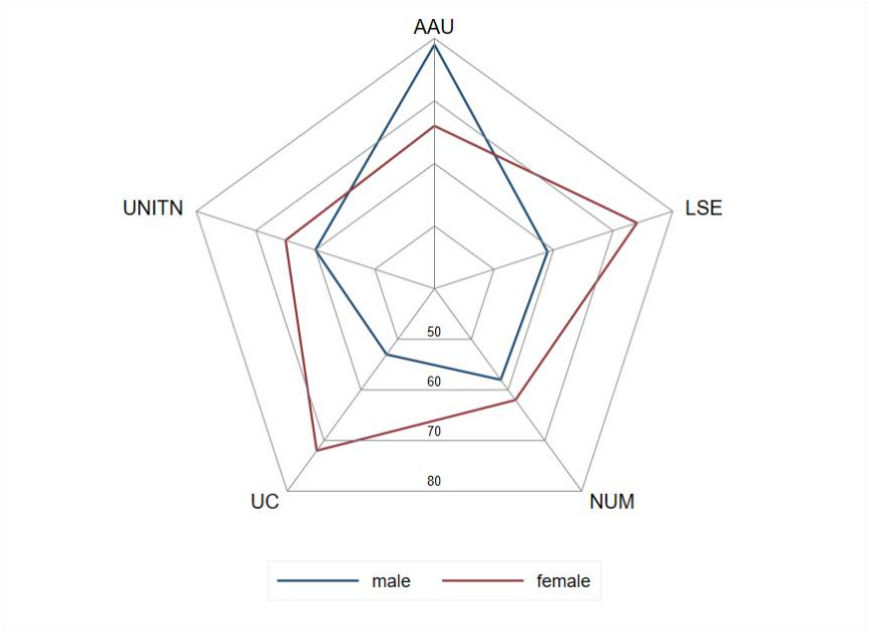

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FIGURE 21 HOW GOOD YOU ARE AT EACH OF THE FOLLOWING TASKS (CLUSTER) BY GENDER

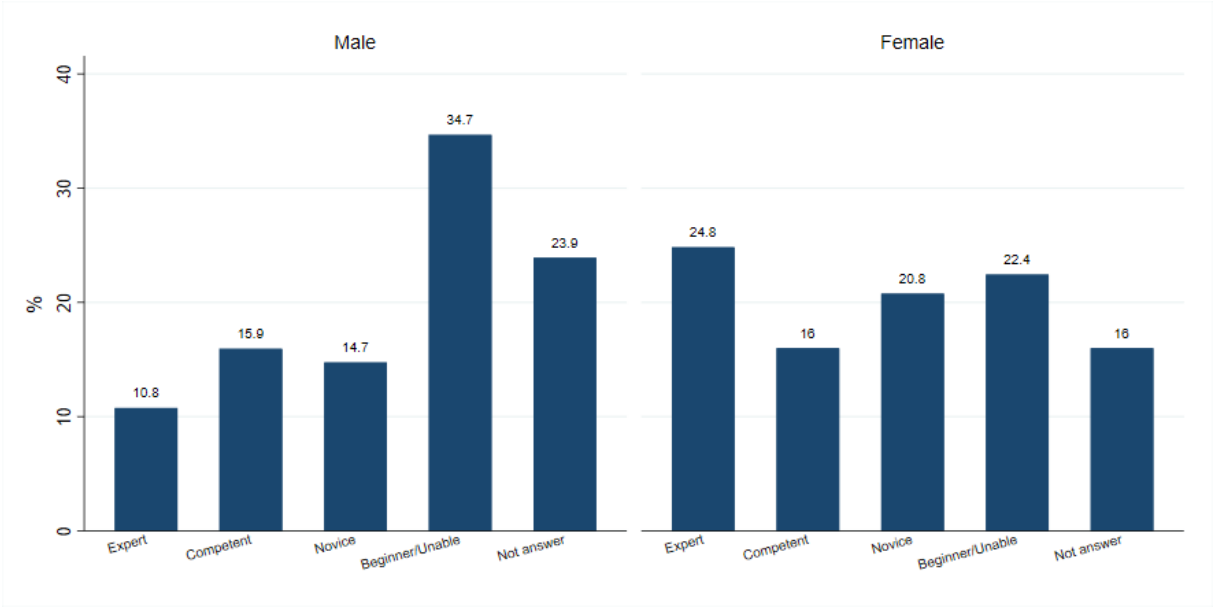
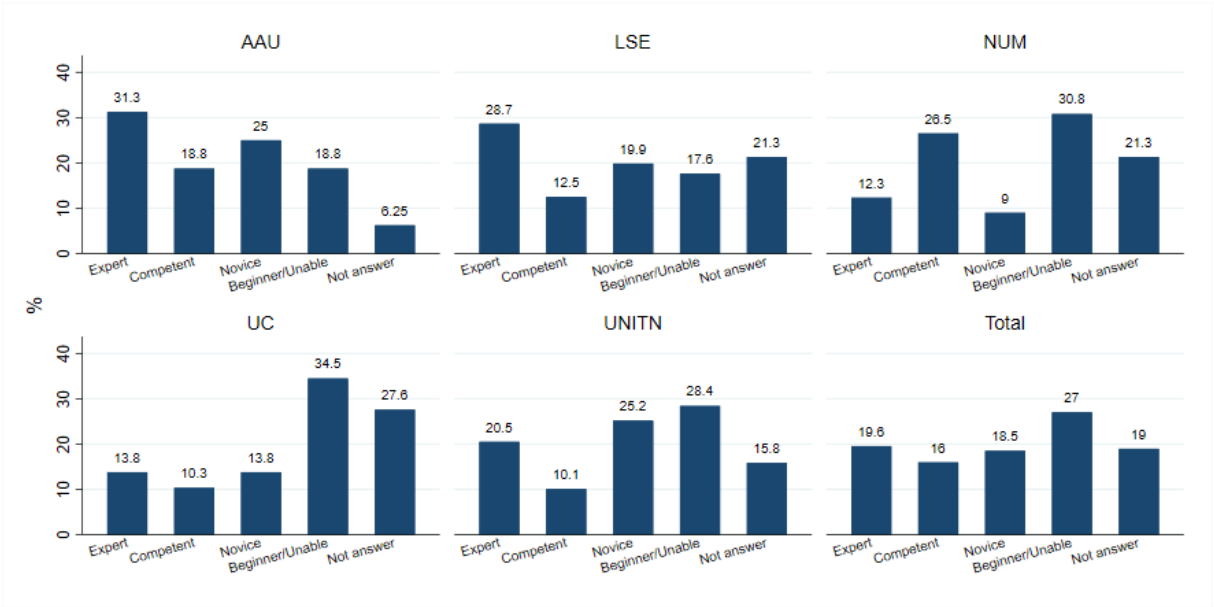


FIGURE 22 HOW GOOD YOU ARE AT EACH OF THE FOLLOWING TASKS (CLUSTER) BY PILOT



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For variable C05 we test whether cooking perceptions are organised on a continuum from can do everything to can't do. The Crombach alpha below says (0.76) that there is a continuum of perception ranging from a minimum (0) bad perception to a maximum (100) good perception.

Label	alpha	Sign	Obs
Cooking makes me happy.	0.69	+	670
Cooking is time consuming.	0.79	-	671
I am good at cooking.	0.70	+	669
Cooking helps me eat healthily.	0.75	+	670
I find cooking is difficult.	0.73	-	669
Cooking is important to me.	0.70	+	667
Cooking is just a chore I have to do.	0.79	-	671
When cooking, I like to try new recipes.	0.71	+	671
Test scale	0.76		

Below the radar plot of the additive scale on items related to the perception to prepare food normalised to 100.

FIGURE 23 PLEASE, INDICATE YOUR LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS. (SCALE)

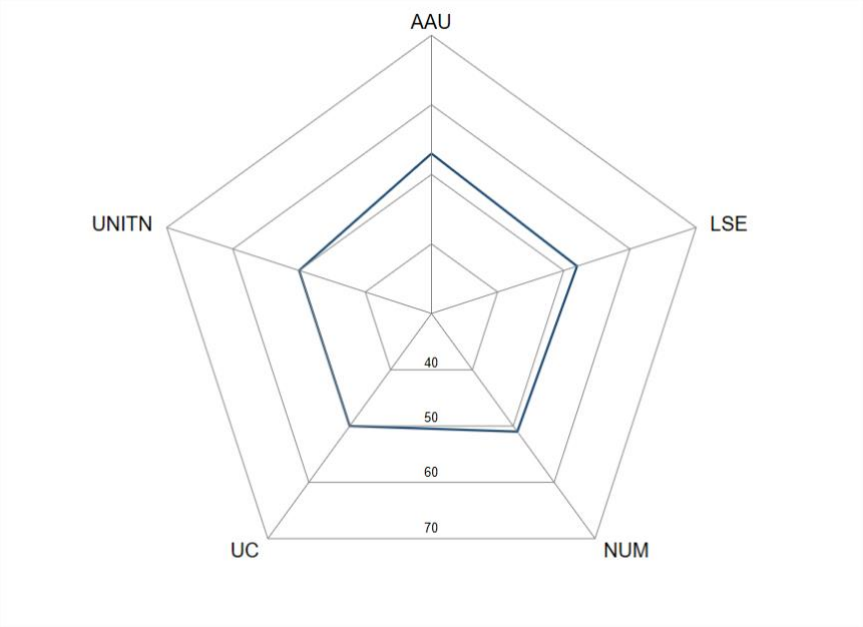

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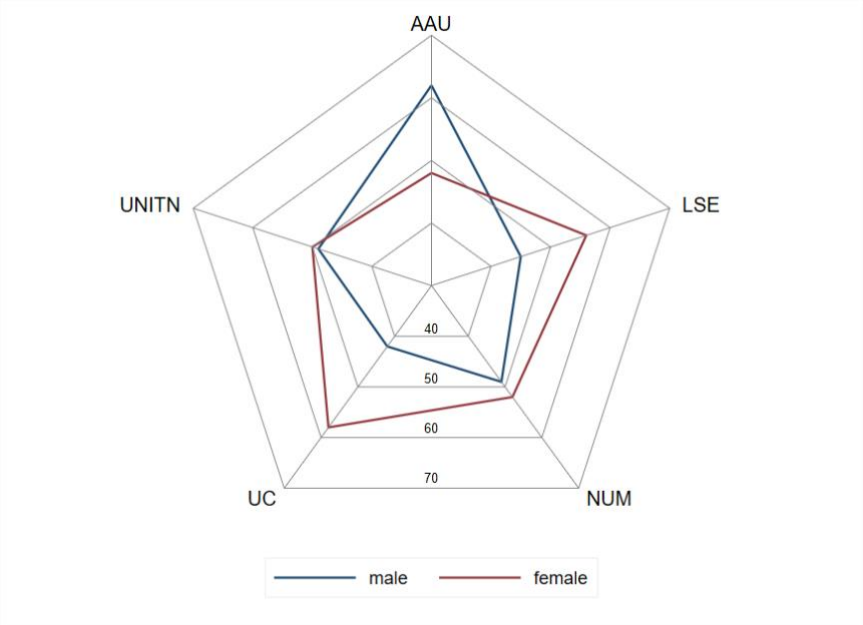
FIGURE 24 PLEASE, INDICATE YOUR LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS. (SCALE) BY GENDER



This is an additive scale on items related to the relationship with cooking normalised to 100.

FIGURE 25 PLEASE, INDICATE YOUR LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS. (CLUSTER) BY GENDER

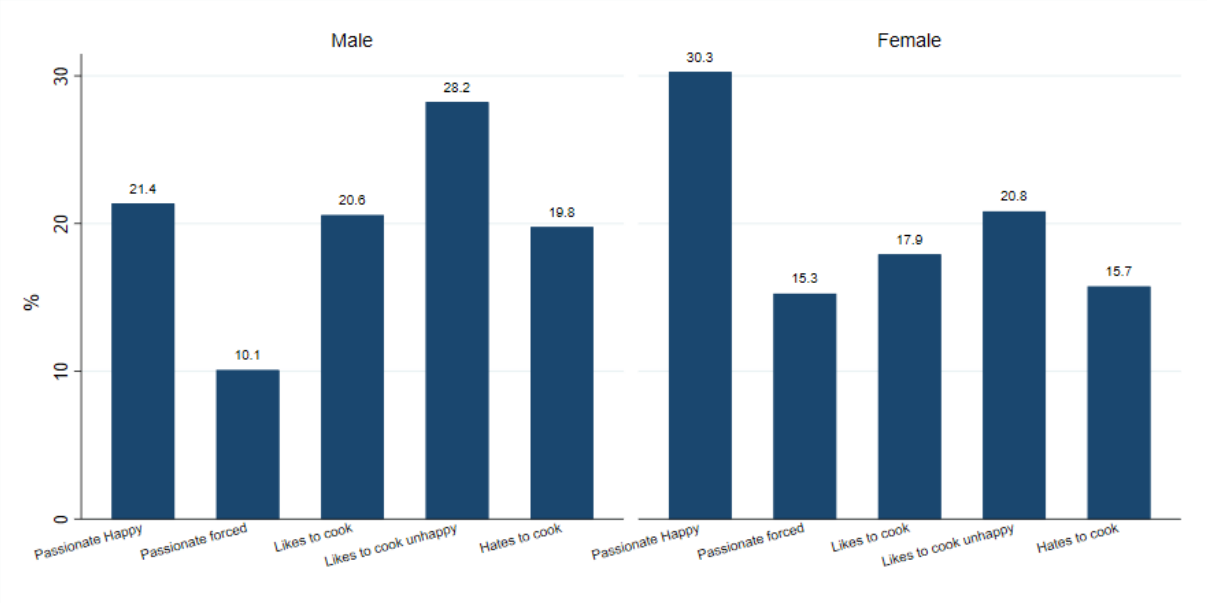


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FIGURE 26 PLEASE, INDICATE YOUR LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS. (CLUSTER) BY PILOT

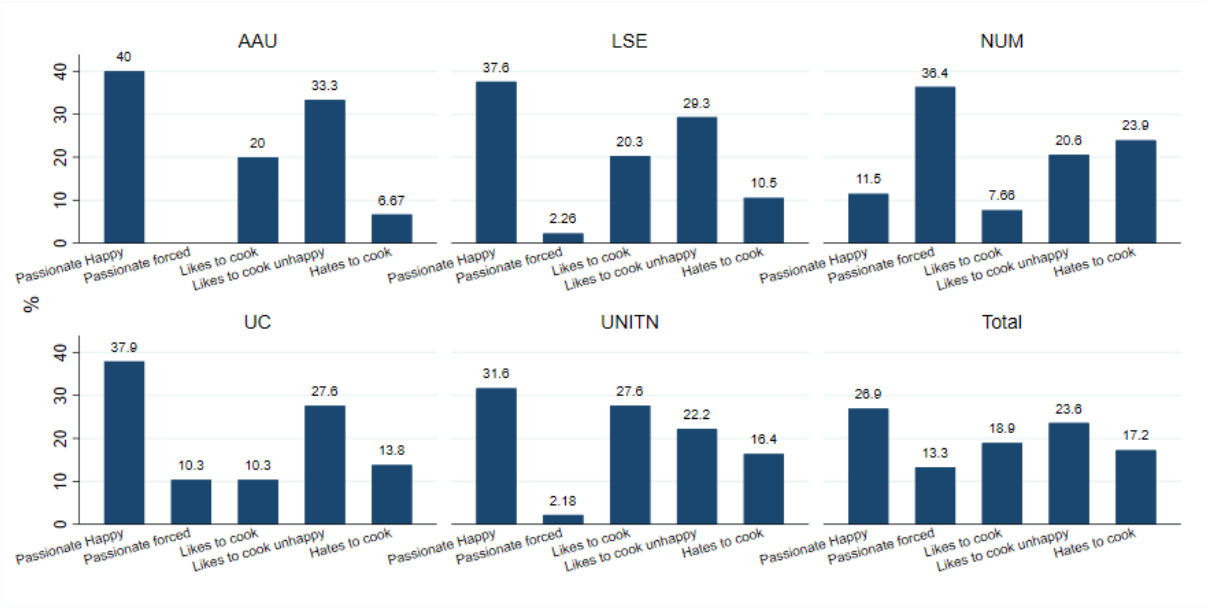

FIGURE 27 WHEN LOOKING FOR IDEAS OR INSPIRATION ABOUT COOKING, WHAT ARE YOU MOST LIKELY TO DO?

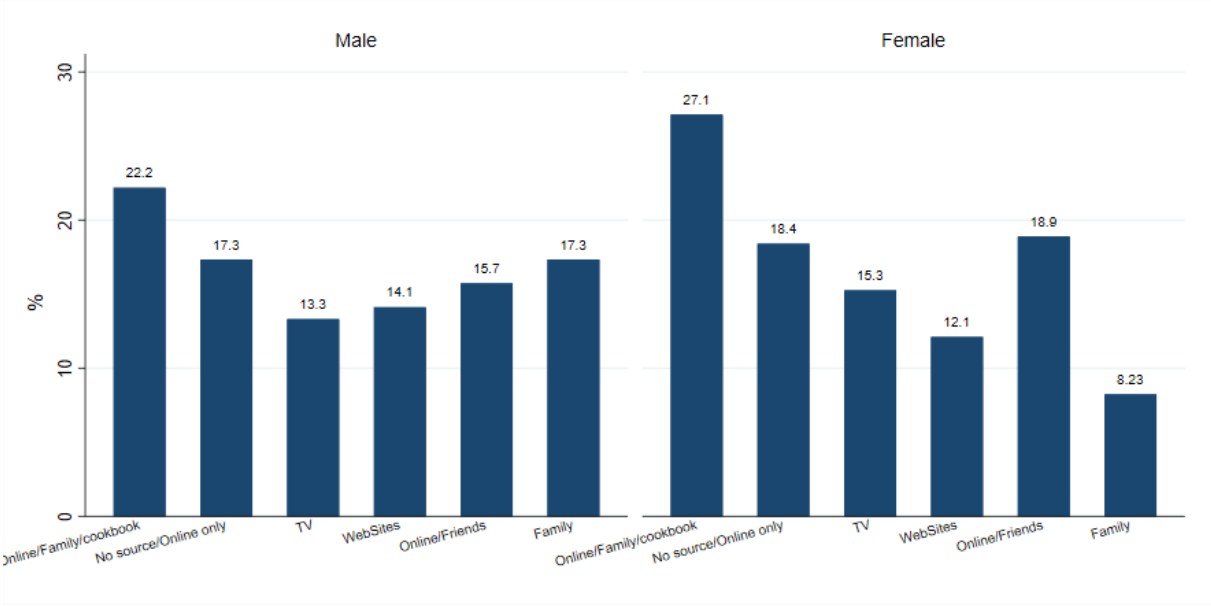

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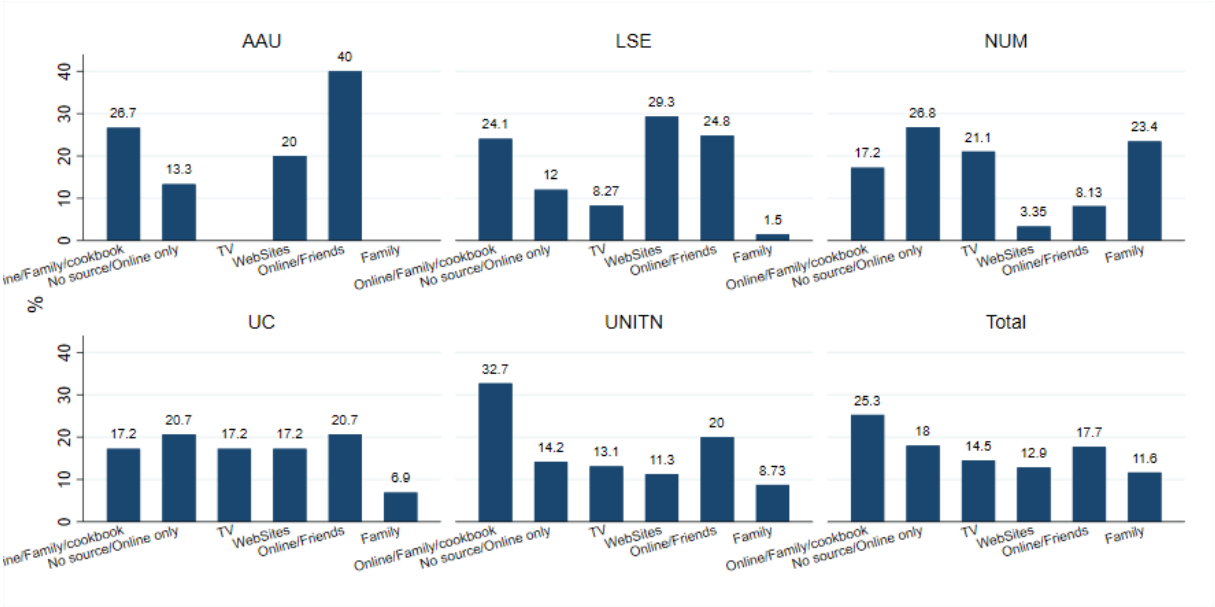
FIGURE 28 WHEN LOOKING FOR IDEAS OR INSPIRATION ABOUT COOKING, WHAT ARE YOU MOST LIKELY TO DO? BY PILOT



Let us talk about your diet. Which of the following applies to you? Dietary profile (Cluster) Gender.

FIGURE 29 LET US TALK ABOUT YOUR DIET. WHICH OF THE FOLLOWING APPLIES TO YOU? DIETARY PROFILE (CLUSTER) GENDER.

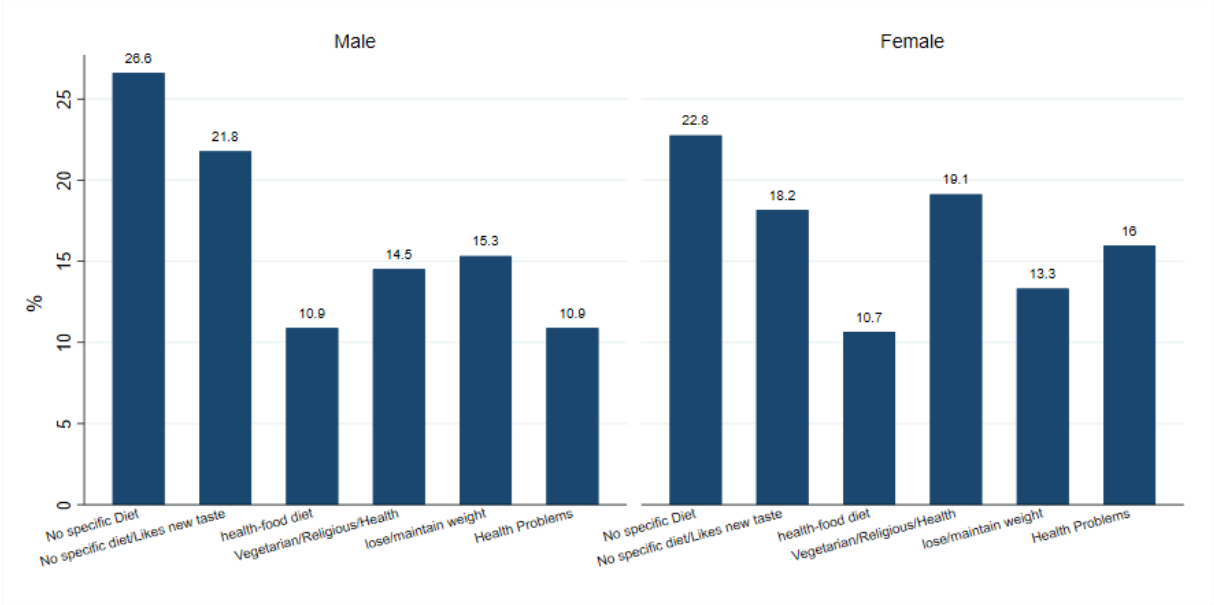


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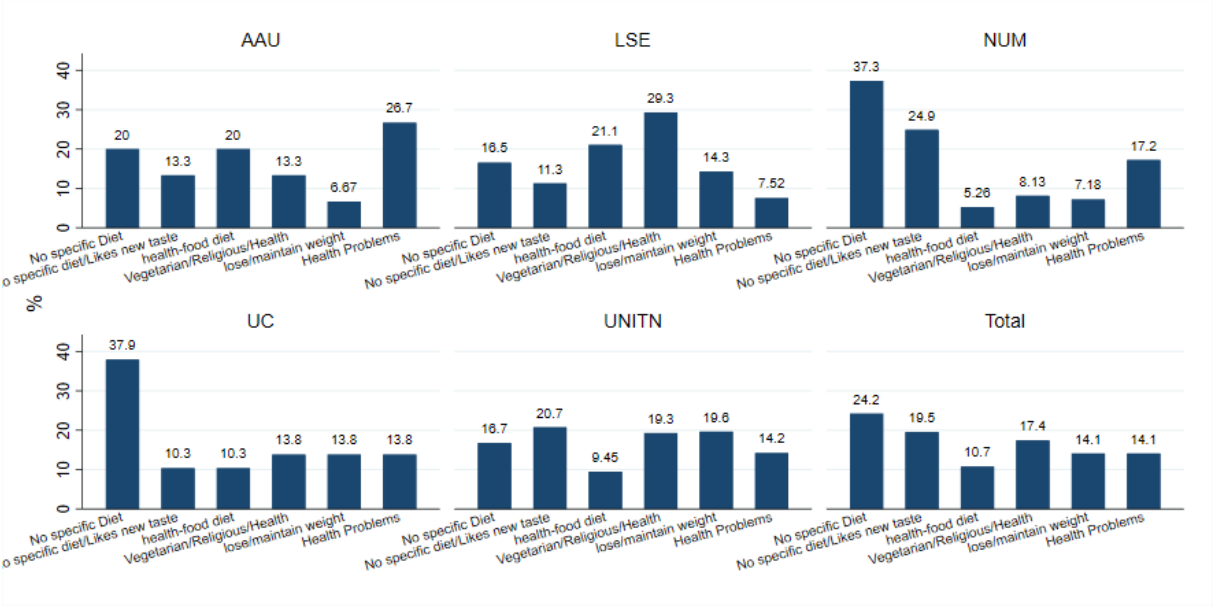
FIGURE 30 LET US TALK ABOUT YOUR DIET. WHICH OF THE FOLLOWING APPLIES TO YOU? DIETARY PROFILE (CLUSTER) PILOT.



General profile of cooking (Cluster) by gender

FIGURE 31 GENERAL PROFILE OF COOKING (CLUSTER) BY GENDER

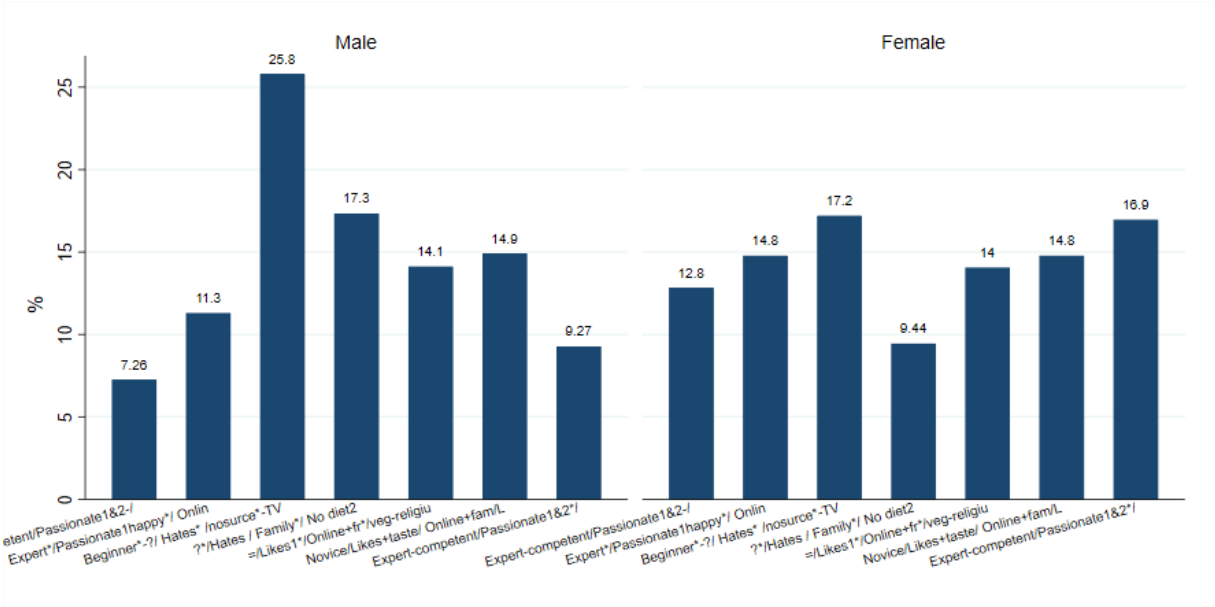


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FIGURE 32 GENERAL PROFILE OF COOKING (CLUSTER) BY PILOT

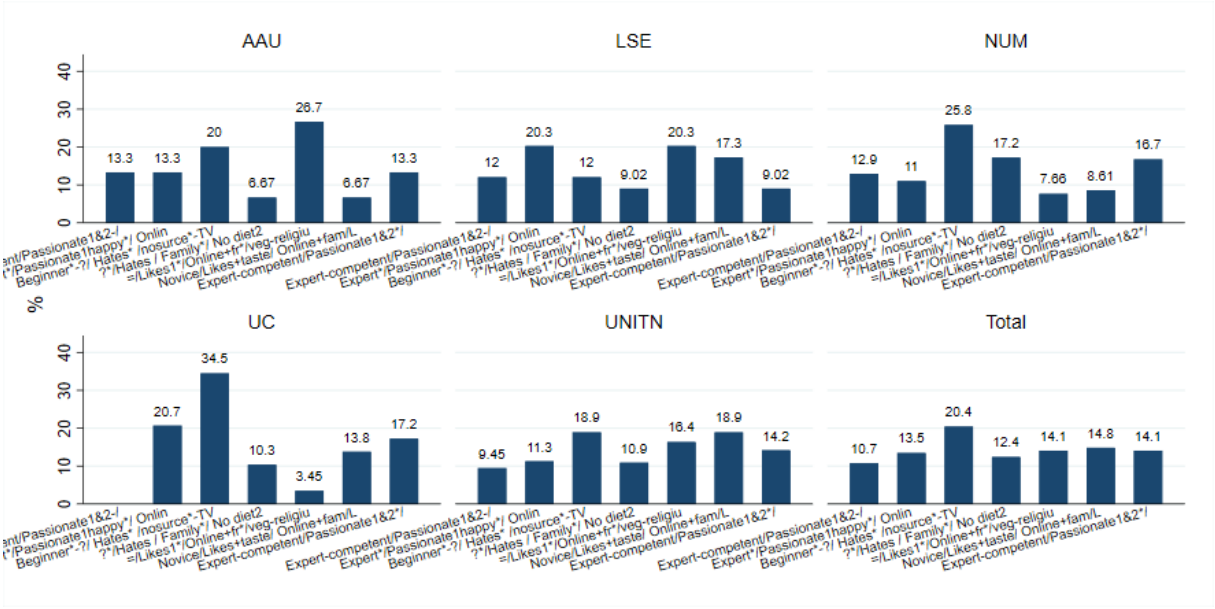

FIGURE 33 LAST MONTH, HOW OFTEN DID YOU BUY THE TYPES OF FOOD PRODUCTS AND SUPPLEMENTS (CLUSTER) BY GENDER

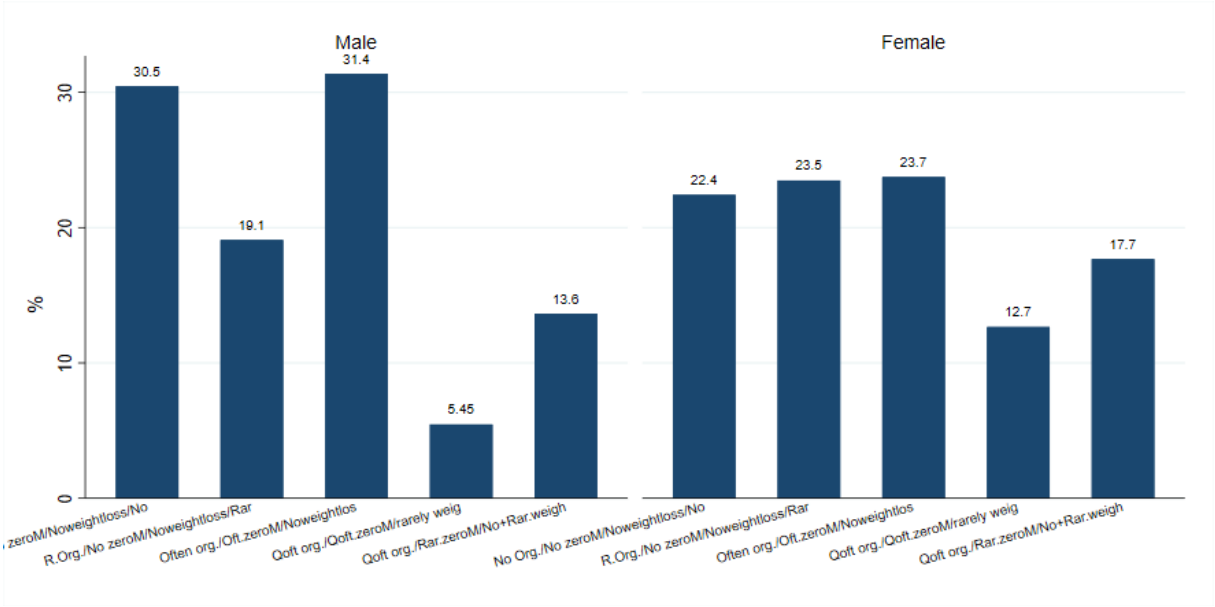

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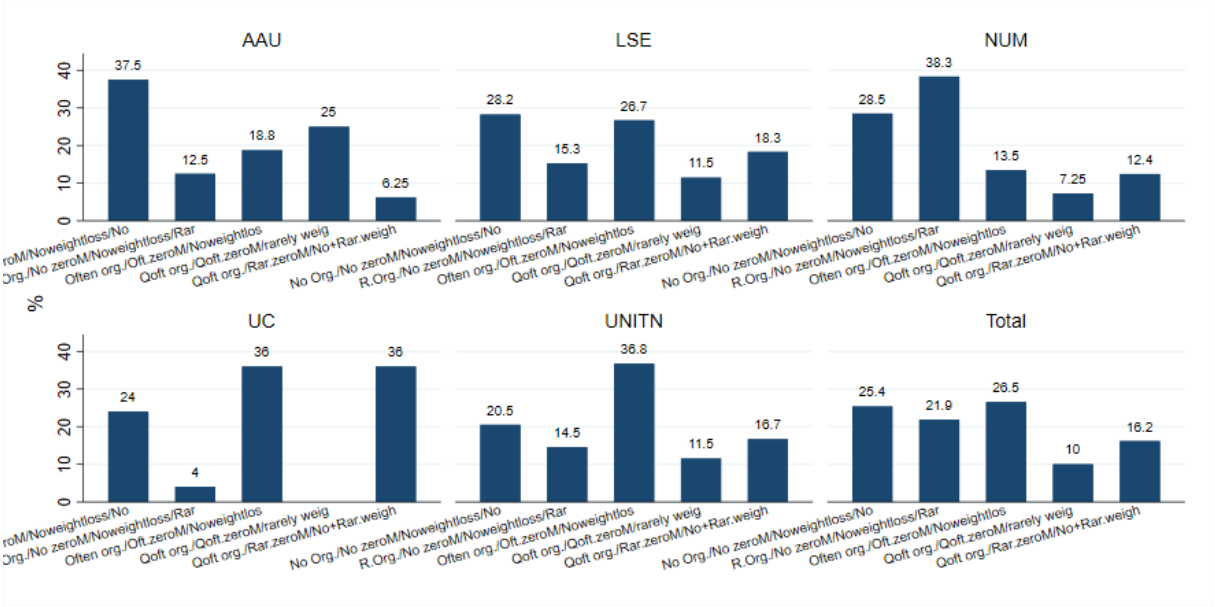
FIGURE 34 LAST MONTH, HOW OFTEN DID YOU BUY THE TYPES OF FOOD PRODUCTS AND SUPPLEMENTS (CLUSTER) BY PILOT



How often did you shop at the following super/markets last month? (cluster)

FIGURE 35 HOW OFTEN DID YOU SHOP AT THE FOLLOWING SUPER/MARKETS LAST MONTH? (CLUSTER)

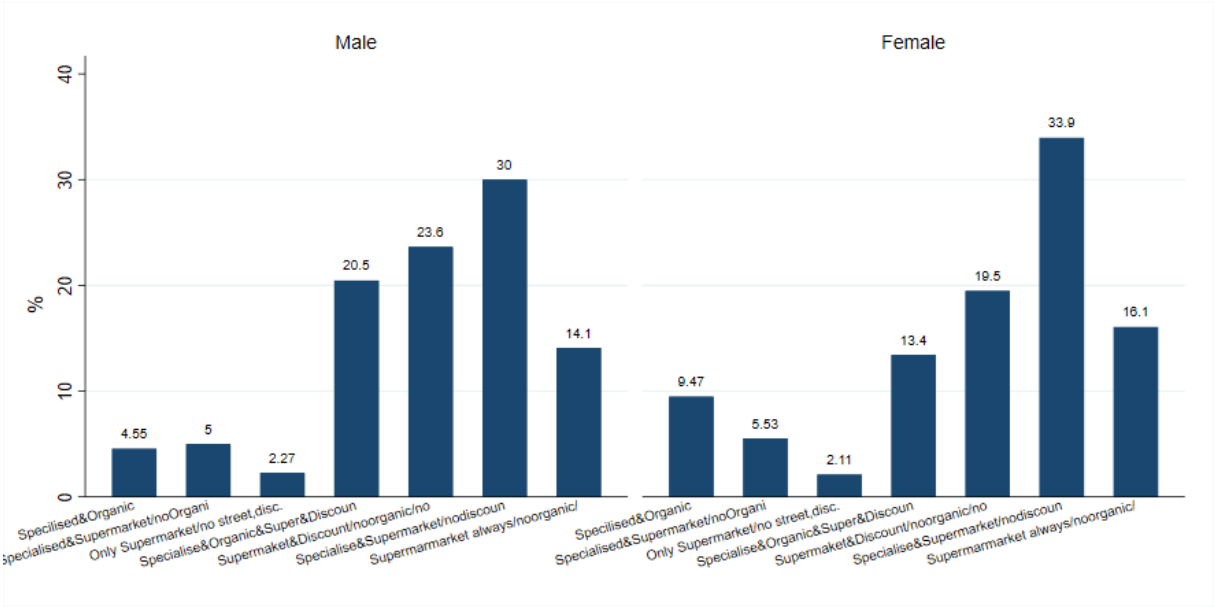


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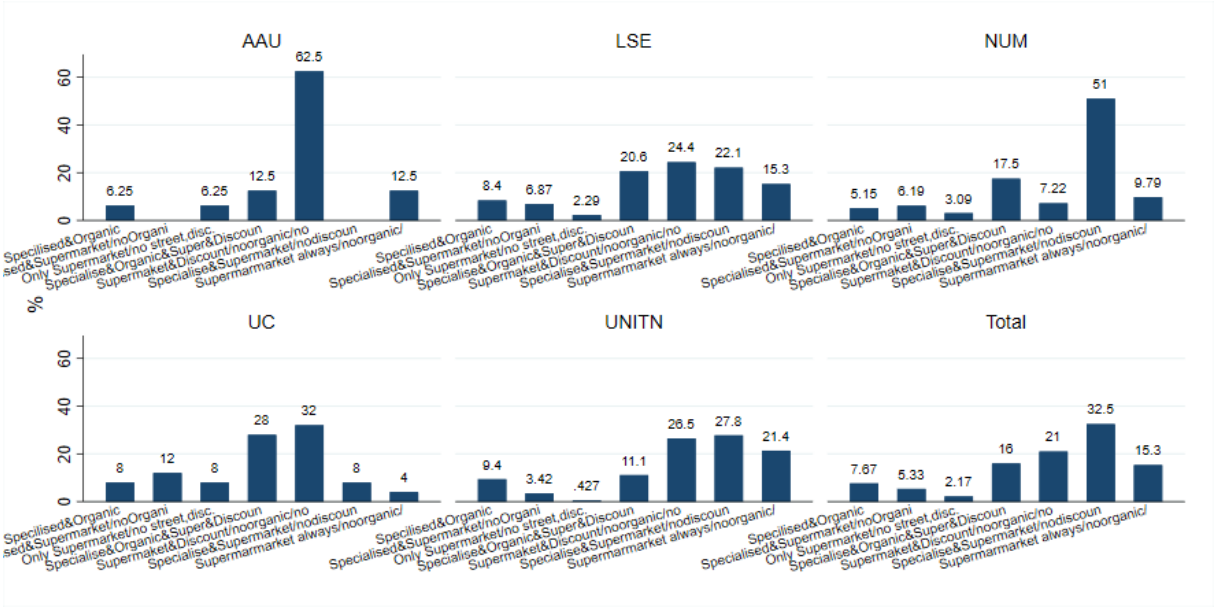
FIGURE 36 HOW OFTEN DID YOU SHOP AT THE FOLLOWING SUPER/MARKETS LAST MONTH? (CLUSTER)



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5. Findings: Classification and Segmentation

In this section, we present the attempt to classify and segment students by pattern of activities. We explore this approach performing a Latent Class Analysis on cultural activities preferences across the entire dataset collected.

5.1. Latent Class Analysis of cultural activities

Latent class analysis (see e.g. Bartholomew, Knott & Moustaki, 2011[1]) provides a way of exploring clustering or segmentation of participants into groups, based on the profiles of answers they give to sets of questions. We theorise that the associations between people's responses to a set of survey items can be explained by their membership of a particular grouping in the data: a categorical latent variable defines these groups. The analysis proceeds by specifying a certain number of classes; the model provides estimates of the proportion of cases belonging to each class, as well as conditional probabilities for each of the item responses, given membership of each of the latent classes. We inspect the patterns of conditional probabilities to reach interpretations or labels for the classes, and we compare and contrast models with different numbers of classes in order to reach the best representation of the data.

The table below gives an example of latent class modelling applied to the full set of data, pooling respondents from all universities. Seven latent classes are presented (one in each column). The first line of statistics gives the estimated proportion of the sample in each class. The rest of the figures are almost all item response probabilities, conditional on latent class; for example, conditional on belonging to the first latent class, a student has a 0.18 probability of saying they have acted in a theatre play in the last year. In the model we estimated conditional probabilities for each item response category separately, but the results here are simplified for ease of reading. There is one indicator ('In the last year or so, approximately how many books have you read (not for your formal studies?') for which respondents entered a figure freely; for this an estimated mean number of books is given for each latent class.

Shading is used to facilitate interpretation of this large table: darker shading indicates higher probabilities. This hopefully makes it easy to see that the first class, displayed in the first column, is that where the probabilities of most of the cultural activities is highest: for this reason, we have labelled the class as one of 'all-round cultural enthusiasts'. The next class, 'keener on reading', are less likely to 'consume' music or create cultural products, and a little less likely to visit cultural places, but have slightly higher probabilities of saying 'yes' to the items on reading books, of various genres. The next class, the 'book worms' are of a similar general profile but notable for owning and reading many books. Next in the table is the class labelled 'music/sports fans' – these students are less likely than the all-round enthusiasts to listen to music or watch sport (live or recorded, in person or remotely) but this is their relative enthusiasm, and they are notable in being the least avid readers across the classes. Our fifth class is that of 'visual arts enthusiasts', who have strikingly small probabilities of engaging with various genres of music, alongside notably higher probabilities of visiting galleries,

[1] Bartholomew, David J., Knott, Martin and Moustaki, Irini (2011) *Latent variable models and factor analysis: a unified approach.* John Wiley & Sons, London, UK. ISBN 9780470971925

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museums and so on. Next is our class of 'creative producers', who stand out strikingly as having high probabilities of creating various cultural works, be they written, visual arts or crafts. Lastly, we have a class of students 'relatively unenthused' about cultural engagement, with low probabilities on almost all items (though still with a high probability of having read at least one book in their leisure time during the past year).

Running the models separately within universities shows several of the same profiles, but with some points of local variation that may be worth further exploration. For example, among students in Mongolia we find two distinctive classes of 'creative producers': in one of these classes, creative cultural works goes along with very high probability of visiting galleries, museums and other places of cultural interest, including very high probabilities of visiting zoos or animal parks and nature reserves – perhaps reflecting opportunities in the local environment. The same explanation may account for the much higher probabilities among the 'all-rounders' at LSE for visiting museums and galleries, with many opportunities available in London. It is notable too that among LSE students, the class of 'music/sports fans' have the largest probabilities of all classes for engaging with various modern genres of music (higher than the 'all-rounders'), suggesting a more distinctive cluster of music enthusiasts. Among Trento students we see the highest relative probabilities of playing a musical instrument, compared to NUM and LSE, and the lowest probabilities of attending stand-up comedy or cabarets; the highest probability of favouring this entertainment is found among the all-rounders at NUM.

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TABLE 8

All respondents, pooled across universities	All-round cultural	Keener on reading	Book worms	Music/sports fans	Visual arts enthusiasts	Creative producers	Relatively unenthused
Estimated cluster size:	0.18	0.11	0.01	0.25	0.20	0.06	0.19
Have you done any of the following activities in the last year or so? (Probability of 'yes')							
Acted in a theatre play	0.18	0.11	0.10	0.06	0.09	0.07	0.02
Directed a theatre play	0.05	0.02	0.01	0.01	0.02	0.02	0.00
Performed as a stand-up comedian	0.06	0.03	0.06	0.01	0.02	0.02	0.00
Sung in a choir, a vocal ensemble, troupe, band	0.24	0.15	0.10	0.14	0.12	0.12	0.05
Played a musical instrument solo	0.37	0.27	0.20	0.23	0.30	0.25	0.15
Played instrument in orchestra/band/ensemble	0.11	0.06	0.06	0.06	0.06	0.06	0.02
Composed music or performed as DJ	0.11	0.04	0.00	0.05	0.04	0.07	0.01
Danced	0.33	0.21	0.16	0.18	0.21	0.26	0.11
Did choreography for a dance performance	0.12	0.04	0.04	0.04	0.04	0.07	0.01
In the last year or so, how often did you attend, follow, view and/or listen to the recordings of…(Probability of top half of 6-point response scale: very often, 5 or 4)							
Theatre plays	0.32	0.17	0.19	0.05	0.11	0.07	0.00
Cabarets, or a stand-up comedy	0.42	0.19	0.21	0.24	0.07	0.16	0.04
Ballets or a modern dance	0.25	0.10	0.13	0.05	0.03	0.04	0.00
Classical music	0.44	0.23	0.33	0.16	0.04	0.07	0.00
Opera	0.21	0.09	0.14	0.03	0.01	0.02	0.00
Musical	0.32	0.15	0.23	0.10	0.01	0.03	0.00
Pop or rock	0.72	0.42	0.54	0.55	0.08	0.20	0.01
Jazz or blues	0.48	0.18	0.33	0.20	0.01	0.06	0.00
Folk music	0.36	0.14	0.29	0.18	0.00	0.05	0.00
World music	0.50	0.18	0.28	0.29	0.01	0.12	0.00
Urban	0.52	0.24	0.30	0.38	0.03	0.13	0.01
Dance or house	0.41	0.15	0.26	0.24	0.02	0.08	0.00
Popular national or local music	0.51	0.22	0.26	0.31	0.04	0.14	0.01
A singer/songwriter	0.70	0.40	0.58	0.54	0.08	0.17	0.01
Other music	0.61	0.32	0.47	0.41	0.04	0.15	0.01
A sport event	0.45	0.27	0.22	0.35	0.23	0.27	0.16
Have you done any of the following activities during the last year or so? (Probability of top section of 5-point scale: very often, or 2)							
Created paintings, drawings, graphical works	0.41	0.27	0.25	0.13	0.24	0.76	0.05
Created photographs as a hobby	0.50	0.38	0.34	0.22	0.37	0.70	0.15
Created sculptures, pottery, glass, jewels, textiles	0.19	0.12	0.16	0.03	0.08	0.95	0.01
Written poetry/prose/fiction/non-fiction in leisure time	0.32	0.31	0.31	0.08	0.17	0.86	0.03
Maintained blog or own website on the internet	0.22	0.19	0.17	0.06	0.08	0.93	0.03
Published your own work on paper	0.08	0.06	0.07	0.00	0.01	0.95	0.00
Published own work on the internet	0.15	0.13	0.11	0.03	0.04	0.94	0.01
Uploaded own film(s) or video(s) on the internet	0.18	0.12	0.13	0.04	0.06	0.96	0.03
Uploaded images of your work of visual arts/crafts	0.24	0.14	0.16	0.04	0.07	0.96	0.01
Uploaded performance on the internet	0.16	0.09	0.08	0.03	0.04	0.95	0.01
During the last year or so, how often have you done the following? (Probability of top section of 5-point scale: very often, or 2)							
Viewed paintings	0.71	0.52	0.44	0.27	0.60	0.47	0.16
Viewed/listened to prog. on visual arts/crafts	0.60	0.40	0.40	0.19	0.43	0.53	0.10
Visited a museum	0.61	0.45	0.34	0.18	0.63	0.44	0.12
Visited galleries or exhibitions	0.59	0.41	0.29	0.14	0.58	0.50	0.06
Visited monuments, famous buildings etc.	0.64	0.47	0.35	0.21	0.62	0.43	0.13
Viewed virtual exhibitions of art	0.50	0.33	0.31	0.12	0.39	0.54	0.04
Make film or video	0.24	0.13	0.06	0.05	0.11	0.64	0.04
Went to the cinema or a film festival	0.50	0.32	0.27	0.20	0.40	0.47	0.14
Visited a zoo or animal park	0.30	0.16	0.24	0.11	0.14	0.57	0.04
Visited a natural reserve	0.47	0.29	0.34	0.19	0.33	0.51	0.12
How often did you…?(Probability of top half of 6-point response scale: very often, 5 or 4)							
Visit a bookshop	0.68	0.77	0.67	0.35	0.67	0.42	0.32
Visit an online bookshop	0.77	0.86	0.88	0.50	0.66	0.42	0.42
How many books do you have?							
More than 100	0.39	0.58	0.73	0.25	0.44	0.26	0.27
During the last year or so, have you read one or more printed books in your leisure time?							
Yes	0.96	0.98	0.91	0.91	0.98	0.94	0.92
During the last year or so, have you read one or more books in digital form in your leisure time?							
Yes	0.73	0.83	0.89	0.63	0.52	0.62	0.50
(If yes) which kinds of books did you read? (Probability of selection for each genre)							
Literature & Novels	0.82	0.91	0.90	0.69	0.82	0.70	0.66
Science Fiction & Fantasy	0.43	0.52	0.72	0.34	0.29	0.37	0.29
Mystery & Thrillers	0.32	0.45	0.53	0.21	0.24	0.20	0.18
History	0.42	0.47	0.47	0.23	0.32	0.26	0.21
Biographies	0.28	0.36	0.34	0.18	0.23	0.17	0.16
Health, Mind & Body	0.27	0.25	0.16	0.19	0.17	0.20	0.15
Other kind of books	0.43	0.48	0.56	0.36	0.35	0.36	0.33
In the last year or so, approximately how many books have you read (not for your formal studies)?							
Mean	7	29	125	4	7	6	5
In your leisure time, do you read….? (Probability of almost every week, or more often)							
Printed magazines and/or periodicals	0.27	0.21	0.19	0.10	0.19	0.19	0.09
Magazines and/or periodicals in digital form	0.49	0.36	0.33	0.22	0.32	0.30	0.15
Printed newspapers	0.17	0.13	0.11	0.07	0.16	0.11	0.07
Newspapers in digital form	0.59	0.52	0.46	0.36	0.47	0.34	0.25
Do you…? (Probability of few times a week, or more often)							
Watch films on TV, videos, DVD, internet etc.	0.42	0.34	0.25	0.30	0.42	0.33	0.30
Download films from the internet	0.10	0.08	0.09	0.05	0.05	0.06	0.04

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Having found interpretations for the latent classes in the pooled data set, we can obtain probabilities for each student of belonging in each of the classes, given their profile of answers to the survey items in the analysis. This essentially provides us with a continuous variable for each latent class, with higher values indicating students more closely aligned with the class profile, and lower values indicating students with little affinity with that cultural profile. We can use these scores to explore how the cultural profiles might or might not be associated with other variables – such as the human values and personality scales for which we also have data. The table below gives Pearson correlation coefficients for these (latent classes given in columns, values given in rows). Shading is used again for ease of interpretation. The darker the shading the larger the coefficient, and the stronger the linear association between the scores. Red is used for positive associations and blue for negative associations. Overall, most of the correlations are small – indicating that there is not a close correspondence between values, personalities and cultural preferences. However, we do see some weak correlations that are intuitively plausible. It is notable, for example, that the suprapersonal values, extraversion and openness are positively correlated with the 'all-rounder' outlook, and negatively with the 'relatively unenthused' outlook.

TABLE 9 LATENT CLASS ALLOCATION PROBABILITIES

		Latent class allocation probabilities						
		All-rounders	Keener on reading	Book worms	Music/ sports fans	Visual arts enthusiasts	Creative producers	Relatively unenthused
Gouveia values scales	Excitement	0.08	-0.02	-0.02	-0.04	0.04	0.00	-0.06
	Suprapersonal	0.19	0.05	-0.01	-0.10	0.10	-0.04	-0.19
	Interactive	0.10	-0.04	-0.01	-0.01	0.04	-0.05	-0.06
	Promotion	0.07	-0.05	-0.03	-0.02	0.01	0.02	-0.02
	Existence	0.05	-0.01	0.00	0.00	0.00	-0.05	-0.01
	Normative	0.01	-0.09	-0.03	-0.01	0.03	0.03	0.03
Big 5 personality	Neuroticism	0.00	-0.01	-0.01	0.00	0.03	-0.03	0.00
	Extraversion	0.14	0.00	-0.02	-0.05	0.06	-0.04	-0.11
	Openness	0.13	0.09	0.04	-0.08	0.05	-0.04	-0.15
	Agreeableness	0.10	0.02	0.00	-0.04	0.08	-0.06	-0.11
	Conscientiousness	0.02	0.00	-0.02	-0.05	0.01	0.00	0.02

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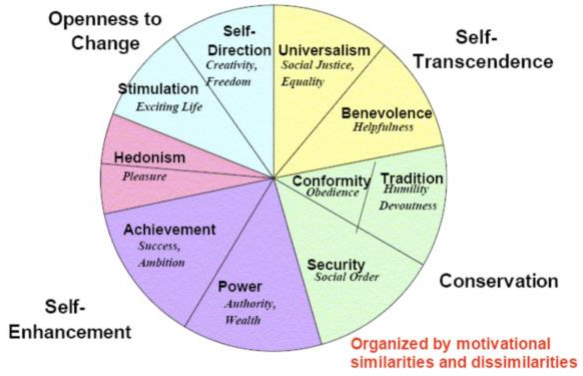
6. Findings: Activities and psychological traits

6.1. Values'orientation, preferences and activities

6.1.1. Basic Human Values



- **Values are beliefs**. But they are beliefs tied inextricably to emotion, not objective, cold ideas.
- **Values are a motivational construct**. They refer to the desirable goals people strive to attain.
- **Values transcend specific actions and situations**. They are abstract goals. The abstract nature of values distinguishes them from concepts like norms and attitudes, which usually refer to specific actions, objects, or situations.
- **Values guide the selection or evaluation of actions, policies, people, and events**. That is, values serve as standards or criteria.
- **Values are ordered by importance relative to one another**. People's values form an ordered system of value priorities that characterize them as individuals. This hierarchical feature of values also distinguishes them from norms and attitudes.

"**An Overview of the Schwartz Theory of Basic Values** Shalom H. Schwartz"

The value theory (Schwartz, 1992, 2006a) adopts a conception of values that specifies six main features that are implicit in the writings of many theorists:
(1) **Values are beliefs linked inextricably to affect.** When values are activated, they become infused with feeling. People for whom independence is an important value become aroused if their independence is threatened, despair when they are helpless to protect it, and are happy when they can enjoy it.
(2) **Values refer to desirable goals that motivate action**. People for whom social order, justice, and helpfulness are important values are motivated to pursue these goals.
(3) **Values transcend specific actions and situations.** Obedience and honesty values, for example, may be relevant in the workplace or school, in business or politics, with friends or strangers. This feature distinguishes values from norms and attitudes that usually refer to specific actions, objects, or situations.

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(4) **Values serve as standards or criteria.** Values guide the selection or evaluation of actions, policies, people, and events. People decide what is good or bad, justified or illegitimate, worth doing or avoiding, based on possible consequences for their cherished values. But the impact of values in everyday decisions is rarely conscious. Values enter awareness when the actions or judgments one is considering have conflicting implications for different values one cherishes.
(5) **Values are ordered by importance relative to one another.** People's values form an ordered system of priorities that characterize them as individuals. Do they attribute more importance to achievement or justice, to novelty or tradition? This hierarchical feature also distinguishes values from norms and attitudes.
(6) T**he relative importance of multiple values guides action**. Any attitude or behaviour typically has implications for more than one value. For example, attending church might express and promote tradition and conformity values at the expense of hedonism and stimulation values. The trade-off among relevant, competing values guides attitudes and behaviours (Schwartz, 1992, 1996). Values influence action when they are relevant in the context (hence likely to be activated) and important to the actor.

The values theory defines ten broad values according to the motivation that underlies each of them. These values are likely to be universal because they **are grounded in one or more of three universal requirements of human existence** with which they help to cope.
These requirements are:

- needs of individuals as biological organisms,
- requisites of coordinated social interaction, and
- survival and welfare need of groups.

Individuals cannot cope successfully with these requirements of human existence on their own. Rather, people must articulate appropriate goals to cope with them, communicate with others about them, and gain cooperation in their pursuit. Values are the socially desirable concepts used to represent these goals mentally and the vocabulary used to express them in social interaction.

Each of the ten basic values can be characterized by describing its central motivational goal:
1. **Self-Direction**.
Defining goal: independent thought and action--choosing, creating, exploring.
Self-direction derives from organismic needs for control and mastery (e.g., Bandura, 1977; Deci, 1975) and interactional requirements of autonomy and independence (e.g., Kluckhohn, 1951; Kohn & Schooler, 1983). (creativity, freedom, choosing own goals, curious, independent) [self-respect, intelligent, privacy]

2. **Stimulation**.
Defining goal: excitement, novelty, and challenge in life.
Stimulation values derive from the organismic need for variety and stimulation in order to maintain an optimal, positive, rather than threatening, level of activation (e.g., Berlyne, 1960). This need probably relates to the needs underlying self-direction values (cf. Deci, 1975). (a varied life, an exciting life, daring)

3. **Hedonism**.

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Defining goal: pleasure or sensuous gratification for oneself.
Hedonism values derive from organismic needs and the pleasure associated with satisfying them. Theorists from many disciplines (e.g., Freud, 1933; Williams, 1968) mention hedonism. (pleasure, enjoying life, self-indulgent)

4. **Achievement**.
Defining goal: personal success through demonstrating competence according to social standards.
Competent performance that generates resources is necessary for individuals to survive and for groups and institutions to reach their objectives. As defined here, achievement values emphasize demonstrating competence in terms of prevailing cultural standards, thereby obtaining social approval. (ambitious, successful, capable, influential) [intelligent, self-respect, social recognition]

5. **Power**.
Defining goal: social status and prestige, control or dominance over people and resources.
The functioning of social institutions apparently requires some degree of status differentiation (Parsons, 1951). A dominance/submission dimension emerges in most empirical analyses of interpersonal relations both within and across cultures (Lonner,1980). To justify this fact of social life and to motivate group members to accept it, groups must treat power as a value. Power values may also be transformations of individual needs for dominance and control. Value analysts have mentioned power values as well (e.g., Allport, 1961). (authority, wealth, social power) [preserving my public image, social recognition]. Both power and achievement values focus on social esteem. However, achievement values (e.g., ambitious) emphasize the active demonstration of successful performance in concrete interaction, whereas power values (e.g., authority, wealth) emphasize the attainment or preservation of a dominant position within the more general social system.

6. **Security**.
Defining goal: safety, harmony, and stability of society, of relationships, and of self.
Security values derive from basic individual and group requirements (cf. Kluckhohn, 1951; Maslow, 1965). Some security values serve primarily individual interests (e.g., clean), others wider group interests (e.g., national security). Even the latter, however, express, to a significant degree, the goal of security for self or those with whom one identifies. (social order, family security, national security, clean, reciprocation of favours) [healthy, moderate, sense of belonging]

7. **Conformity**.
Defining goal: restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms.
Conformity values derive from the requirement that individuals inhibit inclinations that might disrupt and undermine smooth interaction and group functioning. As I define them, conformity values emphasize self-restraint in everyday interaction, usually with close others. (obedient, self-discipline, politeness, honouring parents and elders) [loyal, responsible]

8. **Tradition**.

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Defining goal: respect, commitment, and acceptance of the customs and ideas that one's culture or religion provides the self.
Groups everywhere develop practices, symbols, ideas, and beliefs that represent their shared experience and fate. These become sanctioned as valued group customs and traditions. They symbolize the group's solidarity, express its unique worth, and contribute to its survival (Durkheim, 1912/1954; Parsons, 1951). They often take the form of religious rites, beliefs, and norms of behavior. (respect for tradition, humble, devout, accepting my portion in life) [moderate, spiritual life]
Tradition and conformity values are especially close motivationally because they share the goal of subordinating the self in favour of socially imposed expectations. They differ primarily in the objects to which one subordinates the self. Conformity entails subordination to persons with whom one is in frequent interaction – parents, teachers or bosses. Tradition entails subordination to more abstract objects – religious and cultural customs and ideas. As a corollary, conformity values exhort responsiveness to current, possibly changing expectations. Tradition values demand responsiveness to immutable expectations set down in the past. The theory retains the distinction between these two values based on empirical findings.

9. **Benevolence**.
Defining goal: preserving and enhancing the welfare of those with whom one is in frequent personal contact (the 'in-group').
Benevolence values derive from the basic requirement for smooth group functioning (cf. Kluckhohn, 1951) and from the organismic need for affiliation (cf. Maslow, 1965). Most critical are relations within the family and other primary groups. Benevolence values emphasize voluntary concern for others' welfare. (helpful, honest, forgiving, responsible, loyal, true friendship, mature love) [sense of belonging, meaning in life, a spiritual life]. Benevolence and conformity values both promote cooperative and supportive social relations. However, benevolence values provide an internalized motivational base for such behaviour. In contrast, conformity values promote cooperation to avoid negative outcomes for self. Both values may motivate the same helpful act, separately or together.

10. **Universalism**.
Defining goal: understanding, appreciation, tolerance, and protection for the welfare of all people and for nature.
This contrasts with the in-group focus of benevolence values. Universalism values derive from survival needs of individuals and groups. But people do not recognize these needs until they encounter others beyond the extended primary group and until they become aware of the scarcity of natural resources. People may then realize that failure to accept others who are different and treat them justly will lead to life-threatening strife. They may also realize that failure to protect the natural environment will lead to the destruction of the resources on which life depends. Universalism combines two subtypes of concern—for the welfare of those in the larger society and world and for nature (broadminded, social justice, equality, world at peace, world of beauty, unity with nature, wisdom, protecting the environment)[inner harmony, a spiritual life]

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6.1.2. Functional Values Scales

QB02 Please read carefully the basic values listed below and their descriptions. Using the following answer scale, indicate how important you consider each one of them as a guiding principle in your life.

A 7-point answer scale was used, where: 1-Completely unimportant and 7-Utmost importance. Descriptions of all 18 values where provided.
The 18 value items of the questionnaire are grouped into six dimensions (Excitement, Suprapersonal, Interactive, Promotion, Existence and Normative) which, in turn, correspond to two different types of needs, Thriving and Survival. This categorisation of value levels reflects Gouveia et al.'s Theory of Functional Values.

Note that religiosity value is only available for China (JLU).

TABLE 10 FUNCITONAL VALUES AND COMMUNITIES

			AAU	LSE	UNITN	NUM	JLU	UC
Survival	HEALTH	Existence	5.62	5.70	5.82	5.53	5.70	6.19
	PERSONAL STABILITY							
	SURVIVAL							
	SUCCESS	Promotion	4.23	4.82	4.80	5.27	4.93	5.05
	POWER							
	PRESTIGE							
	OBEDIENCE	Normative	4.00	3.95	4.46	5.29	4.37	5.16
	TRADITION							
	RELIGIOSITY							
Thriving	KNOWLEDGE	Suprapersonal	5.40	5.51	5.61	5.75	5.28	5.78
	BEAUTY							
	MATURITY							
	SEXUALITY	Excitement	4.84	4.71	4.94	4.88	4.55	4.82
	EMOTION							
	PLEASURE							
	SOCIAL SUPPORT	Interactive	5.51	5.41	5.38	5.13	5.61	5.54
	AFFECTIVITY							
	BELONGING							

Existence values. Existence values represent the most basic psychological needs (e.g., eating, drinking, sleeping) and the need for security (Maslow, 1954; Ronen, 1994). The main purpose of existence values is to guarantee basic conditions for individual biological and psychological survival, an objective which is compatible with both personal and social goals. The theory posits that existence values are the point of reference for promotion and normative values.

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Promotion values. Promotion values express survival needs and focus on personal goals. Self-esteem needs are represented by these values (Maslow, 1954; Ronen, 1994). Promotion values stem from a personal orientation, focusing on material achievements, and are a vital requirement for successful social interactions and for institutional functioning (Schwartz, 1992, 2005). Individuals oriented by promotion values give importance to hierarchy when it is a manifestation of personal competence. These individuals appreciate an organized and structured society, look for their own personal benefit, and are practical in their decisions and behaviors.

Normative values. Similar to existence values, normative values also express survival needs, but focusing on social goals. These values are the cognitive representation of particular needs, such as control, and also help in securing pre-conditions for the satisfaction of basic needs (Korman, 1974; Maslow, 1954; institutional and social demands, according to Schwartz, 1992). Normative values have a social orientation and a focus on social rules, based on materialistic guiding principles. Normative values thus reflect the importance of preserving one's culture and conventional norms. Endorsing these values also implies a vertical orientation (Gouveia, Albuquerque, Clemente, & Espinosa, 2002), which stresses the importance of obedience to authority.

Suprapersonal values. Suprapersonal values express thriving needs through central goals. That is, they represent higher-order needs, such as cognition and self-actualization (Maslow, 1954; Ronen, 1994). Suprapersonal values help to organize and categorize the world in a meaningful way, providing clarity and stability in one's life. Biologically, humans have a need for information (curiosity) that ultimately leads to a better understanding and control of the physical and social world (Baumeister, 2005). Such values can be conceived as idealistic, pointing out the importance of abstract ideas and less absolute and material things (Inglehart, 1977). As such, suprapersonal values are the most important way of expressing thriving needs and are a point of reference for excitement and interactive values.

Excitement values. Excitement values represent thriving needs with a focus on personal goals. The physiological need for gratification and variety, or the assumption of the pleasure principle (i.e., hedonism; Maslow, 1954; Ronen, 1994), are represented by excitement values. These values express a more personal orientation, contributing to the promotion of change and innovation in the structure of social organizations. Individuals oriented by such values tend not to be geared towards or fixed on material goals in the long run.

Interactive values. Interactive values focus on social goals, representing thriving needs, such as belonging, love, and affiliation (Korman, 1974; Maslow, 1954). Interactive values are essential in regulating, establishing, and maintaining one's interpersonal relationships, stressing the common circumstances and affective experience among individuals. Social contact is a goal in itself, stressing more affective and abstract attributes.

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6.1.3. Random Forest Classification using functional values

In this section, we are exploring how good are these value orientation dimensions in discriminating between the different communities, which supposedly represents distinct cultural communities. We perform a Random Forest Classification analysis to predict the belonging to one of the six communities' studies. Data about Aalborg universities should be considered, in this context, not relevant giving the small number of respondents collected.

Random Forest Classification

Trees	Predictors per split	n(Train)	n(Validation)	n(Test)	Validation Accuracy	Test Accuracy	OOB Accuracy
66	2	6047	1512	1889	0.495	0.501	0.754

Note. The model is optimized with respect to the *out-of-bag accuracy.*

6.1.3.1. Data Split

Confusion Matrix

		Predicted					
		AAU	JLU	LSE	NUM	UC	UNITN
Observed	AAU	0	0	0	0	0	0.02
	JLU	0	0.02	0	0.02	0	0.04
	LSE	0	0.01	0.01	0.01	0	0.1
	NUM	0	0.02	0	0.13	0	0.09
	UC	0	0	0	0.02	0	0.04
	UNITN	0	0.01	0.02	0.07	0	0.34

Evaluation Metrics

	Precision	Recall	F1 Score	Support	AUC
AAU	0.000	0.000	NaN	46	0.539
JLU	0.301	0.194	0.236	160	0.666
LSE	0.338	0.108	0.164	249	0.661
NUM	0.497	0.524	0.510	458	0.758
UC	0.318	0.050	0.087	139	0.625
UNITN	0.534	0.766	0.629	837	0.654
Average / Total	0.451	0.501	0.451	1889	0.651

Note. Area Under Curve (AUC) is calculated for every class against all other classes.

Variable Importance

	Mean decrease in accuracy	Total increase in node purity
interactive	-0.002	0.050
normative	0.010	0.038
suprapersonal	-0.004	0.038
existence	0.003	0.035
promotion	0.010	0.027
excitements	9.792e -4	0.020

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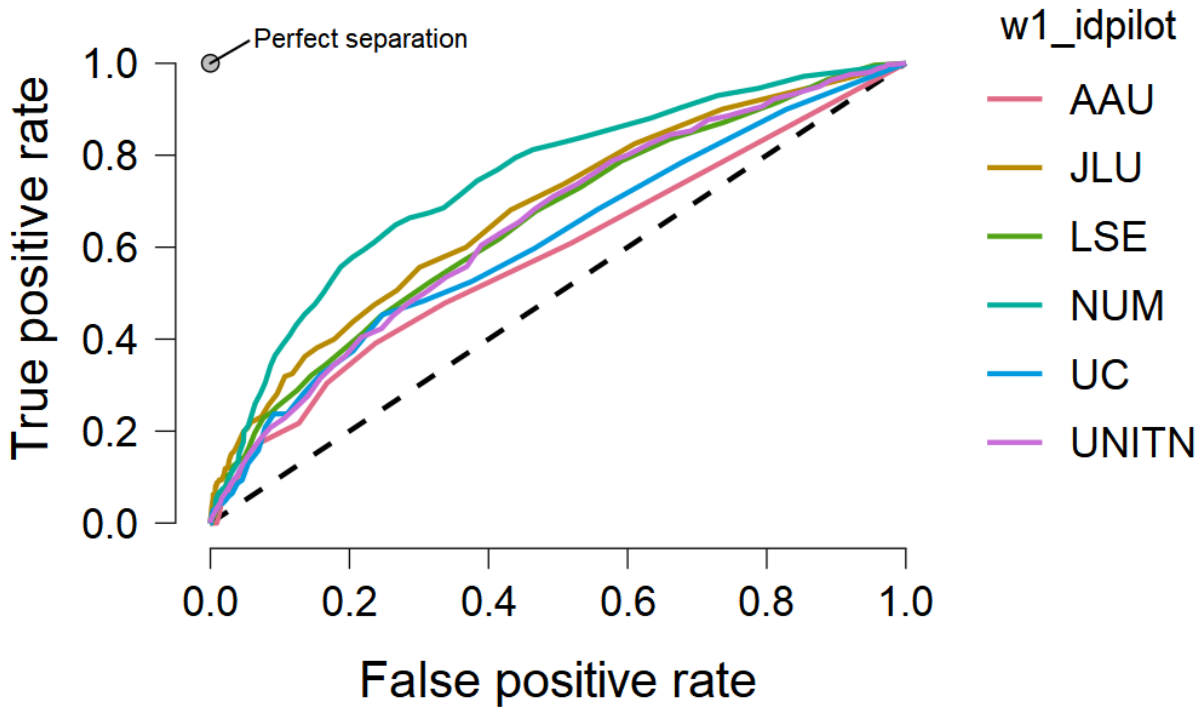
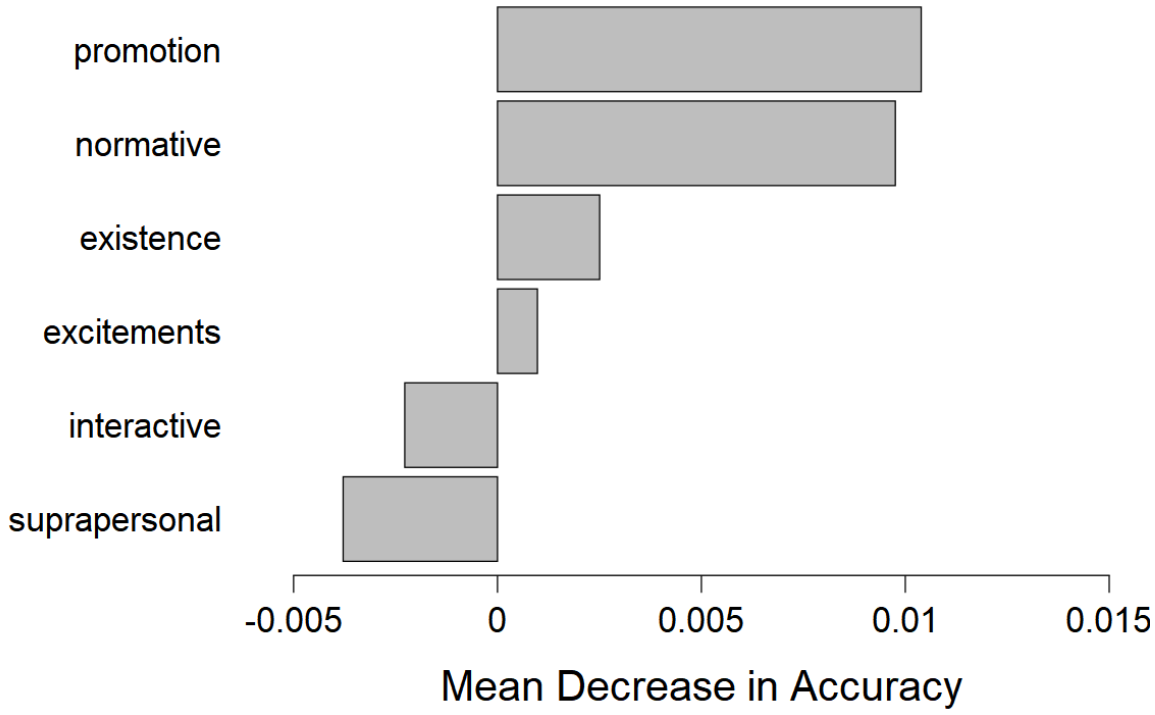
6.1.1. ROC Curves Plot



6.1.1. Mean Decrease in Accuracy



From the analysis of carried using random forest classification, we can see that functional values are not a good discriminator of cultural communities, this is most likely due the higher intracommunity diversity of personality compared to the between communities' differences. Only the students from Mongolia appear to be slightly more identifiable in terms of higher incidence of the promotion and normative values.

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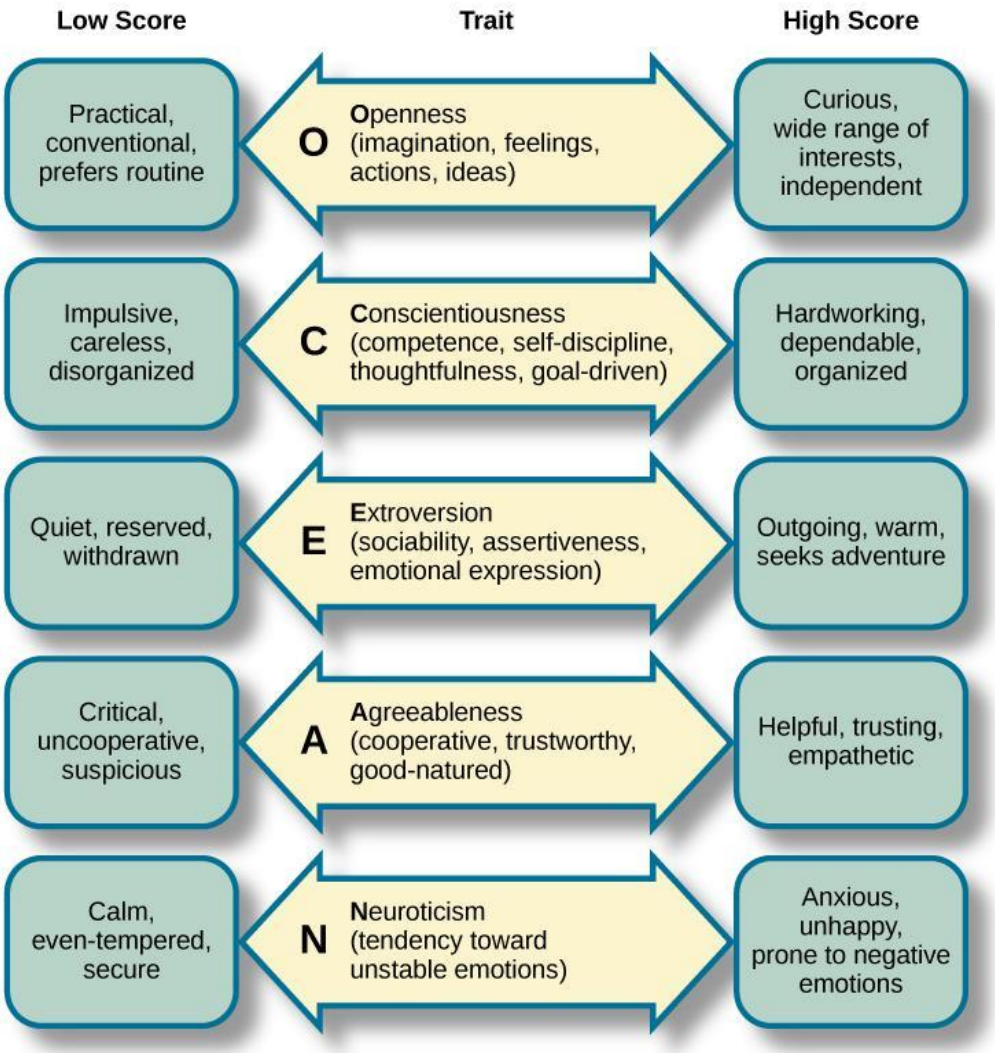
6.2. Personality traits

The five personality dimensions (according to the Big Five trait theory) are derived from a 20-item short form (the Mini-IPIP scale) of the 50-item International Personality Item Pool-Five Factor Model measure (Goldberg, 1999). In the Mini-IPIP, there are four items per Big Five personality trait.



QB01 Describe yourself as you generally are now, not as you wish to be. Describe yourself as you honestly see yourself, in relation to other people you know of the same gender as you are and roughly your same age. Please use the scale below to rate how accurately each statement describes you.

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A five-point answer scale has been used: 1-very inaccurate, 2-moderately inaccurate, 3-neither accurate nor inaccurate, 4-moderately accurate, 5-very accurate.

Neuroticism

		AAU	LSE	UNITN	NUM	JLU	UC
N	Valid	201	1105	3782	1800	802	494
	Missing	8	12	117	36	42	22
Mean		3.01	3.07	3.07	2.89	3.11	3.02
Std. Deviation		0.78	0.84	0.86	0.60	0.90	0.84

Extraversion

		AAU	LSE	UNITN	NUM	JLU	UC
N	Valid	201	1106	3784	1799	802	495
	Missing	8	11	115	37	42	21
Mean		3.06	3.06	3.09	2.58	2.86	2.85
Std. Deviation		0.96	0.91	0.94	0.79	0.93	0.86

Openness

		AAU	LSE	UNITN	NUM	JLU	UC
N	Valid	201	1105	3782	1799	802	494
	Missing	8	12	117	37	42	22
Mean		3.94	3.85	3.77	3.71	3.55	3.62
Std. Deviation		0.77	0.74	0.78	0.65	0.81	0.73

Agreeableness

		AAU	LSE	UNITN	NUM	JLU	UC
N	Valid	201	1106	3782	1800	802	496
	Missing	8	11	117	36	42	20
Mean		4.14	4.02	3.99	3.56	3.79	3.82
Std. Deviation		0.65	0.72	0.67	0.55	0.73	0.76

Conscientiousness

		AAU	LSE	UNITN	NUM	JLU	UC
N	Valid	201	1105	3784	1800	803	496
	Missing	8	12	115	36	41	20
Mean		3.66	3.68	3.59	3.90	3.61	3.81
Std. Deviation		0.83	0.80	0.76	0.62	0.74	0.73

6.2.1. Random Forest Classification

In this section, we are exploring how good are these personality orientation dimensions in discriminating between the different communities, which supposedly represents distinct cultural communities. We perform a Random Forest Classification analysis to predict the belonging to one of the six communities' studies. Data about Aalborg universities should be considered, in this context, not relevant giving the small number of respondents collected.

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Random Forest Classification

Trees	Predictors per split	n(Train)	n(Validation)	n(Test)	Validation Accuracy	Test Accuracy	OOB Accuracy
97	2	6096	1525	1905	0.489	0.475	0.759

Note. The model is optimized with respect to the *out-of-bag accuracy* .

6.2.1.1. Data Split

Confusion Matrix

		Predicted					
		AAU	JLU	LSE	NUM	UC	UNITN
Observed	AAU	0	0	0	0	0	0.02
	JLU	0	0	0.01	0.02	0	0.06
	LSE	0	0	0.01	0.02	0	0.11
	NUM	0	0.01	0.01	0.13	0	0.1
	UC	0	0	0	0.02	0	0.05
	UNITN	0	0.01	0.01	0.07	0.01	0.33

Evaluation Metrics

	Precision	Recall	F1 Score	Support	AUC
AAU	0.000	0.000	NaN	48	0.560
JLU	0.196	0.052	0.083	172	0.595
LSE	0.167	0.046	0.072	263	0.601
NUM	0.499	0.535	0.516	475	0.769
UC	0.000	0.000	NaN	129	0.576
UNITN	0.501	0.770	0.607	818	0.647
Average / Total	0.380	0.475	0.407	1905	0.625

Note. Area Under Curve (AUC) is calculated for every class against all other classes.

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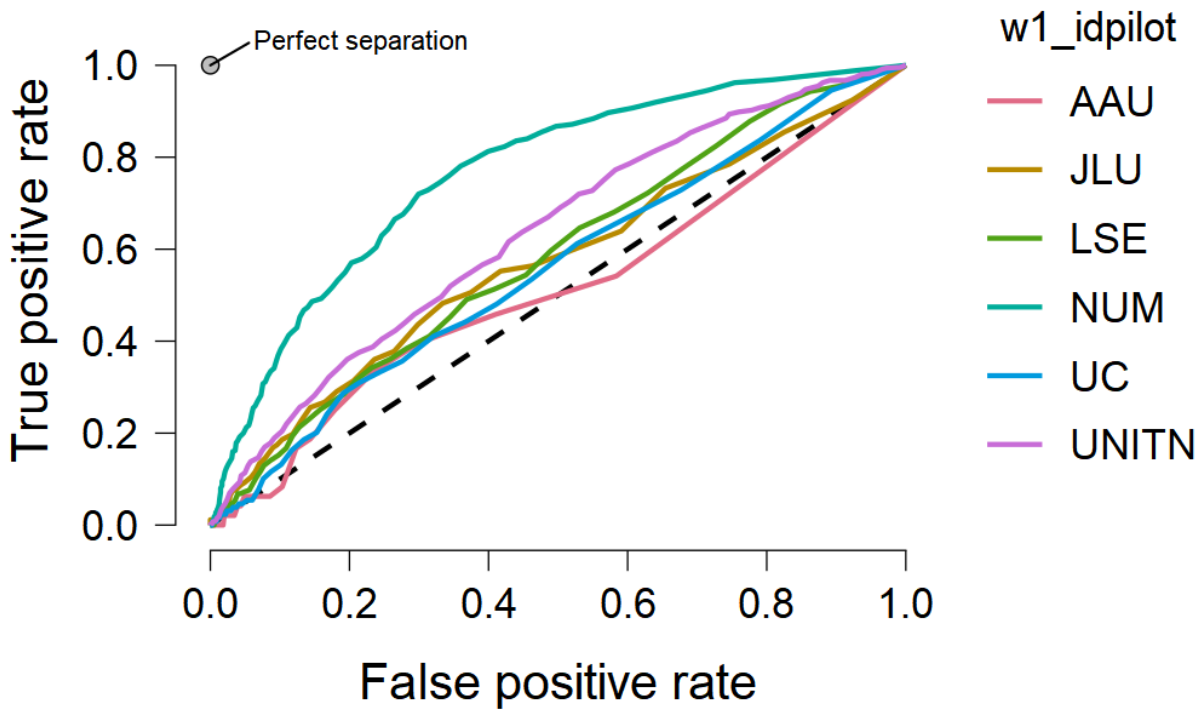
Variable Importance

	Mean decrease in accuracy	Total increase in node purity
Conscientiousness	-0.003	0.020
Neuroticism	-0.003	0.016
Agreeableness	9.169e -4	0.016
Openness	-0.002	0.014
Extraversion	-0.007	0.013

6.2.2. ROC Curves Plot



6.2.3. Mean Decrease in Accuracy

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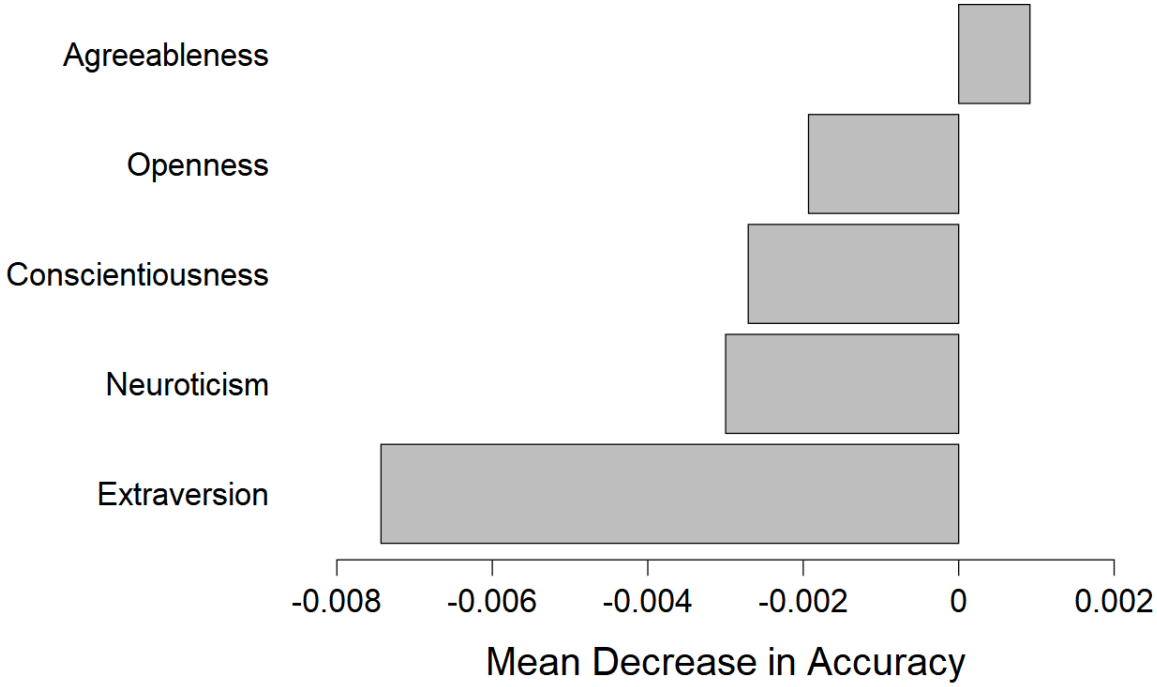

From the analysis of carried using random forest classification, we can see that personality traits are not a good discriminator of cultural communities, this is most likely due the higher intracommunity diversity of personality compared to the between communities' differences. Only the students appear to be slightly more identifiable in terms of lower presence of the Agreeableness trait.

6.3. Multiple Intelligences

Specialized cognitive competencies refer to clusters of cognitive prerequisites that must be available for an individual to perform well in a particular content area (e.g., chess playing, piano playing, automobile driving, mathematical problem solving, troubleshooting in complex systems, etc.). The domains of specialized competencies can be very narrowly defined (e.g., chess competence) or very broadly and openly defined (e.g., diagnostic competencies).
Although the surface performance skills and prerequisite competencies for chess are quite different from those for other areas of expertise (e.g., medical diagnosis), the types of necessary underlying cognitive competencies are comparable. For example, in both chess and medical expertise, mental networks of content-specific knowledge, skills and routines are more important than general cognitive abilities. These specialized competencies require long-term learning, broad experience, deep understanding of the topic, and automatic action routines that must be controlled at a high level of awareness (Patel, Kaufman & Magder, 1996).

The classical concept of intelligence ("good thinking, correct judgments, smart actions, successful learning") has over time been supplemented with newly "invented" (and not "discovered") facets of intelligence. These include: (Gardner's (1983)

multiple intelligences:	multiple competences:

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logical-mathematical intelligence, verbal intelligence, spatial intelligence, musical intelligence, kinesthetic intelligence, interpersonal intelligence, intrapersonal intelligence practical intelligence (Sternberg & Wagner, 1986); social intelligence (Thorndike, 1920; Keating, 1978); emotional intelligence (Salovey & Mayer, 1990; Goleman, 1995). operative Intelligence (Dörner, 1986), successful intelligence (Sternberg, 1997), intelligence as potential for learning (Guthke, 1997).	logical-mathematical competences verbal competences spatial competences musical competences kinesthetic competences interpersonal competences intrapersonal competences practical competences social competences emotional competences operative competences successful competences competences as potential for learning

Weber & Westmeyer (1998) suggest using "social competence" or "emotional competence" rather than "social intelligence" or "emotional intelligence". Following this suggestion, we extend this idea to all the intelligences suggested by Gartner. The second column of the table above shows our suggestion on how these intelligences can be interpreted as competence. In our perspective we suggest using and interpreting the dimensions gathered below as competence instead of intelligence.

Although all these concepts broaden the complex of abilities that one can label as intelligent, there is no consensus among lay people or scientists about the use of these concepts (Sternberg & Berg, 1986). Thus, many suggest limiting the concept of intelligence to its classical meaning and psychometric measurement.

In this project to collect information on multiple intelligence we use a scale Multiple Intelligence Profile Instrument III (MIPQ III) developed from Tirri & Nokelainen (2008). In this scale we detect the following nine multiple intelligence (self-report competence):

Musical-rhythmic and harmonic
People with musical intelligence normally have good pitch or might possess absolute pitch, and are able to sing, play musical instruments, and compose music. They have sensitivity to rhythm, pitch, meter, tone, melody or timbre of music.

Visual-spatial
This area deals with spatial judgment and the ability to visualize with the mind's eye. Spatial intelligence measured persons' views on his/her abilities to visualize and work with multidimensional objects. This intelligence consisted of two components. One of them dealt with visual imaging and the other with spatial perception.

Linguistic-verbal
People with high verbal-linguistic intelligence display a facility with words and languages. They are typically good at reading, writing, telling stories and memorizing words along with dates.

Logical-mathematical

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People with high logical-mathematical intelligence display a facility with logic, abstractions, reasoning, numbers and critical thinking. They also has to do with having the capacity to understand the underlying principles of some kind of causal system.

Bodily-kinesthetic
The core elements of the bodily-kinesthetic intelligence are control of one's bodily motions and the capacity to handle objects skilfully. They have high bodily-kinesthetic intelligence should be generally good at physical activities such as sports, dance and making things. Gardner elaborates to say that this also includes a sense of timing, a clear sense of the goal of a physical action, along with the ability to train responses.

Interpersonal (Social skills)
The items measured persons' perceptions of his/her abilities to social relations. In theory, individuals who have high interpersonal intelligence are characterized by their sensitivity to others' moods, feelings, temperaments, motivations, and their ability to cooperate to work as part of a group.

Intrapersonal
This area consisted of two components. The "Self-reflection" component measured persons' views on their ability to reflect on important issues in life and deep psychological and philosophical issues. The other component "Self-knowledge" dealt with issues concerning individuals' ability to analyse themselves and the courage to express their own opinions. This refers to having a deep understanding of the self; what one's strengths or weaknesses are, what makes one unique, being able to predict one's own reactions or emotions.

Naturalistic
People with high naturalistic intelligence display a sensitive, ethical, and holistic understanding of the world and its complexities – including the role of humanity within the greater ecosphere.

Existential (Spiritual intelligence)
It is connected to our capacity to transcend the everyday experience and to use imagination. Gardner did not want to commit to a spiritual intelligence but suggested that an "existential" intelligence may be a useful construct.

6.4. Social Practices: The role of meaning

In the previous deliverables 1.2 and 1.4 we defined diversity as a concept of relationships that do not exist at the level of the individual actor but only when he/she enters into interactions with other actors. We also operationalised the concept of diversity through the concept of social practices (deliverables 1.1, 1.2, 1.4). In the following we would like to approach diversity and social practices from another perspective in which the elements constituting social practices (materiality, competences and meaning) are linked to diversity in a dual relationship, the first when taken individually, the second when considered as a single constitutive body of social practice.

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Diversity is a complex and multi-layered concept. To simplify, we can think of three types of diversity. The first is material diversity, which is based on the possession of physical objects (a pen, a car, a fancy dress). Material covers all physical aspects of the performance of a practice, including the human body. Materials, encompassing objects, infrastructures, tools, hardware and the body itself (Shove et al., 2007). It is a sequence of bodily activities involving the usage of material artefacts, such as technological artefacts or everyday commodities. Materiality is studied by both the disciplines of economics and sociology. The former studies their economic value, the latter as a source of inequality in access and possession. However, both share the idea that they are resources and as such have certain specific characteristics. Among these, the most relevant for this project is the concept of transferability, i.e. the possibility of being transferred from one possessor to another.

In this case we can talk about transferable material resources and non-transferable material resources. As far as the actor is concerned, the latter usually refers to aspects such as gender, hair and skin colour, social origins, beauty, i.e. all those ascriptive features that are possessed by an actor but cannot be transferred to another actor. In the previous deliverables we have seen how these types of characters belong to superficial diversity and given their nature are often a source of discrimination, prejudice and stereotypes. The former, on the other hand, refer to all those material goods that the subject possesses, such as, for example, a pen, a car, a house, etc. All these objects can be sold, transferred or sold to others. All these objects can be sold, transferred, given away, lent to another actor. Again, this class of objects is part of surface diversity (D1.2 & D1.4). These objects in turn have a dual nature. The first is obvious, in that they are functional for the fulfilment of certain needs or necessities. A pot will be for preparing food, a house for sheltering from the cold, a car for moving from one place to another. However, their possession is not only functional for the purpose, but in social communities they also play a role of identity, of belonging to a group or social class. In this case, the work of Pierre Bourdieu of (1979) "*La Distinction: Critique sociale du jugement*" is illuminating, in which he develops the idea of how lifestyles and consumption and therefore also the display of material goods are identity signals of belonging to a given social class. And how the subordinate classes try to appropriate them in order to enter the upper classes.

While on the one hand, the possession of material goods are a form of diversity that pertains to the process of social differentiation and its forms of inequality, on the other hand, they are and remain objects that are in many cases useful in everyday life. In this case in a context of diversity we can think of two actors where the first has a pen and the second does not. Removed from its symbolic characters and meaning, a pen only takes on importance at the moment when it has to fulfil a need, such as taking a note. Diversity, therefore, emerges at the moment when actor A has a pen; actor B does not have a pen; actor B has to take a note; actor B borrows the pen from actor A who in turn can decide whether to lend it to B. And this is exactly the process that WeNet intends to model and encourage. Connecting two actors A and B where B has a need and A has the tool to solve it.

The second form of diversity is competence. This is an intangible good. In our configuration (D1.2 & D1.4) it belongs to deep diversity. It cannot be bought, given, lent, but can be acquired through learning where actor A teaches (transfers) to actor B

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certain competences. Competence incorporates skills and knowledge which are required to perform the practice. Know-how, background knowledge, understanding as well as social and relational skill are taken to be crucial whether in the form of what Giddens (1984) describes as practical consciousness, deliberately cultivated skill, or more abstractly, as shared understandings of good or appropriate performance in terms of which specific enactments are judged. We can distinguish three types of competences:

These three components are:

- **Conceptual competence or *declarative knowledge (knowing what)***, which refers to Chomskian rule-based, abstract knowledge about an entire domain.
- **Procedural competence or *procedural knowledge (knowing how)*,** which refers to the availability of procedures and skills that are necessary to apply conceptual competence in concrete situations.
- **Performance competencies**, which refer to all those skills required to evaluate the relevant features of a problem, so that suitable solution strategies can be selected and used. These combine bot declarative and procedural knowledge.
-

Subjective competence can be further differentiated into three components (Stäudel, 1987):

- **Heuristic competence** (generalized expectancy system concerning the effectiveness of one's abilities across different situations – generalized self-concept);
- **Epistemological competence** (beliefs and confidence that one possesses domain specific skills and knowledge to master tasks and problems within a specific content domain - domain specific self-concept).
- **Actualized competence** (momentary subjective self-confidence that one possesses the abilities, knowledge and skills believed necessary for success in a concrete learning or performance situation -- current or dynamic actualized self-concept).

Again, we have a double perspective from which to look at skills. The first one concerns access. The main place in this case is education, training and socialisation systems, which in turn can be generators of inequalities through limitations in access (see in this respect Parkin, F., Class inequality and political order, London 1971). The second meaning also here concerns the transmission from one actor to another in a non-limited context. Actor A has a given competence, he is a mathematics teacher; Actor B needs to acquire that competence, to learn mathematics; Actor B will ask A to teach him mathematics.

However, about competences there is a further element to consider. As mentioned, these are transferred through teaching. What we must consider is that this process takes place under an unspoken assumption: that the learner has the basic competences necessary to process the new information he or she will receive. In other words, the teacher will have to consider and use a form of communication that the learner can understand. In the example just given, the teacher of mathematics (A) will have to make sure that he/she develops notions that the learner (B) can understand. Thus, if B only knows elementary mathematical operations, the teacher will not be able to give a lesson on derivatives and integrals. Although this may be considered an

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extreme example, in a situation such as the one provided by the project, there is no guarantee that everyone shares the same basic skills. That is, it might happen that a person with limited cooking skills asks for a recipe to cook an egg, I think it is one thing if the suggestion comes from someone who can cook an egg, but different if this suggestion is given by a Michelin-starred chef. The latter might give suggestions that to be realised require previous skills that B certainly does not have. In other words, they must both share the same set of signs and meanings. And this brings us to the third dimension of diversity.

The third and final dimension of diversity is meaning. It too belongs to the immaterial sphere and in our configuration falls under deep diversity. It is not transferable but can be learned through the processes of socialisation. (Bergher & Luckmann, 1966) [Berger, P., and Luckmann T., 1966. The Social Construction of Reality. Garden City, NJ: Doubleday.]

Unlike the former, materiality and competence, meaning is considerably more complex and more difficult to reduce to simple constituent elements, as it is itself a complex concept and on which even now philosophers, sociologists, psychologists, biologists do not seem to agree on a single definition, even within the same disciplines. Zlatev (2003) stated that “Our conception of meaning has become increasingly fragmented, along with much else in the increasing ‘post modernization’ of our worldview. The trenches run deep between different kinds of meaning theories: mentalist, behaviourist, (neural) reductionist, (social) constructivist, functionalist, formalist, computationalism, deflationist… And they are so deep that a rational debate between the different camps seems impossible. The concept is treated not only differently but *incommensurably* within the different disciplines.” (Zlatev, 2003, 253) [Zlatev, J. (2003) Meaning = Life (+ Culture). An outline of a unified biocultural theory of meaning. Evolution of Communication, 4/2: 253-296.]

On a first reading we can say that the meaning "is a relationship between two sorts of things: signs and the kinds of things they intend, express, or signify" (Richard E Morehouse, Beginning Interpretive Inquiry, Routledge, 2012, p. 32.).

However, when we move from the broader debate on the philosophical meaning of 'meaning' to the social sciences, the situation becomes even more complicated. The reason lies in the role played by meaning. While a psychological identity can be expected to strive to integrate a plurality of meanings that could be given to single events (e.g., in order to avoid 'cognitive dissonance'), the social system can tolerate the presence of different meanings and has the further option of differentiating itself into subsystems that encode these meanings differently. [Leydesdorff L. ‘Meaning’ as a sociological concept: A review of the modelling, mapping and simulation of the communication of knowledge and meaning. Social Science Information. 2011;50(3-4):391-413. doi:10.1177/0539018411411021] This plurality of rationalities can be functional in the elaboration of complexity in a multifaceted society. (cfr. Boudon, 1979; Bourdieu, 2004). [Boudon R (1979) La Logique du Social. Paris: Hachette.] [Bourdieu P (2004) Science of Science and Reflexivity. Chicago: University of Chicago Press.]

Sociologists, therefore, draw on a general framework of social behaviour to direct attention to shared or common responses, meanings, intentions, and goals and, in general, to the interpretive and representational processes that underlie human

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conduct. [Maines, D. (2000). The Social Construction of Meaning. Contemporary Sociology, 29(4), 577-584. Retrieved March 20, 2021, from http://www.jstor.org/stable/2654557]. In the constructivist perspective, the idea is that meaning is a socially constructed process that is historically and culturally specific, often shaped through power struggles within a community. It follows that representations of physical and biological reality, including race, sexuality and gender are also socially constructed.
The substantive element of meaning is its nature of *negation* (Luhmann, 1971), i.e., in its function of reducing the surrounding complexity through generalisation and in its reflexive form of identity definition. In this perspective, meaning is not only the basis of all human action but also becomes, depending on the case, a source of origin of diversity itself through processes of differentiation, which in extreme cases translates into prejudice, stereotyping and oppression.

Following Luhmann and Giddens, we can say that meaning is given by a cognitive combination of the individual in his interaction with the social system. Giddens defines this as *practical consciousness*. “Practical consciousness is in a certain sense unconscious- that is to say, it consists of forms of knowledge immediately available to discourse. But it is not unconscious in the sense in which symbols and modes of cognition which are subject to repression are unconscious. For these latter forms of cognition cannot be translated into discourse without the influence of some kind of distorting mechanism, which depends upon the bar of repression which is placed upon them. I do wish to accept that the unconscious has a fundamental role in human social activity, and I think it reasonable to argue that one can at least make considerable headway in understanding what the unconscious is by following the line of thought which holds the unconscious is "structured like a language." But intervening between the unconscious and the conscious is practical consciousness, the underlined center of human practical activity. Here there is a set of ties not just between discourse and "the other side of language," but between the individual as an agent and the institutions which the individual constitutes and reconstitutes in the course of activity.” (Giddens, A., 1986, 537).

In this perspective, Giddens departs from the idea of only socially constructed meaning, but in his Theory of Structuration, Giddens shifts the focus to practical consciousness, that element that lies between the conscious and the unconscious, that is, the main locus of human practical activity. For Giddens much of what we do in and through practical consciousness, in which we make sense of our actions and those of others, and the ways in which we generate meaning in the world, are in a basic methodological sense.

“What I mean by this is that the sense of words and the sense of actions do not derive solely from the differences created by sign codes or, more generically, by language. They derive in a more basic way from the methods which speakers and agents use in the course of practical action to reach "interpretations" of what they and others do.” (Giddens, A., 1986, 537).

The origins of meaning, therefore, are not to be traced back to the actor of reference or even to the system of differences that constitutes languages as a semiotic system, but to the methodological apparatus embedded in a practical awareness of the routines of everyday social life. Recalling Wittgenstein, Giddens points out that it is in the time-

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space settings that agents use to organise their everyday social activities that we find the origins and nature of meaning. [Giddens, Anthony (1986). Action, Subjectivity, and the Constitution of Meaning. *Social Research* 53.]

The dual psychic and social nature makes the measurement of meaning extremely difficult if not impossible and can only be approximated through some of its components which in many cases may also depend on the context itself. “Meaning incorporates … the understandings, beliefs and emotions. As mental activities, emotion, and motivational knowledge into the one broad element of ‘meaning’, a term we use to represent the social and symbolic significance of participation at any one moment. The issues considered and the respective understandings, beliefs and emotions are socially shared and may be discussed and negotiated in communication of individuals.” (Shove et al, 2012)

A further element is that meaning can be understood to be present in all forms of life whether the different meanings are embedded in a system of hierarchies. “The first one is that *all living systems and only living systems are capable of meaning*. This is so because life implies the presence of *intrinsic value,* which constitutes the necessary and sufficient condition for meaning. … The second … is that there is *a hierarchy of meaning systems* which is both evolutionary and epigenetic: each preceding level is presupposed by and integrated in the one that follows, both in evolution and in human ontogenetic development. While for plants and lower animals the meaningful lifeworld is physical, for certain animals capable of cultural traditions such as chimpanzees, and *especially* for human beings it also consists of social relations, practices and norms.” (Zlatev, 2003, 255). Maximally condensed, the Zlatev ensuing definition of meaning is the following:

> **Meaning (M)** is the relation between an **organism (O)** and its physical and cultural **environment (E)**, determined by the **value (V) of E for O.**
>
> **M = V (O, E)**

It follows that on the one hand, we will have to detect meaning through what are the psychological traits present in the actors and on the other hand, the set of attributes related to the attitudes, values, norms that underlie human behaviour.

The question now is why, in the face of such complexity, is it so important for this project to also consider meaning? The role of meaning is twofold, the first is what makes it possible to connect materiality and competences to give rise to "Behavioural Routine" actions that at a social level become social practices (see deliverables D1.1; D1.2, D1.4). In this perspective meaning takes on the role of a "Nexus". Warde (2005) developing the concepts elaborated by Schatzki sees meaning as the element that allows "doings and sayings" through which individual elements stand together and are linked in such a way that they form practices. The second is that its role as a "Nexus" is not limited to the single practice but allows for the linking of different practices, actions and even the creation of new practices.

In the perspective of the present project, therefore, the function of meaning is not to connect individuals in a deterministic way as in the previous cases, but rather to act as a probabilistic connection in situations of scarce information. The first function is to make more intelligible, to endow with sense, the behaviour of individual actors in defining their habits, routines, and more generally on the probability of acting and

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therefore assuming given behaviours on the basis of the meaning that day after day they define and redefine. The second is to connect actors according to the roles they play in general and in certain contexts. Going back to the previous example. Actor B needs a pen but does not know who to ask because he does not know who has a pen. However, B knows that actor A is a student and therefore there is a certain probability of success that A has the pen that B needs.

So far, we have analysed materiality, competence and meaning separately and independently of each other, each briefly describing their characteristics and their roles in generating diversity in both ethically acceptable and less acceptable forms. However, these three dimensions of diversity do not act independently of each other; rather, in human action they are constantly combined and recombined to form socially recognised actions that are social practices.

Resuming seminal work of Elizabeth Shove, Mika Pantzar & Matt Watson (2012). In brief Materiality, Competence, Meaning are:

- First, materials are the only elements that literally move in the sense of being physically transported. While competences and images appear to circulate, critical processes have to do with localized forms of de- and re-linking, a feature about which we have more to say below.
- Second, materials have characteristics (weight, fragility etc.) that affect, but which are only sometimes transformed by, processes of transportation. By contrast, meanings and competences are routinely modified as their reach and range extend or contracts.
- Third, with materials as with competences and meanings, the rate and extent of actual and potential circulation depends on the existence or otherwise of appropriate infrastructures, for instance, of transportation or mediation.
- Fourth, processes of codification and de-codification matter for the circulation of competence and meaning, but not for material.
- Fifth, some kinds of know-how can only be acquired and can only ‘travel’ if there is a base or foundation of existing competence on which to build. This limits the population of potential carriers and the extent to which specific competences can move.
- Sixth, acquiring new forms of skill often takes time. By contrast, meanings (i.e., forms of association) can change and emerge and can travel far and fast. That said, the effective appropriation of meanings and competences depends on local capacities to embed, ‘reverse’ and interpret. Such capacities are unevenly distributed and are, in turn, born of practices past.

However, Shove's approach in defining the components of a social practice does not find everyone in agreement. Namely, Warde (2016) developing Schatzki's theories writes about social practices:

“Examples are cooking practices, voting practices, industrial practices, recreational practices, and correctional practices. To say that the **doings and sayings** forming a practice constitute a nexus is to say that they are linked in certain ways. Three major avenues of linkage are involved: (1) through understandings, for example, of what to say and do; (2) through explicit rules, principles, precepts and instructions; and (3) through what I will call “teleoaffective” structures embracing ends, projects, tasks, purposes, beliefs, emotions and moods.” (Schatzki 1996: 89) … Important to note here

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is that practices consist of both doing and sayings, suggesting that analysis must be concerned with both practical activity and some of its forms of representation. Moreover, we are given a helpful, if ultimately restrictive, depiction of the components which form a 'nexus', the means through which doings and sayings hang together and can be said to be linked such that they may form farming practices or recreational practices. In this trio, understanding entails that an actor understands what doings and sayings are appropriate to a given practice and would, when observing someone else, recognize that s/he was engaged in that specific practice. This condition of mutual intelligibility is fundamental to the sense that people share in practices." (Warde, 2016, 36)

This work has recently been taken up by Torkkeli et al. (2020) and expanded to integrate the two perspectives in a very convincing way. Torkkeli et al. in fact write that: "The analysis suggests that the cooking practice involves interplay among the elements of the two conceptualisations: procedures join materials with competences, engagements link competences with meanings and understandings connect meanings with materials." (Torkkeli et al., 2020,543)

"Warde (2005) develops Schatzki's concepts for analytical purposes, referring to them as 'understandings, procedures and engagements' … The concepts of UPE are built on the notion that practices are sets of doings and sayings governed by a group of elements (understandings, procedures, engagements) and linked together to constitute a socially recognisable practice (Schatzki, 2016; Warde, 2016). Following Schatzki (1996, 2001a) and Warde (2005), scholars have defined the elements (of UPE) as follows. Understandings are knowledge in a broad sense, 'articulated in the ''sayings'' of various practices' … Procedures are principles, rules and tacit knowledge for how to do something, although a competent practitioner may be unable to articulate these rules (Warde, 2016: 39–40). Engagement refers to purposes, motivations or emotions surrounding what, why and 'how to do' (Halkier, 2010: 29), which may become verbalised in discussions of 'what is important to me' and why (Martens, 2012: 5.1). Schatzki (1996) refers to engagements as teleo-affectivities that contain 'desires, hopes and wants' about 'ends and purposes' that can be treated as normative and accepted conducts linked to the practice (p. 101)." (Torkkeli et al., 2020,547)

In summary, these two perspectives that Torkkeli et al. identify are summarised here in the table below: (Torkkeli et al., 2020,548)

Elements of practice.

Conceptualisations of elements	Element	Definition
UPE	Understandings	Knowledge represented as text and talk
	Procedures	Rules, principles, know-how
	Engagements	Emotional and normative orientations, motivations
MCM	Materials	Bodies, things, tools, objects, infrastructure
	Competences	Skills, know-how and techniques
	Meanings	Social and symbolic significances

UPE: understandings, procedures and engagements; MCM: material, competence and meaning.

Therefore, the first conceptualisation comprises understandings, procedures and engagements and the second materials, competences and meanings. To study

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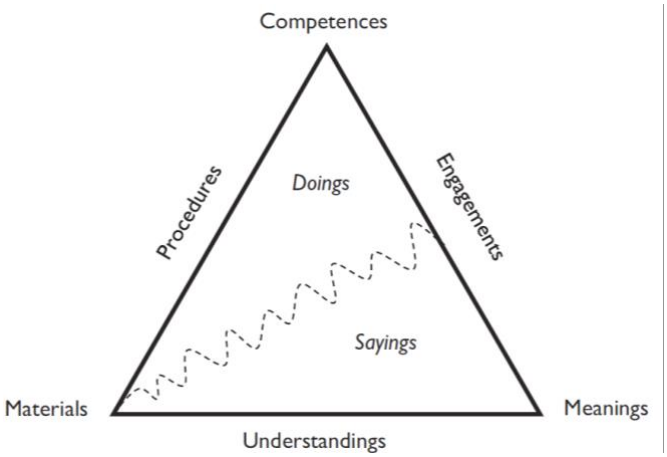
cooking as a situationally performed mundane practice, auto-ethnographical videos of cooking were filmed using the first author's family Torkkeli et al., (2020) suggests that the cooking practice involves interplay among the elements of the two conceptualisations: procedures join materials with competences, engagements link competences with meanings and understandings connect meanings with materials. This is visualised as a triangle in which understandings, procedures and engagements represent the sides of the triangle between the apexes of materials, competences and meanings.



The triangle of elements of practice and their manifestations as doings and sayings in cooking. (Torkkeli et al., 2020,556)

"… the two conceptualisations of the elements as follows: (1) the link between materials and competences can be conceptualised as procedures, (2) the link between meanings and materials as understandings and (3) the link between meanings and competences as engagements. In addition, the curved line inside the triangle shows how the links became discernible as the analysis focused on either doings or sayings. The analysis of doings utilised materials, competences and procedures, while the analysis of sayings concentrated on meanings, understandings and engagements." (Torkkeli et al., 2020,556)
Torkkeli K, Mäkelä J, Niva M. Elements of practice in the analysis of auto-ethnographical cooking videos. Journal of Consumer Culture. 2020;20(4):543-562. doi:10.1177/1469540518764248

****

Below we will give some preliminary quantitative elements in order to highlight the link between the three components just described and the social practices of cooking and shopping, and in the practice of physical activities.

The following tables are simple analyses of variance between the traits considered and the personality traits measured through the mini-IPIP scale - Big Five; the values measured through two distinct scales. The first is the BSV (Basic Human Survey) and the second is the PVQ (Portrait Values Questionnaire or Basic Human Value). These three measures all refer to the sphere of meaning, the hypothesis being that these characters capture at least in part the actor's innermost meaning as well as the more socially and culturally shared aspects. The last scale presented here measures

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multiple intelligences (XX). It therefore does not concern meanings but rather areas of competence possessed by the actor.

The scores of the mini-IPIP and the measure of multiple intelligences are obtained by summing the items belonging to each dimension and normalising them to 100. The BSV is based on the average of the scores expressed by the actor for the items that make up the dimension. Finally, the PVQ, is always based on the average score of the items belonging to the dimension centred on the overall average response profile of the actor.

6.4.1. Social Practices: The role of meaning (cooking)

The following are simple analyses in order to verify the relationship between some aspects of the cooking and shopping habits among the respondents and the three dimensions of social practices. Only for the purpose of this report it was decided to reduce through hierarchical clustering techniques (Ward method) and typologies the following questions:

About cooking:

C01. Would you say you know how to cook?
C03. How good you are at each of the following tasks:
C05. Please, indicate your level of agreement with the following statements.
C06. When looking for ideas or inspiration about cooking, what are you most likely to do?
C07. Let us talk about your diet. Which of the following applies to you?

About grocery shopping

C10. Last month, how often did you buy the types of food products and supplements:
C12. How often did you shop at the following super/markets last month?

The C01 was used as it was detected. It collects a self-assessment that the actor makes of his/her own cooking skills. The C02 instead collects information on the technical skills that the actor says he has of some simple cooking techniques, such as cooking meat or cutting an onion, up to more complex skills such as preparing cakes. C05 investigates the relationship with food preparation, somehow detecting aspects more related to meaning than to specific technical skills. C06 explores another aspect of skills linked in this case to the sources of information and inspiration used. C07, finally, captures some aspects related to the eating habits followed, which also refer to aspects more related to meaning.
In addition to this first group of information, a further synthesis analysis was produced that brings together the previous clusters into a new super-cluster that groups together the main cooking habits.

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The second block of questions concerns shopping. The C10 detects information that can be interpreted as elements of competence linked both to the choice of certain raw rather than precooked foods and to the eating styles followed. It also indirectly signals elements linked to meaning since, for example, the decision never to buy products derived from living beings could be related to lifestyles and therefore to universalistic values. C12 concerns the places where the actor goes shopping. This can be interpreted as a social practice in its own right, but also as a materiality the means where food is bought. From another point of view, this can be a competence (knowing how to shop in a supermarket). Finally, as a meaning, going shopping in small organic shops may indicate a certain care for the environment.

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AA C01. Would you say you know how to cook? Anova test By Personality traits, Values, Multiple Intelligence

	1	2	3	Total
Big Five (1)				
Extraversion	45.74	42.51	52.50	44.90
Agreeableness**	72.79	70.64	60.00	71.96
Conscientiousness***	69.91	65.31	61.88	68.44
Neuroticism	49.60	49.59	56.25	49.69
Openness	70.78	67.58	67.50	69.80
Basic Value Survey (2)				
Excitements*	4.93	4.73	4.90	4.87
Suprapersonal***	5.74	5.51	5.30	5.66
Interactive***	5.42	5.32	4.43	5.38
Promotion	4.95	4.88	5.40	4.94
Existence	5.78	5.66	5.80	5.74
Normative	4.63	4.62	3.90	4.62
Basic Human Values (3)				
Conformity*	-0.20	0.01	-0.06	-0.14
Tradition	-1.07	-0.92	-0.89	-1.02
Benevolence**	0.43	0.46	-0.41	0.43
Universalism***	0.62	0.44	0.09	0.56
Self-direction***	0.77	0.56	-0.16	0.70
Stimulation	-0.11	-0.23	-0.21	-0.14
Hedonism	-0.24	-0.17	0.26	-0.21
Achievement	-0.01	0.03	0.54	0.01
Power	-1.01	-1.02	-0.34	-1.00
Security**	0.07	0.20	0.75	0.11
Axes of 10 BHV				
Openness to change***	0.33	0.16	-0.19	0.28
Self-enhancement*	-0.42	-0.38	0.15	-0.40
Self-transcendence***	0.53	0.45	-0.16	0.50
Conservation***	-0.40	-0.24	-0.07	-0.35
Multiple Intelligence (1)				
Linguistic	55.62	54.42	43.75	55.11
Logical-mathematical**	64.33	58.32	62.50	62.47
Spatial***	60.19	53.22	58.75	58.03
Bodily-kinesthetics***	57.76	51.56	40.00	55.67
Musical	54.93	51.63	58.75	53.96
Interpersonal***	60.76	55.43	46.25	58.95
Intrapersonal**	66.26	62.21	51.25	64.85
Environmental**	79.47	74.94	75.00	78.03
Spiritual*	68.97	65.99	53.75	67.87

Legend: * <0.10; **<0.05; ***<0.01

Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1	Yes, I know how to cook.	472	69.21
2	Yes, but only basic things.	200	29.33
3	No, I do not know how to cook.	10	1.47

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BB. C03. Cluster on food preparation and cooking skills. *Anova test By Personality traits, Values, Multiple Intelligence*

	1	2	3	4	5	Total
Big Five (1)						
Extraversion***	51.41	41.69	43.65	43.43	43.60	44.90
Agreeableness***	76.16	70.52	74.64	69.99	69.99	71.96
Conscientiousness**	71.71	70.50	68.54	64.84	68.70	68.44
Neuroticism	49.12	48.62	50.26	48.99	51.09	49.69
Openness***	74.38	65.21	70.90	69.41	68.45	69.80
Basic Value Survey						
Excitements*	5.09	4.97	4.79	4.75	4.84	4.87
Suprapersonal***	5.92	5.69	5.64	5.50	5.68	5.66
Interactive	5.57	5.42	5.30	5.28	5.45	5.38
Promotion*	5.03	5.12	4.71	4.91	4.92	4.94
Existence**	5.95	5.79	5.78	5.59	5.67	5.74
Normative**	4.65	5.05	4.48	4.57	4.46	4.62
Basic Human Values						
Conformity	-0.26	-0.20	-0.02	-0.08	-0.22	-0.14
Tradition*	-1.19	-1.15	-0.90	-1.00	-0.94	-1.02
Benevolence	0.45	0.44	0.41	0.48	0.43	0.43
Universalism*	0.59	0.54	0.69	0.43	0.59	0.56
Self-direction**	0.85	0.62	0.61	0.67	0.78	0.70
Stimulation	-0.10	-0.04	-0.25	-0.11	-0.17	-0.14
Hedonism	-0.24	-0.32	-0.33	-0.12	-0.10	-0.21
Achievement	0.08	0.06	-0.11	0.01	-0.01	0.01
Power	-1.08	-0.98	-1.05	-0.94	-0.99	-1.00
Security	0.07	0.31	0.12	0.09	0.01	0.11
Axes of 10 BHV						
Openness to change	0.37	0.29	0.18	0.28	0.31	0.28
Self-enhancement	-0.41	-0.42	-0.50	-0.35	-0.37	-0.40
Self-transcendence	0.52	0.49	0.55	0.46	0.51	0.50
Conservation*	-0.46	-0.35	-0.26	-0.33	-0.38	-0.35
Multiple Intelligence (1)						
Linguistic	57.85	56.89	50.96	55.86	54.46	55.11
Logical-mathematical*	65.21	63.32	58.09	60.34	66.31	62.47
Spatial***	62.65	59.87	54.01	54.04	61.36	58.03
Bodily-kinesthetics**	61.59	56.88	54.65	50.78	57.48	55.67
Musical***	60.92	53.99	48.94	48.66	58.85	53.96
Interpersonal***	63.57	63.51	54.25	56.03	59.82	58.95
Intrapersonal***	68.00	65.49	58.73	64.55	68.43	64.85
Environmental**	82.73	79.71	77.56	74.34	77.52	78.03
Spiritual*	69.20	71.20	64.02	66.44	70.42	67.87

Legend: * <0.10; **<0.05; ***<0.01
Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1	Expert	131	19.55
2	Competent	107	15.97
3	Novice	124	18.51
4	Beginner/Unable	181	27.01
5	Not answer	127	18.96

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EE C05. Cluster on relationship to cooking. *Anova test By Personality traits, Values, Multiple Intelligence*

	1	2	3	4	5	Total
Big Five (1)						
Extraversion***	47.89	36.72	47.44	45.79	40.49	44.52
Agreeableness***	74.61	67.68	75.36	73.14	67.32	72.19
Conscientiousness***	69.53	78.55	66.75	66.29	64.91	68.65
Neuroticism**	52.06	44.26	48.41	51.27	49.01	49.63
Openness	70.31	69.96	70.88	69.53	67.54	69.71
Basic Value Survey						
Excitements*	4.92	5.15	4.76	4.79	4.86	4.88
Suprapersonal***	5.82	6.04	5.51	5.57	5.49	5.67
Interactive	5.48	5.49	5.45	5.39	5.17	5.40
Promotion***	4.89	5.43	4.71	4.88	4.92	4.93
Existence***	5.93	5.83	5.66	5.75	5.50	5.75
Normative***	4.39	5.61	4.35	4.58	4.69	4.64
Basic Human Values						
Conformity*	-0.27	0.03	-0.10	-0.11	0.06	-0.13
Tradition***	-1.22	-0.82	-0.90	-0.95	-0.91	-1.02
Benevolence	0.42	0.53	0.52	0.40	0.46	0.45
Universalism***	0.75	0.29	0.56	0.48	0.36	0.57
Self-direction**	0.85	0.61	0.62	0.67	0.59	0.70
Stimulation	-0.04	-0.05	-0.28	-0.05	-0.28	-0.14
Hedonism	-0.32	-0.16	-0.34	-0.08	-0.10	-0.23
Achievement	-0.06	0.06	0.07	-0.03	-0.01	-0.01
Power	-1.11	-0.88	-0.96	-1.03	-0.88	-1.02
Security	0.13	-0.04	0.08	0.10	0.13	0.11
Axes of 10 BHV						
Openness to change**	0.40	0.28	0.17	0.31	0.15	0.28
Self-enhancement	-0.49	-0.33	-0.41	-0.38	-0.33	-0.42
Self-transcendence*	0.58	0.41	0.54	0.44	0.41	0.51
Conservation**	-0.45	-0.28	-0.31	-0.32	-0.24	-0.35
Multiple Intelligence (1)						
Linguistic***	54.13	63.49	52.52	55.60	51.18	55.07
Logical-mathematical	62.14	66.41	64.29	61.72	59.29	62.59
Spatial***	56.13	69.74	55.84	59.70	51.27	58.11
Bodily-kinesthetics***	59.04	61.52	53.73	59.01	45.29	55.99
Musical	53.13	58.20	54.87	54.39	48.82	53.75
Interpersonal***	57.87	68.35	56.17	60.99	52.70	58.92
Intrapersonal***	67.37	69.14	62.18	68.03	57.20	65.05
Environmental***	83.25	82.42	75.99	78.39	68.81	78.08
Spiritual***	69.42	74.51	66.12	69.08	60.79	67.99

Legend: * <0.10; **<0.05; ***<0.01
Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 Passionate Happy	178	26.93
2 Passionate forced	88	13.31
3 Likes to cook	125	18.91
4 Likes to cook unhappy	156	23.60
5 Hates to cook	114	17.25
Total	661	100.00

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FF C06. Cluster on sources of information for recipes: *Anova test By Personality traits, Values, Multiple Intelligence*

	1	2	3	4	5	6	Total
Big Five (1)							
Extraversion***	44.17	43.91	38.28	45.98	51.37	42.17	44.52
Agreeableness***	73.60	71.69	69.41	74.78	74.56	67.02	72.19
Conscientiousness*	65.96	69.75	72.89	69.42	67.07	69.08	68.65
Neuroticism**	48.60	46.47	51.46	50.45	54.28	46.59	49.63
Openness	69.73	69.07	67.97	70.61	72.55	67.52	69.71
Basic Value Survey							
Excitements*	4.98	4.82	4.74	4.64	4.98	5.03	4.88
Suprapersonal	5.74	5.53	5.72	5.63	5.74	5.63	5.67
Interactive	5.37	5.28	5.39	5.35	5.57	5.45	5.40
Promotion**	4.84	4.95	5.08	4.89	4.75	5.23	4.93
Existence	5.83	5.64	5.91	5.65	5.78	5.61	5.75
Normative***	4.71	4.65	4.88	4.19	4.34	5.14	4.64
Basic Human Values							
Conformity**	-0.12	-0.14	0.15	-0.08	-0.35	-0.07	-0.13
Tradition	-0.95	-0.93	-1.06	-1.01	-1.18	-0.91	-1.02
Benevolence	0.44	0.47	0.29	0.49	0.49	0.47	0.45
Universalism**	0.60	0.47	0.44	0.44	0.74	0.53	0.57
Self-direction	0.71	0.73	0.57	0.69	0.74	0.73	0.70
Stimulation	-0.16	-0.08	-0.38	-0.09	-0.02	-0.27	-0.14
Hedonism	-0.31	-0.28	-0.33	-0.14	-0.14	-0.04	-0.23
Achievement	-0.03	-0.05	0.14	0.03	0.01	-0.31	-0.01
Power	-1.10	-0.95	-0.71	-1.01	-1.05	-1.25	-1.02
Security	0.12	0.09	0.25	0.05	0.01	0.32	0.11
Axes of 10 BHV							
Openness to change	0.28	0.33	0.10	0.30	0.36	0.23	0.28
Self-enhancement	-0.48	-0.42	-0.30	-0.37	-0.40	-0.53	-0.42
Self-transcendence	0.52	0.47	0.37	0.46	0.61	0.50	0.51
Conservation**	-0.32	-0.33	-0.22	-0.34	-0.51	-0.22	-0.35
Multiple Intelligence (1)							
Linguistic	54.71	52.28	58.47	54.12	54.38	57.92	55.07
Logical-mathematical	58.53	63.01	63.69	63.87	63.23	68.47	62.59
Spatial	54.93	58.19	60.62	59.60	58.93	59.72	58.11
Bodily-kinesthetics	54.66	56.42	59.13	57.34	56.09	52.84	55.99
Musical	54.29	51.94	53.37	53.59	54.69	54.44	53.75
Interpersonal	55.92	59.80	56.94	59.91	63.57	59.03	58.92
Intrapersonal***	62.28	62.84	68.65	63.87	70.97	61.65	65.05
Environmental*	75.94	78.04	82.94	75.63	80.09	75.56	78.08
Spiritual*	65.54	64.30	70.73	70.00	72.08	67.50	67.99

Legend: * <0.10; **<0.05; ***<0.01
Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 Online/Family/cookbook	167	25.26
2 No source/Online only	119	18.00
3 TV	96	14.52
4 WebSites	85	12.86
5 Online/Friends	117	17.70
6 Family	77	11.65
Total	661	100.00

Co-funded by the Horizon 2020 Framework Programme of the European Union

GG C07. Cluster on Dietary profile. *Anova test By Personality traits, Values, Multiple Intelligence*

	1	2	3	4	5	6	Total
Big Five (1)							
Extraversion***	39.77	43.80	42.93	49.40	49.19	44.02	44.52
Agreeableness***	67.16	71.58	74.82	78.23	73.37	71.03	72.19
Conscientiousness**	66.16	68.60	74.82	68.53	67.66	69.49	68.65
Neuroticism**	51.35	45.52	48.21	53.85	47.69	50.20	49.63
Openness***	65.33	70.73	73.73	73.57	67.94	69.83	69.71
Basic Value Survey							
Excitements	4.72	5.01	4.83	4.98	4.90	4.85	4.88
Suprapersonal***	5.44	5.83	5.77	5.78	5.55	5.79	5.67
Interactive	5.32	5.45	5.36	5.52	5.41	5.35	5.40
Promotion	4.91	5.01	5.20	4.80	4.76	5.01	4.93
Existence	5.68	5.72	5.94	5.86	5.63	5.75	5.75
Normative	4.69	4.86	4.59	4.43	4.51	4.70	4.64
Basic Human Values							
Conformity	0.00	-0.22	-0.27	-0.15	-0.08	-0.09	-0.13
Tradition	-0.91	-1.06	-1.13	-0.97	-0.95	-1.15	-1.02
Benevolence	0.48	0.40	0.28	0.48	0.51	0.49	0.45
Universalism***	0.41	0.54	0.48	0.78	0.50	0.62	0.57
Self-direction	0.58	0.81	0.83	0.67	0.68	0.68	0.70
Stimulation***	-0.49	0.22	-0.13	-0.14	-0.17	-0.15	-0.14
Hedonism	-0.20	-0.03	-0.30	-0.37	-0.22	-0.25	-0.23
Achievement	0.02	-0.01	0.25	-0.09	-0.11	-0.05	-0.01
Power	-0.85	-1.19	-1.00	-1.03	-0.99	-1.00	-1.02
Security**	0.24	-0.02	0.27	-0.04	0.12	0.18	0.11
Axes of 10 BHV							
Openness to change***	0.05	0.51	0.35	0.26	0.25	0.26	0.28
Self-enhancement	-0.34	-0.41	-0.35	-0.50	-0.44	-0.43	-0.42
Self-transcendence**	0.44	0.47	0.38	0.63	0.51	0.55	0.51
Conservation	-0.22	-0.43	-0.38	-0.38	-0.30	-0.35	-0.35
Multiple Intelligence (1)							
Linguistic	52.21	57.29	58.17	57.42	51.64	55.33	55.07
Logical-mathematical**	61.76	67.71	64.58	55.38	61.73	63.61	62.59
Spatial	57.11	60.35	60.26	57.50	53.73	59.84	58.11
Bodily-kinesthetics	54.33	58.08	58.17	59.47	50.44	55.85	55.99
Musical	51.98	56.53	51.28	55.96	51.32	54.10	53.75
Interpersonal	56.80	60.69	61.22	58.30	59.21	58.75	58.92
Intrapersonal***	59.50	64.93	73.24	68.55	62.72	67.54	65.05
Environmental***	72.85	80.09	86.11	81.41	76.17	76.88	78.08
Spiritual***	62.13	72.50	70.23	71.63	64.69	68.75	67.99

Legend: * <0.10; **<0.05; ***<0.01
Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 No specific Diet	160	24.21
2 No specific diet/Likes new tastes	129	19.52
3 health-food diet	71	10.74
4 Vegetarian/Religious/Health	115	17.40
5 lose/maintain weight	93	14.07
6 Health Problems	93	14.07
Total	661	100.00

Co-funded by the Horizon 2020 Framework Programme of the European Union

II Cluster of clusters to define the cooking practice. *Anova test By Personality traits, Values, Multiple Intelligence*

	1	2	3	4	5	6	7	Total
Big Five (1)								
Extraversion**	43.30	48.74	38.12	46.39	47.08	46.81	43.95	44.52
Agreeableness**	73.57	73.56	68.03	69.07	74.73	73.52	74.46	72.19
Conscientiousness	71.13	70.51	66.96	67.88	66.47	66.56	72.45	68.65
Neuroticism	45.45	51.58	49.30	49.53	52.89	48.50	49.39	49.63
Openness	72.01	69.31	67.25	69.22	71.30	68.94	71.51	69.71
Basic Value Survey								
Excitements	4.87	4.97	4.80	4.96	4.84	4.74	5.03	4.88
Suprapersonal**	5.87	5.73	5.45	5.68	5.64	5.61	5.89	5.67
Interactive	5.46	5.60	5.29	5.47	5.49	5.30	5.30	5.40
Promotion	4.96	5.00	4.88	5.12	4.71	4.86	5.06	4.93
Existence*	5.79	5.95	5.71	5.54	5.67	5.72	5.89	5.75
Normative	5.04	4.69	4.52	4.68	4.48	4.54	4.70	4.64
Basic Human Values								
Conformity*	-0.23	-0.29	0.03	-0.41	-0.04	-0.06	-0.13	-0.13
Tradition***	-0.93	-1.24	-0.95	-1.19	-0.89	-0.80	-1.32	-1.02
Benevolence	0.33	0.45	0.48	0.46	0.46	0.46	0.44	0.45
Universalism***	0.42	0.76	0.39	0.56	0.57	0.52	0.80	0.57
Self-direction***	0.85	0.76	0.64	0.92	0.56	0.57	0.83	0.70
Stimulation*	-0.07	-0.08	-0.25	0.15	-0.19	-0.31	0.01	-0.14
Hedonism	-0.37	-0.20	-0.12	0.06	-0.20	-0.30	-0.44	-0.23
Achievement	0.22	-0.17	0.02	0.01	0.08	-0.08	-0.13	-0.01
Power	-1.12	-1.08	-0.94	-1.07	-1.08	-0.86	-1.04	-1.02
Security	0.14	0.16	0.11	-0.01	0.01	0.16	0.15	0.11
Axes of 10 BHV								
Openness to change***	0.39	0.34	0.19	0.54	0.19	0.13	0.42	0.28
Self-enhancement	-0.42	-0.48	-0.34	-0.33	-0.40	-0.41	-0.54	-0.42
Self-transcendence	0.37	0.61	0.43	0.51	0.51	0.49	0.62	0.51
Conservation**	-0.34	-0.46	-0.27	-0.53	-0.30	-0.23	-0.43	-0.35
Multiple Intelligence (1)								
Linguistic	54.85	55.19	52.04	61.70	51.23	54.24	58.58	55.07
Logical-mathematical*	64.29	69.28	62.50	62.50	64.09	58.37	57.79	62.59
Spatial	58.29	62.29	55.55	59.57	56.86	55.83	59.79	58.11
Bodily-kinesthetics**	54.95	59.64	54.76	57.31	49.75	52.44	62.60	55.99
Musical	59.57	55.83	49.29	53.86	53.88	52.75	54.30	53.75
Interpersonal*	59.95	63.98	55.06	61.57	60.13	56.78	57.84	58.92
Intrapersonal**	61.99	67.80	59.87	67.12	67.77	63.25	70.18	65.05
Environmental***	78.23	84.46	75.94	74.64	76.80	72.88	83.61	78.08
Spiritual*	63.65	73.83	65.88	69.70	68.75	65.68	69.17	67.99

Legend: * <0.10; **<0.05; ***<0.01

Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 Expert-competent/Passionate1&2-/no surce*/Helty food	71	10.74
2 Expert*/Passionate1happy*/ Online+fr*+Apps/ Nodietes&newTaste	89	13.46
3 Beginner*-?/ Hates* /nosurce*-TV/ Nodietes*	135	20.42
4 ?*/Hates / Family*/ No diet2	82	12.41
5 =/Likes1*/Online+fr*/veg-religius+ weight	93	14.07
6 Novice/Likes+taste/ Online+fam/Lose weight*	98	14.83
7 Expert-competent/Passionate1&2*/TV*/Helt problems*	93	14.07
Total	661	100.00

Co-funded by the Horizon 2020 Framework Programme of the European Union

JJ Cluster of types of food bought. *Anova test by Personality traits, Values, Multiple Intelligence*

	1	2	3	4	5	Total
Big Five (1)						
Extraversion***	42.67	39.29	47.21	51.46	45.55	44.49
Agreeableness***	69.67	69.86	72.78	78.33	75.33	72.33
Conscientiousness	66.85	69.80	67.55	69.17	72.10	68.77
Neuroticism	50.71	49.33	48.17	53.34	47.63	49.49
Openness	67.22	70.05	71.58	70.00	69.99	69.72
Basic Value Survey						
Excitements	4.83	4.90	4.84	4.82	4.84	4.85
Suprapersonal***	5.42	5.80	5.66	5.67	5.87	5.66
Interactive*	5.19	5.43	5.48	5.52	5.38	5.39
Promotion	4.87	5.12	4.88	4.88	4.98	4.95
Existence**	5.51	5.71	5.81	5.76	5.90	5.72
Normative**	4.50	4.96	4.47	4.36	4.63	4.60
Basic Human Values						
Conformity	-0.10	-0.14	-0.25	-0.16	-0.04	-0.15
Tradition	-1.01	-1.15	-0.96	-1.04	-1.06	-1.03
Benevolence	0.37	0.45	0.39	0.38	0.58	0.42
Universalism	0.47	0.50	0.61	0.60	0.61	0.56
Self-direction*	0.67	0.80	0.76	0.51	0.77	0.71
Stimulation*	-0.10	0.07	-0.11	-0.16	-0.37	-0.13
Hedonism	-0.05	-0.12	-0.25	-0.41	-0.37	-0.22
Achievement	0.11	0.02	-0.06	0.24	-0.09	0.02
Power	-0.96	-1.02	-0.92	-0.97	-1.09	-0.98
Security	0.02	0.05	0.09	0.18	0.21	0.10
Axes of 10 BHV						
Openness to change	0.28	0.44	0.33	0.18	0.20	0.29
Self-enhancement	-0.30	-0.37	-0.41	-0.38	-0.52	-0.39
Self-transcendence	0.42	0.47	0.50	0.49	0.59	0.49
Conservation	-0.36	-0.41	-0.37	-0.34	-0.30	-0.36
Multiple Intelligence (1)						
Linguistic	54.93	59.64	50.82	60.00	57.46	55.65
Logical-mathematical**	60.20	66.96	63.14	56.79	63.36	62.70
Spatial***	54.39	64.36	56.95	59.46	57.33	58.25
Bodily-kinesthetics	53.86	59.04	55.20	60.66	55.82	56.30
Musical	52.33	54.46	54.09	54.41	53.45	53.66
Interpersonal*	58.11	62.73	56.89	64.34	57.22	59.21
Intrapersonal**	61.84	67.41	62.02	68.57	69.83	64.99
Environmental*	73.76	81.25	78.35	81.19	77.73	78.02
Spiritual	66.09	70.41	66.96	69.46	70.15	68.23

Legend: * <0.10; **<0.05; ***<0.01

Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 No Org./NozeroM/ Noweightloss/ Nosupplements/R ar.Oft.Frozen/ NoAllerg./ Oft.ReadyM	152	25.38
2 R.Org./NozeroM/ Noweightloss/ Rar.supplements/ NoFrozen/NoAllerg./ Rar.ReadyM	131	21.87
3 Often org./Oft.zeroM/ Noweightloss*/ Nosup plements/Rar.Oft.Frozen/ NoAllerg./ Rar.ReadyM	159	26.54
4 Qoft org./Qoft.zeroM/rarely weightloss//Often supplements/Often Frozen/Quite.Allerg./Rar.ReadyM	60	10.02
5 Qoft org./Rar.zeroM/No+Rar.weightloss/ R ar.Oft.Frozen/Often.Always.Allerg/ NoReadyM	97	16.19
Total	599	100.00

Co-funded by the Horizon 2020 Framework Programme of the European Union

KK Cluster on Grocery Shopping. *Anova test by Personality traits, Values, Multiple Intelligence*

	1	2	3	4	5	Total
Big Five (1)						
Extraversion	42.67	39.29	47.21	51.46	45.55	44.49
Agreeableness	69.67	69.86	72.78	78.33	75.33	72.33
Conscientiousness*	66.85	69.80	67.55	69.17	72.10	68.77
Neuroticism	50.71	49.33	48.17	53.34	47.63	49.49
Openness	67.22	70.05	71.58	70.00	69.99	69.72
Basic Value Survey						
Excitements	4.83	4.90	4.84	4.82	4.84	4.85
Suprapersonal	5.42	5.80	5.66	5.67	5.87	5.66
Interactive	5.19	5.43	5.48	5.52	5.38	5.39
Promotion	4.87	5.12	4.88	4.88	4.98	4.95
Existence	5.51	5.71	5.81	5.76	5.90	5.72
Normative**	4.50	4.96	4.47	4.36	4.63	4.60
Basic Human Values						
Conformity	-0.10	-0.14	-0.25	-0.16	-0.04	-0.15
Tradition	-1.01	-1.15	-0.96	-1.04	-1.06	-1.03
Benevolence	0.37	0.45	0.39	0.38	0.58	0.42
Universalism	0.47	0.50	0.61	0.60	0.61	0.56
Self-direction***	0.67	0.80	0.76	0.51	0.77	0.71
Stimulation	-0.10	0.07	-0.11	-0.16	-0.37	-0.13
Hedonism**	-0.05	-0.12	-0.25	-0.41	-0.37	-0.22
Achievement*	0.11	0.02	-0.06	0.24	-0.09	0.02
Power	-0.96	-1.02	-0.92	-0.97	-1.09	-0.98
Security	0.02	0.05	0.09	0.18	0.21	0.10
Axes of 10 BHV						
Openness to change	0.28	0.44	0.33	0.18	0.20	0.29
Self-enhancement	-0.30	-0.37	-0.41	-0.38	-0.52	-0.39
Self-transcendence	0.42	0.47	0.50	0.49	0.59	0.49
Conservation	-0.36	-0.41	-0.37	-0.34	-0.30	-0.36
Multiple Intelligence (1)						
Linguistic	54.93	59.64	50.82	60.00	57.46	55.65
Logical-mathematical	60.20	66.96	63.14	56.79	63.36	62.70
Spatial***	54.39	64.36	56.95	59.46	57.33	58.25
Bodily-kinesthetics**	53.86	59.04	55.20	60.66	55.82	56.30
Musical	52.33	54.46	54.09	54.41	53.45	53.66
Interpersonal*	58.11	62.73	56.89	64.34	57.22	59.21
Intrapersonal	61.84	67.41	62.02	68.57	69.83	64.99
Environmental***	73.76	81.25	78.35	81.19	77.73	78.02
Spiritual***	66.09	70.41	66.96	69.46	70.15	68.23

Legend: * <0.10; **<0.05; ***<0.01

Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 Specilised&Organic	46	7.67
2 Specialised&Supermarket/noOrganic	32	5.33
3 Only Supermarket/nostreet,disc., org.,spec.	13	2.17
4 Specialise&Organic&Super&Discount& Street	96	16.00
5 Supermaket&Discount/noorganic/nosp ecialize	126	21.00
6 Specialise&Supermarket/nodiscount	195	32.50
7 Supermarmarket always/noorganic//nodiscount	92	15.33
Total	600	100.00

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6.4.2. Social Practices: The role of meaning (Physical activities)…

The following are simple analyses in order to verify the relationship between some aspects of the physical activity's habits among the respondents and the three dimensions of social practices. Also, in this section, only for the purpose of this report it was decided to reduce through hierarchical clustering techniques (Ward method) and typologies the following questions:

D01. Beyond walking about, do you engage in other physical activities?
D02. Have you been physically active on a regular basis in the last year or so?
D03. During the last year or so, how often have you done the following types of sport activities?
D05. How often do you exercise…
D06. When exercising, which of the following devices do you use?
D07. Read the following statements and indicate how often you do the following:

D01 and D02 were used together to define a typology of physical activity practitioners in relation to the fact that they do or have done sport. The D03 instead collects information on the different kind of physical activity. In this case through a cluster analysis, we identified the main areas of activity carried out by the actors. D05 investigates who practises sport, alone or with others. Also, in this case a cluster allowed to isolate three distinct profiles of behaviour. D06 investigates aspects linked to materiality and in particular to the equipment that the actor uses during the sport activity. Finally, D07, captures a specific aspect of skills, that linked to the sources of information that the subject uses to do sport.

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LL D01&D02 Typology of practitioner of physical activities. *Anova test by Personality traits, Values, Multiple Intelligence*

	1	2	3	4	Total
Big Five (1)					
Extraversion***	47.97	45.29	42.05	40.10	44.52
Agreeableness**	73.41	73.48	71.48	68.81	71.80
Conscientiousness***	71.15	67.71	66.45	65.91	68.57
Neuroticism**	47.89	48.24	51.44	52.25	49.70
Openness**	72.01	71.07	67.53	66.89	69.79
Basic Value Survey					
Excitements*	4.94	5.04	4.83	4.72	4.87
Suprapersonal	5.66	5.77	5.72	5.61	5.66
Interactive	5.35	5.53	5.40	5.34	5.38
Promotion	4.95	4.97	4.85	4.91	4.93
Existence	5.77	5.67	5.80	5.70	5.74
Normative	4.56	4.78	4.65	4.64	4.62
Basic Human Values					
Conformity**	-0.26	-0.03	-0.05	0.00	-0.14
Tradition*	-1.07	-1.20	-1.01	-0.87	-1.02
Benevolence	0.45	0.58	0.26	0.42	0.43
Universalism	0.55	0.58	0.52	0.58	0.56
Self-direction	0.75	0.71	0.74	0.58	0.70
Stimulation***	-0.02	-0.03	-0.11	-0.46	-0.14
Hedonism	-0.18	-0.07	-0.23	-0.33	-0.21
Achievement	0.03	-0.22	0.08	0.03	0.01
Power	-1.01	-0.95	-0.93	-1.04	-1.00
Security	0.07	0.06	0.09	0.23	0.11
Axes of 10 BHV					
Openness to change***	0.37	0.34	0.31	0.06	0.28
Self-enhancement	-0.39	-0.41	-0.36	-0.45	-0.40
Self-transcendence	0.50	0.58	0.39	0.50	0.50
Conservation***	-0.42	-0.39	-0.32	-0.22	-0.35
Multiple Intelligence (1)					
Linguistic	54.95	55.08	56.25	54.88	55.11
Logical-mathematical	62.06	68.36	60.31	61.86	62.47
Spatial	58.17	59.11	57.35	57.76	58.03
Bodily-kinesthetics	58.36	54.56	55.92	52.39	55.67
Musical	56.46	53.26	53.62	51.01	53.96
Interpersonal	59.77	59.64	61.73	56.43	58.95
Intrapersonal	66.26	65.23	65.46	62.59	64.85
Environmental***	79.78	80.38	80.41	73.84	78.03
Spiritual**	70.50	69.55	65.68	64.68	67.87

Legend: * <0.10; **<0.05; ***<0.01
Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 Active	304	45.31
2 Active now	79	11.77
3 Active past	89	13.26
4 No active	199	29.66
Total	671	100.00

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MM D03. Cluster on Sport activities. *Anova test by Personality traits, Values, Multiple Intelligence*

	1	2	3	4	5	6	Total
Big Five (1)							
Extraversion	49.06	48.86	43.40	46.88	42.25	47.59	46.84
Agreeableness***	73.42	73.61	69.79	71.27	67.38	77.01	73.19
Conscientiousness	70.33	72.16	67.48	69.70	70.47	68.17	69.44
Neuroticism**	46.51	41.85	49.89	50.17	46.17	51.56	48.48
Openness*	71.05	69.31	69.56	71.79	64.13	73.24	70.74
Basic Value Survey							
Excitements	4.85	5.06	4.78	5.08	4.74	4.97	4.93
Suprapersonal	5.64	5.84	5.45	5.85	5.57	5.70	5.68
Interactive*	5.65	5.46	5.10	5.37	5.31	5.38	5.40
Promotion	5.02	5.17	4.77	4.95	4.99	4.85	4.94
Existence**	5.88	5.88	5.38	5.74	5.71	5.83	5.76
Normative***	4.75	5.14	3.85	4.45	5.07	4.49	4.60
Basic Human Values							
Conformity	-0.15	-0.14	-0.43	-0.14	0.05	-0.20	-0.19
Tradition***	-0.79	-0.83	-1.33	-1.17	-0.98	-1.17	-1.07
Benevolence	0.55	0.29	0.37	0.33	0.61	0.46	0.43
Universalism	0.49	0.33	0.56	0.53	0.56	0.66	0.55
Self-direction***	0.61	0.51	1.07	0.77	0.58	0.77	0.74
Stimulation	-0.13	0.10	0.12	-0.05	-0.48	-0.01	-0.04
Hedonism	-0.27	-0.24	-0.21	-0.11	-0.14	-0.13	-0.17
Achievement	-0.08	0.16	0.22	0.14	-0.22	-0.11	0.00
Power*	-0.98	-0.83	-0.85	-0.82	-1.08	-1.17	-0.99
Security*	0.09	0.17	-0.17	0.00	0.29	0.12	0.07
Axes of 10 BHV							
Openness to change**	0.24	0.31	0.59	0.36	0.05	0.38	0.35
Self-enhancement	-0.44	-0.30	-0.28	-0.27	-0.48	-0.47	-0.39
Self-transcendence	0.52	0.31	0.47	0.43	0.58	0.56	0.49
Conservation***	-0.28	-0.27	-0.64	-0.44	-0.21	-0.41	-0.39
Multiple Intelligence (1)							
Linguistic	54.88	64.65	54.24	53.19	54.30	53.06	54.98
Logical-mathematical	64.50	64.02	66.74	64.31	64.39	57.78	62.39
Spatial	59.75	61.55	57.18	58.33	60.23	54.65	57.85
Bodily-kinesthetics	58.63	64.58	51.34	57.50	53.60	56.73	57.21
Musical	54.25	57.77	56.47	50.42	54.92	56.85	55.21
Interpersonal***	64.13	68.75	53.01	55.28	62.69	58.38	60.08
Intrapersonal	65.88	65.15	65.85	69.62	63.26	65.23	65.84
Environmental	81.50	84.34	76.49	75.00	82.07	79.88	79.83
Spiritual	71.88	72.16	66.96	64.49	67.42	70.03	69.13

Legend: * <0.10; **<0.05; ***<0.01

Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 Run/No Ski/Gym/TeamSp/No Matial art/No Raket/Outdoor	87	18.35
2 Run/Yoga/No Ski/Gym/TeamSp/No Matial art/Raket/Outdoor	56	11.81
3 Run/Yoga/Ski,Water/Gym/TeamSp/Mati al art/Raket/Outdoor	55	11.60
4 Run/No Yoga/No Ski/No TeamSp/No Matial art	74	15.61
5 No Run/No Yoga/No Sky/TeamSp/NO Matial art	51	10.76
6 Yoga/No Ski/Gym/No TeamSp/Matial art-/Raket	151	31.86
Total	474	100.00

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NN D05. Cluster on Physical activity with whom. *Anova test by Personality traits, Values, Multiple Intelligence*

	1	2	3	Total
Big Five (1)				
Extraversion*	44.44	49.69	47.15	46.98
Agreeableness	72.89	74.18	72.35	73.19
Conscientiousness*	71.50	68.36	67.56	69.36
Neuroticism	50.79	47.62	46.75	48.62
Openness***	74.24	70.16	66.62	70.79
Basic Value Survey				
Excitements	4.92	4.85	5.02	4.93
Suprapersonal*	5.81	5.63	5.56	5.68
Interactive	5.41	5.42	5.32	5.39
Promotion	5.04	4.87	4.87	4.94
Existence**	5.83	5.82	5.55	5.75
Normative	4.53	4.56	4.72	4.59
Basic Human Values				
Conformity*	-0.26	-0.24	0.00	-0.19
Tradition**	-1.23	-1.00	-0.95	-1.08
Benevolence	0.35	0.50	0.45	0.43
Universalism	0.60	0.51	0.53	0.55
Self-direction	0.79	0.77	0.64	0.74
Stimulation	0.03	-0.04	-0.11	-0.03
Hedonism	-0.16	-0.20	-0.16	-0.18
Achievement	0.07	0.00	-0.09	0.01
Power	-0.95	-1.03	-0.97	-0.98
Security	0.09	0.07	0.04	0.07
Axes of 10 BHV				
Openness to change	0.41	0.36	0.26	0.36
Self-enhancement	-0.35	-0.41	-0.41	-0.38
Self-transcendence	0.48	0.51	0.49	0.49
Conservation*	-0.46	-0.39	-0.30	-0.40
Multiple Intelligence (1)				
Linguistic	58.52	54.08	52.28	55.14
Logical-mathematical	62.50	62.11	63.22	62.59
Spatial	58.64	59.38	56.18	58.13
Bodily-kinesthetics	57.98	56.98	56.03	57.05
Musical	55.26	55.79	55.46	55.50
Interpersonal	61.15	60.97	57.99	60.13
Intrapersonal***	70.98	63.76	62.72	66.02
Environmental*	81.54	81.23	76.63	79.93
Spiritual**	72.96	68.62	65.66	69.26

Legend: * <0.10; **<0.05; ***<0.01
Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 Alone	184	38.90
2 Often w.others	162	34.25
3 Only with others	127	26.85
Total	473	100.00

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OO D06. Cluster on typology of wearables used during sport activity. *Anova test by Personality traits, Values, Multiple Intelligence*

	1	2	3	4	Total
Big Five (1)					
Extraversion	49.06	49.24	42.38	44.94	46.88
Agreeableness*	72.50	76.27	72.19	71.73	73.19
Conscientiousness	70.45	69.96	68.75	68.93	69.58
Neuroticism*	48.69	51.42	49.75	45.93	48.52
Openness	72.03	73.14	69.75	69.19	71.04
Basic Value Survey					
Excitements***	4.70	5.19	5.02	4.92	4.94
Suprapersonal	5.70	5.77	5.73	5.66	5.71
Interactive*	5.27	5.61	5.45	5.36	5.41
Promotion	4.89	5.05	4.99	4.93	4.96
Existence***	5.58	5.90	6.12	5.72	5.77
Normative*	4.33	4.61	4.62	4.80	4.61
Basic Human Values					
Conformity	-0.29	-0.24	-0.13	-0.08	-0.19
Tradition	-1.09	-1.16	-1.01	-1.03	-1.08
Benevolence	0.46	0.45	0.28	0.46	0.44
Universalism	0.61	0.50	0.53	0.58	0.55
Self-direction	0.80	0.74	0.70	0.71	0.74
Stimulation	-0.05	0.06	-0.02	-0.10	-0.03
Hedonism	-0.17	-0.14	-0.10	-0.21	-0.16
Achievement	0.01	0.04	0.02	-0.04	0.01
Power	-1.06	-0.96	-0.92	-1.02	-1.00
Security	0.07	0.10	0.02	0.06	0.07
Axes of 10 BHV					
Openness to change	0.38	0.40	0.34	0.31	0.36
Self-enhancement	-0.40	-0.35	-0.33	-0.42	-0.39
Self-transcendence	0.54	0.47	0.40	0.52	0.49
Conservation	-0.44	-0.43	-0.37	-0.35	-0.40
Multiple Intelligence (1)					
Linguistic	57.23	58.22	56.25	51.85	55.17
Logical-mathematical	62.40	60.70	62.74	64.28	62.77
Spatial	55.27	61.13	59.86	57.49	58.15
Bodily-kinesthetics	55.38	61.37	58.50	54.53	56.86
Musical	55.77	57.79	58.89	53.26	55.56
Interpersonal	59.33	61.56	60.82	60.02	60.34
Intrapersonal	64.65	70.12	64.42	64.67	66.07
Environmental	78.97	83.45	82.05	77.87	79.97
Spiritual	67.40	72.92	72.60	68.04	69.58

Legend: * <0.10; **<0.05; ***<0.01
Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 Headphones	122	26.01
2 Traker+	125	26.65
3 Smatwatches+	50	10.66
4 No wearables	172	36.67
Total	469	100.00

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PP D07. Cluster on information competence. *Anova test by Personality traits, Values, Multiple Intelligence*

	1	2	3	Total
Big Five (1)				
Extraversion***	49.67	45.53	40.36	46.40
Agreeableness	73.79	72.35	73.20	73.06
Conscientiousness*	67.65	71.45	70.03	69.70
Neuroticism	47.80	49.79	47.31	48.61
Openness*	69.55	73.13	68.75	71.02
Basic Value Survey				
Excitements	4.98	4.88	4.98	4.93
Suprapersonal	5.70	5.66	5.75	5.69
Interactive	5.38	5.38	5.44	5.39
Promotion	5.00	4.89	4.89	4.94
Existence	5.86	5.67	5.77	5.76
Normative**	4.57	4.50	5.03	4.61
Basic Human Values				
Conformity**	-0.23	-0.25	0.13	-0.19
Tradition	-0.99	-1.17	-1.03	-1.08
Benevolence	0.43	0.45	0.40	0.43
Universalism	0.53	0.54	0.68	0.55
Self-direction*	0.69	0.82	0.63	0.74
Stimulation	-0.03	0.01	-0.20	-0.03
Hedonism	-0.17	-0.17	-0.20	-0.17
Achievement	-0.02	0.06	-0.12	0.00
Power	-0.94	-0.95	-1.23	-0.99
Security	0.06	0.06	0.16	0.07
Axes of 10 BHV				
Openness to change*	0.33	0.42	0.21	0.35
Self-enhancement	-0.37	-0.36	-0.52	-0.39
Self-transcendence	0.48	0.49	0.54	0.49
Conservation**	-0.39	-0.45	-0.25	-0.40
Multiple Intelligence (1)				
Linguistic	53.33	55.71	58.13	55.22
Logical-mathematical	62.90	61.67	65.20	62.76
Spatial	57.57	57.58	60.91	58.17
Bodily-kinesthetics	59.61	55.13	57.50	57.23
Musical	58.66	53.79	52.21	55.36
Interpersonal	60.21	59.84	60.75	60.14
Intrapersonal	64.18	66.73	67.65	65.93
Environmental	80.50	79.04	81.37	80.01
Spiritual	69.32	69.19	70.00	69.38

Legend: * <0.10; **<0.05; ***<0.01
Notes: (1) additive scale; (2) average score scale; (3) average score centre on respondent mean.

1 Skilled(trainer)	189	40.04
2 Self-learning Apps&Internet	210	44.49
3 No information	73	15.47
Total	472	100.00

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6.4.2.1. Random Forest.

Only for purely descriptive purposes, in the following, we present some elementary random forest models in order to assess the contribution in the processes of actor classification of the dimensions of meaning, measured through the big five the basic value survey and the basic human value, and of competences at a general level through multiple intelligence.

It should be emphasised from the outset that the results presented here should be taken with caution given the extremely limited number of observations (229). Furthermore, these models only consider the subjects surveyed at the universities of Aalborg, LSE and Trento. In fact, due to a configuration error, the universities of Mongolia and Paraguay did not administer the basic human value, while the university of China at the time of this report, due to technical problems related to the configuration of i-Log has not yet started the collection of the second and third questionnaires. This means that in the future new analyses must be carried out on significantly larger samples in order to validate the model.

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First RF Model: Level of expertise in cooking

The first random forest model presented here is on the actors' self-reported ability to cook. The variables of the model are as follows:

Variable name	Description
Dependent vars	
cook	Level of expertise in cooking: (1) Know cook; (2) Beginner
Categorical vars	
sex	Which gender where you born? (1) Male; (2) Famale
pilot	University: (1) AAU; (2) LSE; (3) UNITN
foodrel	Which of the following statements best describes you? (1) "Eating is a pleasure" (2) "Eating just to survive"
frecook	Frequencies cooking (1) Daily; (2) Several time week; (3) Once a week or less
fregrocery	Frequencies goes to groceries shops: (0) Rarely; (1) Once a week; (2) More than once a week
Basic Human Values	
Mconformity	PVQ: Conformity (Profile respondent mean centered)
Mtradition	PVQ: Tradition (Profile respondent mean centered)
Mbenov	PVQ: Benevolence (Profile respondent mean centered)
Munivers	PVQ: Universalism (Profile respondent mean centered)
Mself	PVQ: Self-Direction (Profile respondent mean centered)
Mstim	PVQ: Stimulation (Profile respondent mean centered)
Mhedon	PVQ: Hedonism (Profile respondent mean centered)
Machieve	PVQ: Achievement (Profile respondent mean centered)
Mpower	PVQ: Power (Profile respondent mean centered)
Msecurity	PVQ: Security (Profile respondent mean centered)
Basic Value Survey	
Pexcitements	BVS: Excitement Mean values score
Psuprapersonal	BVS: Suprapersonal Mean values score
Pinteractive	BVS: Interactive Mean values score
Ppromotion	BVS: Promotion Mean values score
Pexistence	BVS: Existence Mean values score
Pnormative	BVS: Normative Mean values score
Big Five	
Extraversion	Big five: Extraversion
Agreeableness	Big five: Agreeableness
Conscientious~s	Big five: Conscientiousness
Neuroticism	Big five: Neuroticism
Openness	Big five: Openness
Multiple Intelligence	
Linguistic	Multiple intell. Linguistic
Logicmath	Multiple intell. Logical-mathematical
Spatial	Multiple intell. Spatial
Bodykines	Multiple intell. Bodily-kinesthetic
Musical	Multiple intell. Musical
Interpersonal	Multiple intell. Interpersonal
Intrapersonal	Multiple intell. Intrapersonal
Environmental	Multiple intell. Environmental
Spiritual	Multiple intell. Spiritual

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Random Forest on level of expertise in cooking

Here are some descriptive parameters of the model:

Samples: 229
Training N. 173
Test N. 56

173 samples
35 predictors
2 classes: 'Know cook', 'Novice cook'.

No pre-processing
Resampling: Cross-Validated (3-fold)
Summary of sample sizes: 115, 116, 115
Resampling results across tuning parameters:

Mtry	Accuracy	Kappa
2	0.6935874	0.05087119
18	0.6994354	0.15373502
27	0.7109296	0.20010660

The final value used for the model was mtry = 27.

Confusion Matrix and Statistics

Reference

Prediction	Know cook	Beginner
Know cook	35	9
Beginner	4	8

Accuracy	0.7679
95% CI:	(0.6358, 0.8702)
No Information Rate:	0.6964
P-Value [Acc > NIR]:	0.1542
Kappa:	0.4013
Mcnemar's Test P-Value:	0.2673
Sensitivity:	0.8974
Specificity:	0.4706
Pos Pred Value:	0.7955
Neg Pred Value:	0.6667
Prevalence:	0.6974
Detection Rate:	0.6250
Detection Prevalence:	0.7857
Balanced Accuracy:	0.6840
'Positive' Class:	Know cook

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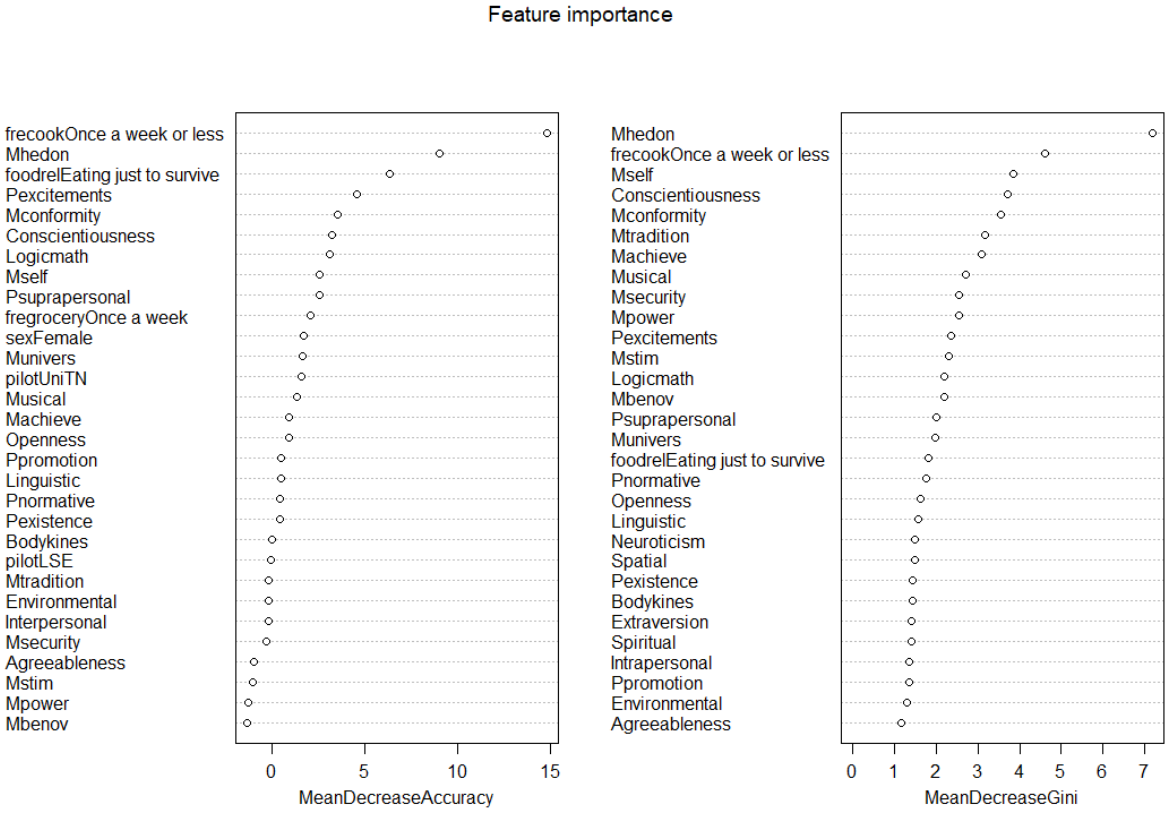

From the analysis of carried using random forest classification, we can see that both personality traits, values and competence are good discriminator to predict the level of expertise on cooking.
In this model we have deliberately not introduced any other characters that could certainly improve prediction. Our aim in this context is only to assess the role of meaning and general skills in these models. We stress that the small sample size does not allow for reliable and stable estimates, but only an indication of a direction to be explored further.

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Second RF Model: Competence to prepare food (Cluster).

Il secondo modello di random forest vuole predire la capacità di cucinare degli attori, attraverso le loro competenze nella cottura e preparazione del cibo. Le variabili del modello sono le seguenti:

Variable name	Description
Dependent vars	
cookskill	Competence to prepare food: (1) Expert; (2) Competent; (3) Novice; (4) Unable to cook; (5) NA
Categorical vars	
sex	Which gender where you born? (1) Male; (2) Female
pilot	University: (1) AAU; (2) LSE; (3) UNITN
foodrel	Which of the following statements best describes you? (1) "Eating is a pleasure" (2) "Eating just to survive"
frecook	Frequencies cooking (1) Daily; (2) Several time week; (3) Once a week or less
fregrocery	Frequencies goes to groceries shops: (0) Rarely; (1) Once a week; (2) More than once a week
Basic Human Values	
Mconformity	PVQ: Conformity (Profile respondent mean centered)
Mtradition	PVQ: Tradition (Profile respondent mean centered)
Mbenov	PVQ: Benevolence (Profile respondent mean centered)
Munivers	PVQ: Universalism (Profile respondent mean centered)
Mself	PVQ: Self-Direction (Profile respondent mean centered)
Mstim	PVQ: Stimulation (Profile respondent mean centered)
Mhedon	PVQ: Hedonism (Profile respondent mean centered)
Machieve	PVQ: Achievement (Profile respondent mean centered)
Mpower	PVQ: Power (Profile respondent mean centered)
Msecurity	PVQ: Security (Profile respondent mean centered)
Basic Value Survey	
Pexcitements	BVS: Excitement Mean values score
Psuprapersonal	BVS: Suprapersonal Mean values score
Pinteractive	BVS: Interactive Mean values score
Ppromotion	BVS: Promotion Mean values score
Pexistence	BVS: Existence Mean values score
Pnormative	BVS: Normative Mean values score
Big Five	
Extraversion	Big five: Extraversion
Agreeableness	Big five: Agreeableness
Conscientious~s	Big five: Conscientiousness
Neuroticism	Big five: Neuroticism
Openness	Big five: Openness
Multiple Intelligence	
Linguistic	Multiple intell. Linguistic
Logicmath	Multiple intell. Logical-mathematical
Spatial	Multiple intell. Spatial
Bodykines	Multiple intell. Bodily-kinesthetic
Musical	Multiple intell. Musical
Interpersonal	Multiple intell. Interpersonal
Intrapersonal	Multiple intell. Intrapersonal
Environmental	Multiple intell. Environmental
Spiritual	Multiple intell. Spiritual

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Random Forest Competence to prepare food (Cluster).

Samples: 229
Training N. 174
Test N. 55

174 samples
35 predictors
5 classes: 'Expert', 'Competent', 'Novice', 'Unable', 'NA'

No pre-processing
Resampling: Cross-Validated (5-fold)
Summary of sample sizes: 140, 138, 141, 138, 139
Resampling results across tuning parameters:

mtry	Accuracy	Kappa
15	0.3359808	0.131792
29	0.3649172	0.170569
35	0.3592131	0.163078

Accuracy was used to select the optimal model using the largest value.
The final value used for the model was mtry = 29.

Confusion Matrix and Statistics

Reference

Prediction	Expert	Competent	Novice	Unable	NA
Expert	3	1	3	1	1
Competent	0	1	0	0	0
Novice	8	3	8	5	5
Unable	1	1	3	6	2
NA	1	1	0	1	0

Overall Statistics

Accuracy:	0.3273
95% CI:	(0.2068, 0.4671)
No Information Rate:	0.2545
P-Value [Acc > NIR]:	0.1399
Kappa:	0.116
Mcnemar's Test P-Value:	0.1682

Statistics by Class:

	Expert	Competent	Novice	Unable	NA
Sensitivity	0.23077	0.14286	0.5714	0.4615	0.00000
Specificity	0.85714	1.00000	0.4878	0.8333	0.93617
Pos Pred Value	0.33333	1.00000	0.2759	0.4615	0.00000
Neg Pred Value	0.78261	0.88889	0.7692	0.8333	0.84615
Prevalence	0.23636	0.12727	0.2545	0.2364	0.14545
Detection Rate	0.05455	0.01818	0.1455	0.1091	0.00000
Detection Prevalence	0.16364	0.01818	0.5273	0.2364	0.05455
Balanced Accuracy	0.54396	0.57143	0.5296	0.6474	0.46809

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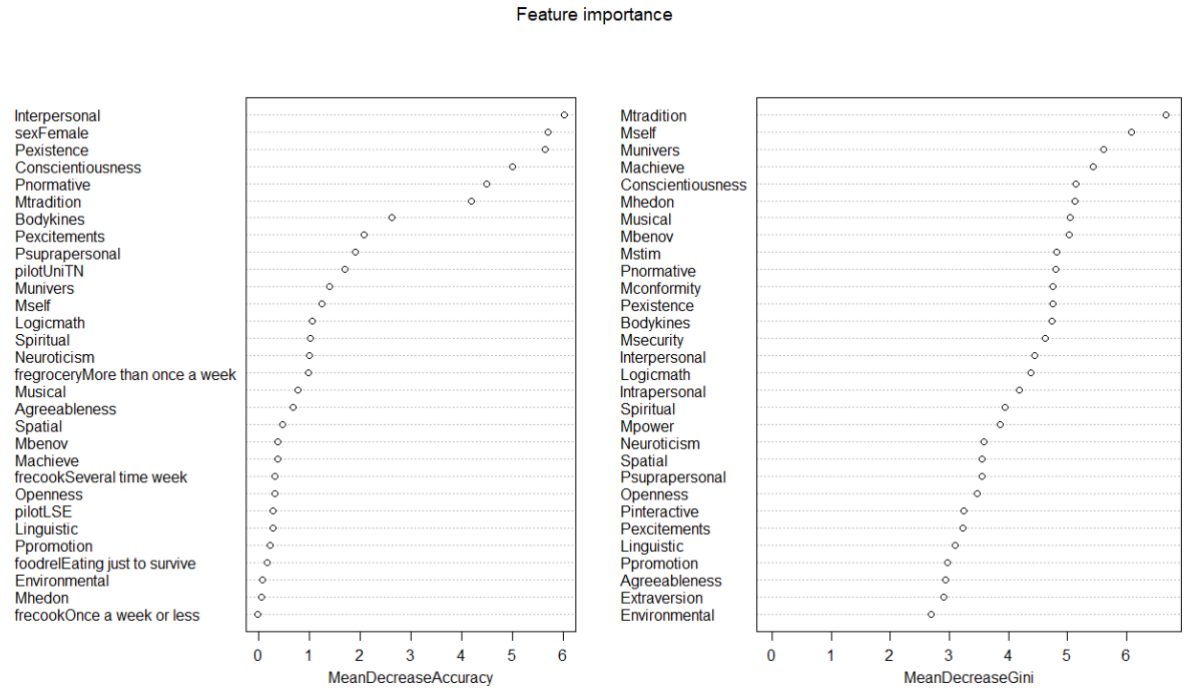

Trying to produce any multi-category model is naive, if not wrong. Thus, compared to the previous one, all fit parameters get worse. However, from the analysis carried using random forest classification, we can see that both personality traits, values and competence are good discriminator to predict the level of expertise in cooking.

In this model, we deliberately did not introduce other traits that could improve prediction except cooking frequencies, relationship to eating, and frequencies going shopping, which have only a marginal effect. Our aim in this context is only to assess the role of meaning and general skills in these models. We stress that the small sample size does not allow for reliable and stable estimates but only an indication of a direction to be explored further.

However, we have produced a further random forest model. Previously, we have seen how the items are arranged along a continuum from incapable to expert. This scale is a pseudo-continuous measure with values ranging from zero to one hundred. The estimates of the random forest regression model are presented below.

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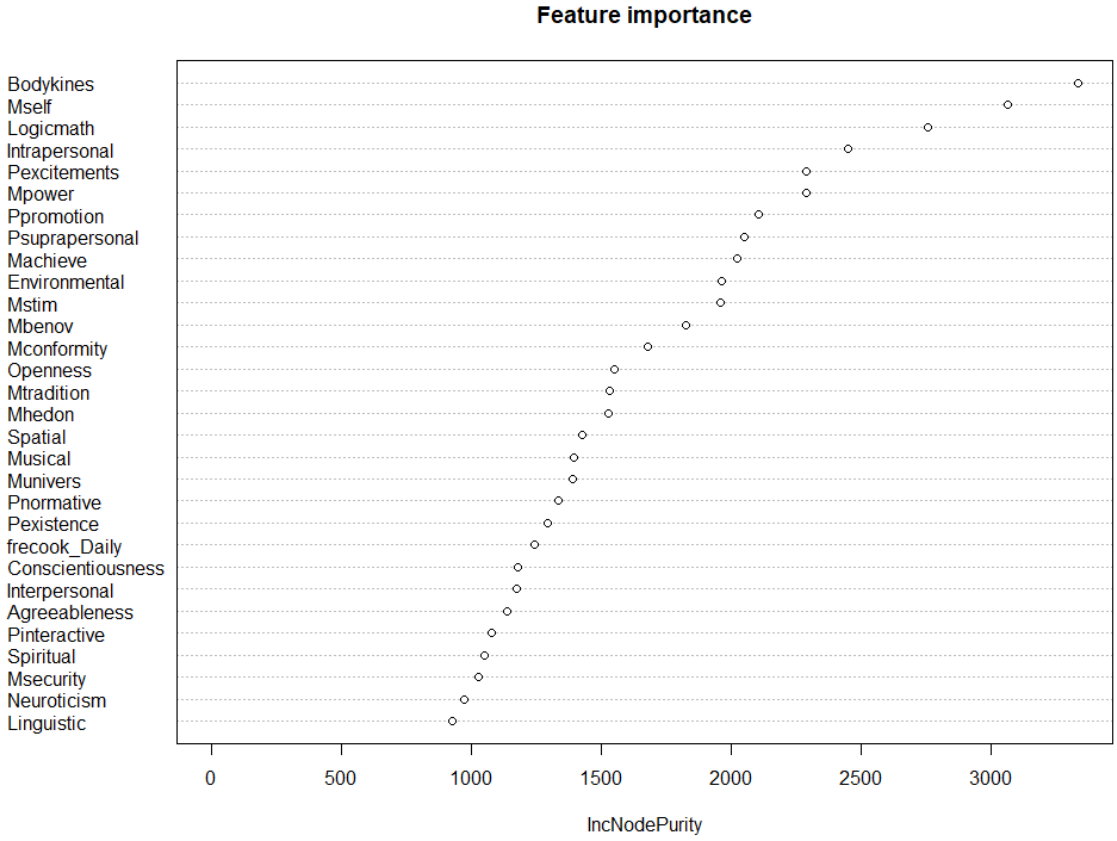
Random Forest Competence to prepare food (scale).

Test Model results:

randomForest(x = x_train, y = y_train, ntree = 80, maxnodes = 80)
Type of random forest: regression
Number of trees: 80
No. of variables tried at each split: 12

Mean of squared residuals: 354.6762
% Var explained: 9.85



Prediction results

Mean absolute error (MAE): 14.3429520987957
Mean squared error (MSE): 301.439755381231
R-squared scores (R2): 0.158256673172297

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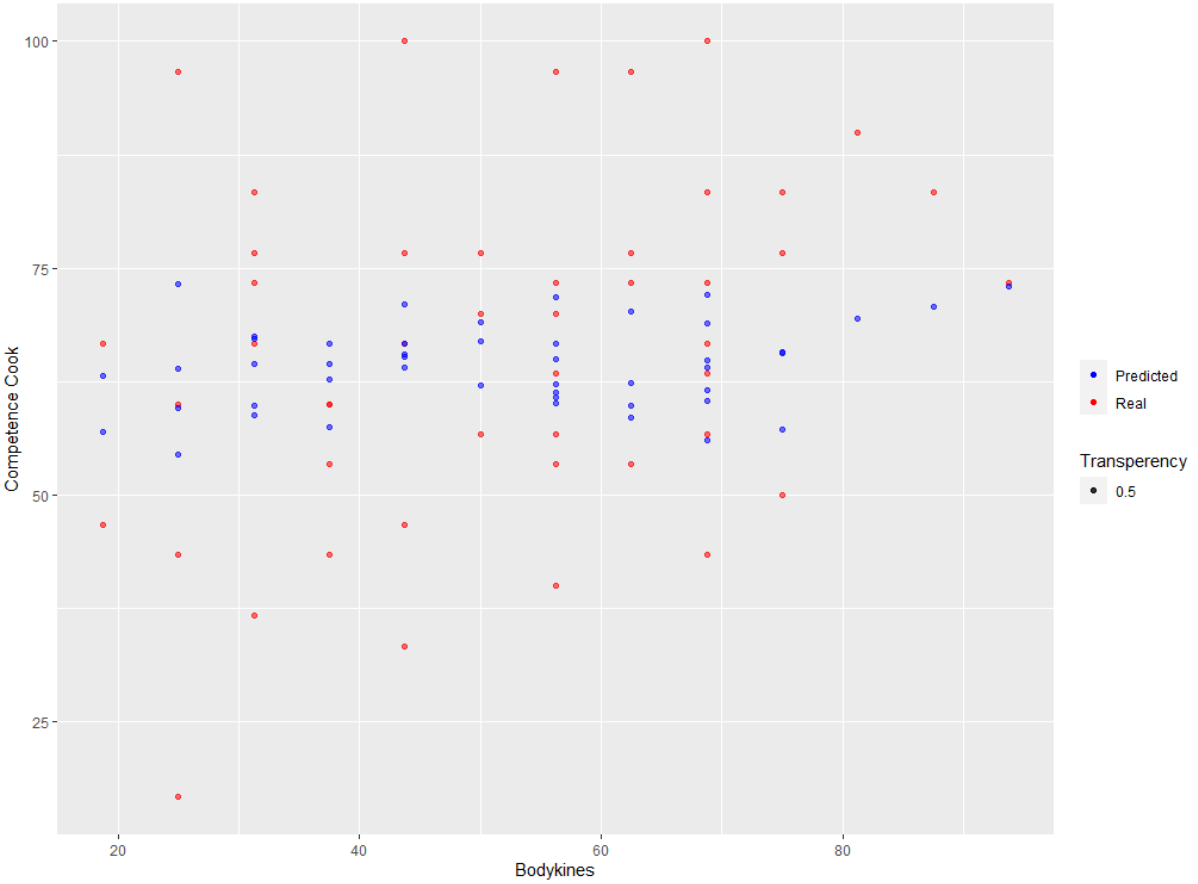

The model suffers from a limited number of cases. However, one indication emerges that all those variables that we have identified as belonging to surface diversity play no role in the model. Indeed, this model does not prove anything, except that the role of surface diversity is, in many cases, marginal and often a source of ethical errors rather than model improvement.

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Third RF Model: Physical Activity (Typology).

The third random forest model shifts the focus to physical activity. In this case we want to predict who at the time of the interview practiced some physical activity. The variables in the model are as follows:

Variable name	Description
Dependent vars	
phyact	Physical Activity: (1) Active; (2) Not Active
Categorical vars	
sex	Which gender where you born? (1) Male; (2) Famale
pilot	University: (1) AAU; (2) LSE; (3) UNITN
Basic Human Values	
Mconformity	PVQ: Conformity (Profile respondent mean centered)
Mtradition	PVQ: Tradition (Profile respondent mean centered)
Mbenov	PVQ: Benevolence (Profile respondent mean centered)
Munivers	PVQ: Universalism (Profile respondent mean centered)
Mself	PVQ: Self-Direction (Profile respondent mean centered)
Mstim	PVQ: Stimulation (Profile respondent mean centered)
Mhedon	PVQ: Hedonism (Profile respondent mean centered)
Machieve	PVQ: Achievement (Profile respondent mean centered)
Mpower	PVQ: Power (Profile respondent mean centered)
Msecurity	PVQ: Security (Profile respondent mean centered)
Basic Value Survey	
Pexcitements	BVS: Excitement Mean values score
Psuprapersonal	BVS: Suprapersonal Mean values score
Pinteractive	BVS: Interactive Mean values score
Ppromotion	BVS: Promotion Mean values score
Pexistence	BVS: Existence Mean values score
Pnormative	BVS: Normative Mean values score
Big Five	
Extraversion	Big five: Extraversion
Agreeableness	Big five: Agreeableness
Conscientious~s	Big five: Conscientiousness
Neuroticism	Big five: Neuroticism
Openness	Big five: Openness
Multiple Intelligence	
Linguistic	Multiple intell. Linguistic
Logic math	Multiple intell. Logical-mathematical
Spatial	Multiple intell. Spatial
Bodykines	Multiple intell. Bodily-kinesthetic
Musical	Multiple intell. Musical
Interpersonal	Multiple intell. Interpersonal
Intrapersonal	Multiple intell. Intrapersonal
Environmental	Multiple intell. Environmental
Spiritual	Multiple intell. Spiritual

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Random Forest Physical Activity (Cluster)

Samples: 232
Training N. 174
Test N. 58

174 samples
32 predictors
2 classes: 'Active', 'No_active'

No pre-processing
Resampling: Cross-Validated (3-fold)
Summary of sample sizes: 116, 116, 116
Resampling results across tuning parameters:

mtry	Accuracy	Kappa
2	0.5517241	0.00286300
3	0.5287356	-0.03394899
30	0.5574713	0.04364870

The final value used for the model was mtry = 30.

Confusion Matrix and Statistics

Reference

Prediction	Active	No_active
Active	26	11
No_active	8	13

Accuracy	0.6724
95% CI:	(0.5366, 0.7899)
No Information Rate:	0.5862
P-Value [Acc > NIR]:	0.1143
Kappa:	0.3121
Mcnemar's Test P-Value:	0.6464
Sensitivity:	0.7647
Specificity:	0.5417
Pos Pred Value:	0.7027
Neg Pred Value:	0.6190
Prevalence:	0.5862
Detection Rate:	0.4483
Detection Prevalence:	0.6379
Balanced Accuracy:	0.6532
'Positive' Class:	Active

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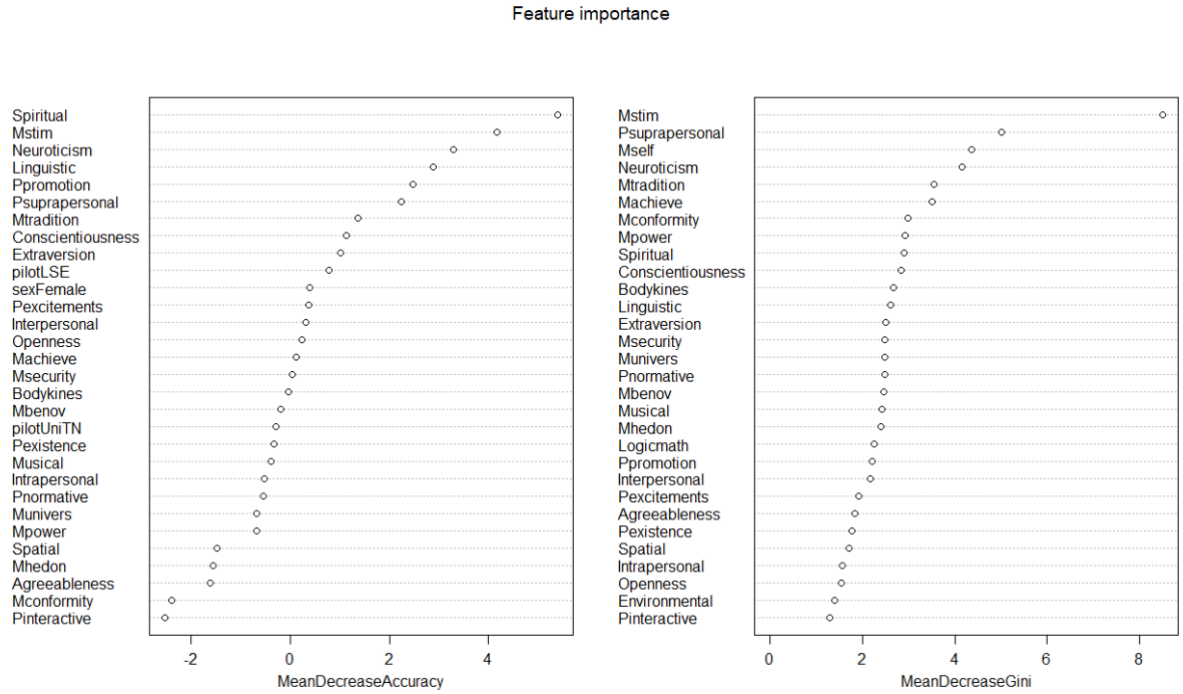

Although within the limits of the sample, the fit parameters of the model are also very encouraging. In this case, we can also see that both personality traits, values, and competence are good discriminators to predict the level of expertise in cooking.

In conclusion, all the elementary models presented here, within the limitations repeatedly mentioned, all seem to indicate that the approach to diversity through social practices and deep diversity is encouraging. It also clearly highlights the role of meaning and skills and, thus, deep diversity has contributed to the construction of machine learning models. Finally, in almost all models, the role of surface diversity is marginal.

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7. Conclusions

Despite the difficult conditions in carrying the data collection of the pre-pilots that affected, in some cases, the quantity and quality of some of the data, the dataset collected revealed to be very useful to gain insights about the not apparent form of diversity across students' community. Both identifying patterns in activities that students do and their relationship with values and personality makes it possible to segment within communities better than between communities, where cross-cultural comparison is always at risk of falling into the ecological fallacy. The data collection and the findings indicate collecting data and modelling socially distributed problem solving (ask other people to help you solve a problem) can benefit from considering the non-visible or deep (meaning not self-evident classification of individuals) forms of diversity. All the exploratory models presented here, within the limitations repeatedly mentioned, indicate that the approach to diversity through social practices and deep diversity is encouraging. It also clearly highlights the role of meaning and skills and, thus, deep diversity has contributed to the construction of machine learning models. Instead, in almost all models, the part of surface diversity played by is marginal. Moreover, to rely only on very general psychological traits such as personality or value orientation is not informative about preferences in activities. Overall, most of the correlations are small – indicating that there is not a close correspondence between values, personalities and cultural preferences in activities.
The pre-pilots were influenced by limitations due to the sanitary emergence's contingent global conditions due to the COVID19 pandemic, especially in terms of the size of the samples involved and the necessity of retrospectively asking what participants were used to doing in 'normal' conditions. Nevertheless, these exploratory studies bore interesting results validating the theoretical approach the 'deep' diversity is most predictive of social practices concerning the range of activities explored.

While the results should be considered in light of the limitations previously discussed, we can draw several points that the development of the future platform should consider:

1. Diversity should be considered a manifestation of a complex interplay between dispositional aspects, contextual elements highlighted by social practices that are not simply accountable with manifest traits, the so-called surface diversity, such as gender, age, or education.
2. Diversity appears to be as much within groups than between groups, meaning that we should assume homogeneity of views in a cultural unit. This is in line with recent findings in the sociology of culture. Culture is considered a fragmented rather than homogeneous entity, such as Ann Swidler's cultural toolkit approach to understanding culture in action may be seen as a blend between cultural- and individual-level analysis. This approach is cultural in that it analyses a shared pool of cultural resources (Swidler 2001), but also individual in that it focuses on individuals' contextual and fragmented uses of these cultural resources
3. Hence, the best strategy to account for diversity, in this context, is to consider it at the level of practices rather than ascribable to stable features such as personality, value orientation and similar measure.

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The findings of these studies should be considered the background material for the platform's future development that will introduce a different context, especially in its interactive and dynamic nature, compared to the static set of pictures that traditional methods allowed us to collect. The next challenge will be to put together the specific affordances and capacity of dynamic data collection in a context of social practices identification and matching.

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9. Appendix

9.1. Questionnaires

9.1.1. WeNet - Questionnaire Diversity

WeNet – Questionnaire Diversity

Legend

Question showed only for:

AAU	Aalborg University (DK)
JLU	Jilin University (CN)
LSE	London School of Economics (UK)
NUM	National University of Mongolia (MN)
UC	Universidad Católica "Nuestra Señora de la Asunción" (PY)
UNITN	University of Trento (IT)

Question conditions

INFORMATIVE

A00. Having read the informative and the privacy policy in the email (also linked below) ... *
1. Yes, 2. No

1. ...do you agree to participate in the WENET-Internet of us survey and tell us about your experience as a student at the University of […]? [If NO go to I05]
2. ...do you authorize access to your university administrative data?

*If not, you will not be able to continue with the investigation.
**The collected data will concern the number of exams, credits and average marks obtained at the end of each academic year

Informative [link]
Privacy Statement [link]

SOCIO-DEMOGRAPHICS

A1JLU. What is your student ID? _____

A01. Which gender were you born?
1. Male
2. Female

A02. When were you born? Year |___|

A03. What is your nationality? [List, see Appendix]

A03JLU. What is your nationality? [List, see Appendix]

A04. In what faculty/department are you studying?
A04AAU. [List, see Appendix]
A04JLU. [List, see Appendix]
A04LSE. [List, see Appendix]
A04NUM. [List, see Appendix]
A04UC. [List, see Appendix]
A04UNITN. [List, see Appendix]

A05. Type of degree
1. BSc
2. MSc

A05UNITN. Type of degree
1. BSc
2. MSc
3. 5 years

A06. Programme
1. Full Time
2. Part Time

A07. [Not for LSE if **A05=2** AND **A06=1**] **Course year** |__|

A08. You are
1. Regularly enrolled for a BAs/MAs degree
2. Register on supplementary year

A09. [Not for LSE, NUM, UC and UNITN] **Where do you live during term time?**
1. In the town where the university is located.
2. Close to the city where the university is located (less than 1.30 hours of travel). [go to A11]
3. In another city away from where the university is located (more than 1.30 hours of travel) [go to A11]
4. Abroad (e.g., Erasmus student) [go to B01]

A09UC. Where do you live during term time? [See Appendix]
A09UNITN. Where do you live during term time**?** [See Appendix]

A10. And exactly in which neighbourhood of the town do you live?
A10AAU. And exactly in which neighbourhood of the town do you live? [See Appendix]
A10LSE. In which area do you live? [See Appendix]
A10LSE. What is your first three digits of post code? [See Appendix]
A10NUM. Please, enter the zip code of where you live during term time [See Appendix]
A10UC. What area exactly do you live in? [See Appendix]
A10UNITN. And exactly in which district of the town do you live? [See Appendix]

A11. What kind of accommodation are you living in?
1. University students' Residence (dormitory) (e.g. LSE Hall of Residence, San Bartolameo, Danmarks Internationale Kollegium)
2. University flat
3. University campus
4. A private sector Hall of Residence (Private students' dormitory)
5. Rental house/flat
6. in a house/apartment owned (by you, your parents, or relatives)
7. guest of a private person
8. guest of friend or friends

A11NUM. What kind of accommodation are you living in? [See Appendix]

ONLY FOR NUM [See Appendix]

PSYCHOSOCIAL PROFILE

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B01. Describe yourself as you generally are now, not as you wish to be. Please use the scale below to rate how accurately each statement describes you.
1. Very Inaccurate, 2. Moderately Inaccurate, 3. Neither Accurate Nor Inaccurate, 4. Moderately Accurate, 5. Very Accurate

1. Am the life of the party
2. Sympathize with others' feelings
3. Get chores done right away
4. Have frequent mood swings
5. Have a vivid imagination
6. Don't talk a lot
7. Am not interested in other people's problems
8. Often forget to put things back in their proper place
9. Am relaxed most of the time
10. Am not interested in abstract ideas
11. Talk to a lot of different people at parties
12. Feel others' emotions
13. Like order
14. Get upset easily
15. Have difficulty understanding abstract ideas
16. Keep in the background
17. Am not really interested in others
18. Make a mess of things
19. Seldom feel blue
20. Do not have a good imagination

B02 Please read carefully the basic values listed below and their descriptions. Using the following answer scale, indicate by writing a number beside each value how important you consider each one of them as a guiding principle in your life.
1. Completely Unimportant, 2, 3, 4, 5, 6, 7. Utmost Importance

1. **SOCIAL SUPPORT**. To obtain help when you need it; to feel that you are not alone in the world.
2. **SUCCESS**. To reach your goals; to be efficient in everything you do.
3. **SEXUALITY**. To have sexual relationships; to obtain sexual pleasure.
4. **KNOWLEDGE**. To look for up to date news on not very well-known matters; to try to discover new things about the world.
5. **EMOTION**. To enjoy challenges or unknown situations; to look for adventure.
6. **POWER**. To have the power to influence others and to control decisions; to be the boss of a team.
7. **AFFECTIVITY**. To have a deep and enduring affectionate relationship; to have somebody to share successes and failures.
8. **RELIGIOSITY**. To believe in God as the saviour of humanity; to fulfil the will of God.
9. **HEALTH**. To look after your health at all times, not just when sick; not to be sick.
10. **PLEASURE**. To live for the moment; to satisfy all your desires.
11. **PRESTIGE**. To know that a lot of people know and admire you; when you are older to receive a homage for your contributions.
12. **OBEDIENCE**. To fulfil your daily duties and obligations; to respect your parents, superiors or elders.
13. **PERSONAL STABILITY**. To have the certainty that tomorrow you will have all that you have today; to have an organized and planned life.
14. **BELONGING**. To have good neighbourly relationships; to form part of a group (e.g., social, religious, sporting, etc.)
15. **BEAUTY**. To be able to appreciate the best in art, music and literature; to go to museums or exhibitions where you can see beautiful things.
16. **TRADITION**. To follow the social norms of your country; to respect the traditions of your society.
17. **SURVIVAL**. To have water, food and shelter every day in your life; to live in a place with enough food.
18. **MATURITY**. To feel that your purpose in life has been fulfilled; to develop all your capacities.

UNIVERSITY ATTENDANCE

C01. How many of the courses/laboratories/credit seminars you are currently attending are provided ……?
1. Online live synchronous |__| 0. none
2. Online recorded asynchronous |__| 0. none
3. Partly synchronously and partly asynchronously |__| 0. None
4. In presence |__| 0. none

C02. How often do you…? (1 "never" – 6 "very often")
- attend workshops or other academic activities
- take notes in class.
- review and arrange notes at the end of the lecture.
- audio record of the lecture.
- study and review note regularly during the class week
- schematize or summarizing books or notes related to a course
- take part in the activities organized by the course.
- use specialised websites (e.g., statistics, philosophy, physics….)
- use question & answers sites (e.g., Quora, Stack Overflow, Answers.com)
- use university websites/platform tools for learning (e.g. Moodle, etc.)
- use commercial education platform (e.g., Coursera, Udemy, Datacamp)

SOCIAL RELATIONS WITH PEERS/CLASSMATES.

D01. About how many university students can you contact for help in studying? |__|

D03. Are you in an informal study group(s) (beside the one you are in for the lab/class project)?
1) Yes
2) No [go to E01]

D04. How many informal study groups do you participate in?
N= |___|

D05. About how many people are in the informal study group? If you have more than one, think about the one you meet most often. |___|

D06. How often do you meet? If you meet more than one, think about the one you meet most often.
1. Less than once a week
2. Once a week
3. Twice a week
4. Three days a week
5. Four days a week
6. Five or more days a week

VIRTUAL SOCIAL RELATIONS

E01. How often do use the following social networking channels?
(99) No account (1) Several times a day (2) about once a day (3) a few times a week (4) every few weeks (6) Rarely/Never
1. Twitter - Weibo
2. Facebook
3. LinkedIn
4. YouTube
5. Instagram
6. Telegram

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7. Pinterest
8. Reddit
9. Flickr
10. Facebook messenger
11. WhatsApp
12. Google hangouts
13. Skype
14. Zoom
15. Snapchat
16. Tinder
17. WeChat
18. Viber
19. TikTok

E01JLU. How often do use the following social networking channels? [See Appendix]

E02. Do you use social networking sites … (1 "never" – 6 "very often")
1. to solve an academic problem?
2. to do research work?
3. for online academic group discussion?
4. to prepare for an examination communicate with your friends for preparation of exam?
5. for collaborative learning?
6. to keep you up to date with the activities of your university?
7. to seek help from your teachers?
8. to become sociable?
9. to create your social identity?
10. to attending social gathering?
11. to keep in touch with my friends?
12. to keep in touch with my relatives?
13. to get information regarding current social events?
14. for sharing pictures?
15. to look at funny stories?
16. for watching movies?
17. to get relief from academic stress?
18. for reading news?
19. to share new ideas?
20. for getting jobs related information?

E3. You know what a chatbot is?
1. Yes
2. No [go to F01]

E4. Currently, do you use some chatbot?
1. Yes [go to E06]
2. No

E5. In the past, have you tried to talk/converse with a chatbot?
1. Yes [go to F01]
2. No [go to F01]

E6. How many chatbot apps have you installed on your smartphone? N.|__|

E7. Can you tell us which chatbot(s) you have installed on your smartphone? App Name(s) (_____)

E8. How often do use the chatbot? (1) Rarely/Never; (2) Every few weeks; (3) A few times a week; (4) About once a day; (5) Several times a day

E9. How much do you agree with the following statements about the decision to drop (deactivate) your chatbot account: (1) Totally disagree; (2) Disagree; (3) Neutral; (4) Agree; (5) Totally Agree
1. if the chatbot shows you ads (advertisements) based on your online activity
2. if the chatbot knew who you were, without logging in
3. if the chatbot analyzed you, even when using other apps (applications)
4. if the chatbot identified your age *
5. if the chatbot identified your gender *
6. if the chatbot identified your religious/political views *
7. if individuals or groups perform threating acts to other users, through the chatbot

ASSOCIATION

F01. Are you a part of, or are you a member of, any student association or group and/or other nonstudents associations? (e.g. religious, political, sports, etc.)
1) Only student ass. [go to F02]
2)Only nonstudent ass. [go to F04]
3) Both
4) No [go to G01]

F02. How many student societies/associations do you belong to?
N. |__|

F03. Please mark the categories of interest of the society(ies) you belong to
1. Faith
2. Arts and Performance
3. Activity and specialist (e.g., music, alt music, wine, dance, videos makers)
4. Cultural and National
5. Careers
6. Volunteering and Charity
7. Political (e.g., Pacifist, environmentalist, civil rights advocate, political party)
8. Media
9. Sport
10. Recreational
11. Other, specify: _____

F04. Please mark the categories of interest of the society(ies) you belong to nonstudents association:
1. Faith
2. Arts and Performance
3. Activity and specialist (e.g., music, alt music, wine, dance, videos makers)
4. Cultural and National
5. Careers
6. Volunteering and Charity
7. Political (e.g., Pacifist, environmentalist, civil rights advocate, political party)
8. Media
9. Sport
10. Recreational
11. Other, specify: _____

CULTURAL ACTIVITIES

PERFORMING ARTS

G01. Have you done any of the following activities in the last year or so? (1) YES (2) NO
1. Acted in a theatre play
2. Directed a theatre play
3. Performed as a stand-up comedian
4. Sung in a choir, a vocal ensemble, opera/operetta/musical troupe, pop-rock jazz, folk band, rapped
5. Played a musical instrument
6. Played a musical instrument in an orchestra or pop/rock/jazz/folk band
7. Composed music or performed as DJ

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8. Danced (ballet or modern dance, ballroom dance, Latin American dance, jazz dance, hip hop, break dance, street dance, folk dance)
9. Did choreography for a dance performance

G02. How often, did you following, view and/or listen to the recordings of:
1. Never, 2., 3., 4., 5., 6. Very often
1. Theatre plays
2. Cabarets, or a stand-up comedy.
3. Ballets or a modern dance
4. Classical music
5. Opera
6. Musical
7. Pop or rock
8. Jazz or blues
9. Folk music concert
10. World music
11. Urban (rap, hip-hop, trap)
12. Dance or house
13. Popular national or local music
14. A singer/songwriter
15. Other music
16. A sport events

ARCHITECTURE, VISUAL ARTS AND CRAFTS

G05. Have you done any of the following activities during the last year or so?
5. Very often, 4., 3., 2., 1. Never
1. Created paintings, drawings, graphical works (by hand)
2. Created photographs as a hobby (excluding family and/or holiday pictures)
3. Created sculptures, pottery, glass, jewels, textile works
4. written any poetry, prose, fiction or non-fiction in your leisure time?
5. have a blog or an own website on the internet?
6. published your own work (novel) on paper?
7. published own work (novel) in whatever form on the internet (thus including weblogs, ezines and other internet publications)?
8. uploaded own film(s) or video(s) on the internet?
9. uploaded images of your work of visual arts and crafts on the internet?
10. uploaded either your own performance or performance of your company, ensemble, or group on the internet?

G07. During the last year or so…
5. Very often, 4., 3., 2., 1. Never
1. Did you view paintings, drawings, graphical works, photos, and sculptures, products of crafts or virtual exhibitions of visual arts or crafts (on the internet or other media)?
2. Did you view or listen to a programme about visual arts and crafts (on television, radio, video, DVD, internet, or other media)?
3. Did you visit a museum in your own country or abroad?
4. Did you visit galleries or exhibitions in your own country or abroad?
5. Did you visit monuments, historical or artistic places, famous buildings or archaeological sites in your own country or abroad?
6. Did you view virtual exhibitions of art or any kind of museum objects, monuments, historical or artistic places, buildings or sites (on the internet or other media)?
7. Did you make at least one film or one video as an artistic hobby (thus excluding family and holidays films or videos)
8. Did you go to the cinema or a film festival in your own country
9. Did you visit a zoo or animal park?
10. Did you visit a natural reserve?

BOOKS & BOOKSHOPS

G20. During the last year or so…
1. Never, 2., 3., 4., 5., 6. Very often
1. How often did you visit a bookshop in your own country or abroad?
2. How often did you visit an online bookshop and/or search for literature and other material available in a library on the internet?

G15. Approximately, how many books (printed or eBook) do you have where you live?
1. None
2. 1-25
3. 26-50
4. 51-100
5. 101-200
6. 201-400
7. More than 400

G16. During the last year or so … (1) Yes; (2) No
1. Did you read a printed book in your leisure time? [If YES go to G17]
2. Did you read a book in digital form (i.e. on the internet, downloaded from the internet) in your leisure time? [If YES go to G17]

G17. Which kind of books did you read? (tick all that apply)
1. Literature & Novels
2. Science Fiction & Fantasy
3. Mystery & Thrillers
4. History
5. Biographies
6. Health, Mind & Body
7. Other kind of boos

G18. In the last year or so, approximately how many books have you read (not for study)? |__|__|

G19. Do you read:
1. At least five times a week; 2. Every week or almost every week; 3. Few times a month; 4. Once a month; 5. Less often; 6. Never
1. printed magazines and/or periodicals in your leisure time?
2. magazines and/or periodicals in digital form (i.e., on the internet, downloaded from the internet) in your leisure time?
3. printed newspapers?
4. newspapers in digital form (i.e., on the internet, downloaded from the internet)?

G24. Do you…
1. Every day or almost every day; 2. Few times a week; 3. Few times a month; 4. Less than once a month; 5. Never
1. …watch films on television, videos, DVD, internet or other media?
2. …download films from the internet?

PARENTS EDUCATIONAL ATTAIMENT

H01F/M. Which is/was the highest educational level of your father/mother or guardian …?
1. Primary education
2. Lower secondary education
3. Upper secondary education
4. Post-secondary non-tertiary education
5. First stage of tertiary education (undergraduate qualification: BA)
6. Second stage of tertiary education (graduate degree qualification: MA)

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7. Higher tertiary education (post-graduate degree qualification: Doctoral degree)
8. Prefer not to say
9. Don't know
10. Other, please specify:_____

H01LSE F/M. Which is/was the highest educational level of your father/mother or guardian …? [See Appendix]

PARENTS OCCUPATION

H02F/M. When you were 14 years old, did your father/mother or guardian work as …?
1. Employee [go to H03F/M]
2. Self-employed person [go to H04F/M]
3. Employed in law enforcement / armed forces [go to H03F/M]
4. Household
5. Retired
6. Other/unemployed
7. Missed/absent when I was 14 years old.
8. I prefer not to answer
9. Don't know

H03F/M. More precisely s/he or guardian is/was an….?
1. High-ranking executive (e.g., high government official, judge, university professor, general or colonel)
2. Senior employee – Manager/official (e.g., director, head researcher in private institutes, serving members of the military forces with a lower rank to a colonel, etc.)
3. Employee with high technical/scientific and professional qualification (e.g., engineer, chemist, physicist, social worker, graduate technician, publicist, etc.)
4. University lecturer (Associate professor)
5. Secondary school teacher
6. Primary school or pre-school teacher
7. Employee with high and middle qualification level (e.g., university researcher, chartered surveyor, accountant, data analyst, bank cashier, chief secretary, public relations agent, professional nurse, archivist, non-commissioned armed forces officer, etc.)
8. Secretary or similar
9. Managerial employee (e.g., front officer, receptionist, professional soldier, policeman and/or similar)
10. Salesman or similar
11. Worker in services (e.g., barman, waiter, chef, delivery person, domestic worker)
12. Foreman or supervisor
13. Skilled worker or similar (e.g., chief motor mechanic, chief printer, chief tool and die maker, chief electrician)
14. Semi-skilled worker (e.g., bricklayer, bus driver, cannery worker, carpenter, sheet metal worker, baker)
15. Unskilled worker
16. Agricultural worker – farm labourer–fisherman
17. Prefer not to say
18. Don't know
19. Other position as employee

H04F/M. More precisely s/he or guardian is/was an….?
1. Entrepreneur, CEO, Tenant farmer or similar with more than 50 employees
2. Entrepreneur, CEO, Tenant farmer or similar with 14-49 employees
3. High-rank administrator, managing director (e.g., banker, executive in big business, high government official, union official)
4. Freelance worker (e.g., teacher, engineer, artist, accountant)
5. Self-employed worker/ craftworker with 1-14 employees
6. Self-employed worker/ craftworker without employees
7. Occasional self-employed worker
8. Self-employed workers without specific qualification (e.g., delivery person, driver, street vendor)
9. Tenant farmer or similar with 1-14 employees
10. Tenant farmer or similar without employees
11. Family helper in industry and services
12. Family helper in the agricultural sector
13. Member of a Co-operative company
14. Prefer not to say
15. Don't know
16. Other position as self-employed worker

PERSONALITY (only for JLU)

BFI15. Describe yourself as you generally are now, not as you wish to be. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are and roughly your same age. Please use the scale below to rate how accurately each statement describes you
1. I often worry about trifles.
2. I often feel disturbed.
3. I always worry that something bad is going to happen.
4. I like to plan things from the beginning.
5. I am diligent in my work or study.
6. One of my characteristics is doing things logically and orderly.
7. I think most people are well-intentioned.
8. Although there are some frauds in the society, I think most people can be trusted.
9. Although there are some bad things in human society (such as war, evil and fraud), I still believe that human nature is generally good
10. I'm a person who loves to take risks and break the rules.
11. I like adventure.
12. I have a spirit of adventure that no one else has.
13. I'm bored by parties with lots of people.
14. I try to avoid parties with lots of people and noisy environments.
15. I like to go to social and recreational parties.

FINAL QUESTION (INVITATION)
[See Appendix]

I00. Do you want to participate?
1. Yes
2. No [go to I05]

I01. Your personal main smartphone is an:
1. iPhone[1] [go to I05]
2. Android operating system (Samsung, etc...) with version 5.0 or higher?[2]
3. Another operating system [go to I05]

[1]Unfortunately, the app is ONLY available for Android devices.
[2]To know your operating system go to Settings on your smartphone and click 'Info on the device/phone'

I02. We would ask you your university and/or personal mail to contact you*.
1. University mail
2. Personal mail

*To complete the installation of the app you will need a GMAIL address. If you are selected to participate in the second phase of the survey and do not have a Gmail address, you will be asked to activate one of your own. Please do not use other people's Gmail addresses.

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I02JLU. Please give us your contact details [See Appendix]
I02NUM. Please give us your contact details [See Appendix]
I02UC. Please give us your contact details [See Appendix]

I03. How many Mobile phones do you have? N. |__|

I04. I agree to report my name to the person in charge of the research project entitled WeNet - Internet of us (https://www.internetofus.eu/) and to be contacted to receive further explanations for my possible participation.

1. Yes
2. No [go to I05]

I05NoRequirements. We are sorry, unfortunately you are not eligible to participate in the survey, but we thank you very much for your valuable contribution!

I06. Thank you for joining the initiative!
In the next days, you will be contacted by our team who will provide you all the information to participate in the experiment.

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APPENDIX

NATIONALITY LIST

Afghan
Albanian
Algerian
American
Andorran
Angolan
Antiguan and Barbudan
Argentine
Armenian
Aruban
Australian
Austrian
Azerbaijani
Bahamian
Bahraini
Bangladeshi
Barbadian
Basque
Belarusian
Belgian
Belizean
Beninese
Bermudian
Bhutanese
Bolivian
Bosniak
Bosnians and Herzegovinian
Botswana
Brazilian
Breton
British
British Virgin Islander
Bruneian
Bulgarian
Macedonian Bulgarian
Burkinabé
Burmese
Burundian
Cambodian
Cameroonian
Canadian
Catalan
Cape Verdean
Chadian
Chilean
Chinese
Colombian
Comorian
Congolese
Costa Rican
Croat
Cuban
Cypriot
Czech
Danish
Greenlander
Djiboutian
Dominican (Commonwealth)
Dominican (Republic)
Dutch
East Timorese
Ecuadorian
Egyptian
Emirati
English
Equatoguinean
Eritrean
Estonian
Ethiopian
Falkland Islander
Faroese
Fijian
Finn
Finnish Swedish
Filipino
French citizen
Gabonese
Gambian
Georgian
German
Baltic German
Ghanaian
Gibraltarian
Greek
Greek Macedonian
Grenadian
Guatemalan
Guianese (French)
Guinean
Guinea-Bissau national
Guyanese
Haitian
Honduran
Hong Konger [not for JLU]
Hungarian
Icelander
I-Kiribati
Indian
Indonesian
Iranian
Iraqi
Irish
Israeli
Italian
Ivoirian
Jamaican
Japanese
Jordanian
Kazakh
Kenyan
Korean
Kosovar
Kuwaiti
Kyrgyz
Lao
Latvian
Lebanese
Liberian
Libyan
Liechtensteiner
Lithuanian
Luxembourger
Macao [not for JLU]
Macedonian
Malagasy
Malawian
Malaysian
Maldivian
Malian
Maltese
Manx

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Marshallese
Mauritanian
Mauritian
Mexican
Micronesian
Moldovan
Monégasque
Mongolian
Montenegrin
Moroccan
Mozambican
Namibian
Nauran
Nepalese
New Zealander
Nicaraguan
Nigerien
Nigerian
Norwegian
Omani
Pakistani
Palauan
Palestinian
Panamanian
Papua New Guinean
Paraguayan
Peruvian
Pole
Portuguese
Puerto Rican
Qatari
Quebecer
Réunionnai
Romanian
Russian
Baltic Russian
Rwandan
Saint Kitts and Nevis
Saint Lucian
Salvadoran
Sammarinese
Samoan
São Tomé and Príncipe
Saudi
Scottish
Senegalese
Serb
Seychelloi
Sierra Leonean
Singaporean
Slovak
Slovene
Solomon Islander
Somali
Somalilander
Sotho
South African
Spaniard
Sri Lankans
Sudanese
Surinamese
Swazi
Sweden
Swiss
Syriac
Syrian
Taiwanese [not for JLU]
Tamil
Tajik
Tanzanian
Thai
Tibetan
Tobagonian
Togolese
Tongan
Trinidadian
Tunisian
Turkish
Tuvaluan
Ugandan
Ukrainian
Uruguayan
Uzbek
Vanuatuan
Venezuelan
Vietnamese
Vincentian
Welsh
Yemeni
Zambian
Zimbabwean

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DEPARTMENT/COLLEGE

A04AAU. Department/College
1. Electronic Systems
2. Architecture, Design and Media Technology
3. Chemistry and Bioscience
4. Communication and Psychology
5. Culture and Learning
6. Planning
7. Mathematical Sciences
8. Materials and Production
9. Business and Management
10. Sociology and Social Work
11. Political Science
12. Clinical Medicine
13. Built Environment

A04LSE. Department/College
1. Department of Accounting
2. Department of Anthropology
3. Department of Economics
4. Department of Economic History
5. European Institute
6. Department of Finance
7. Department of Gender Studies
8. Department of Geography and Environment
9. Institute of Global Affairs (IGA)
10. Department of Government
11. Department of Health Policy
12. Department of International Development
13. Department of International History
14. International Inequalities Institute
15. Department of International Relations
16. Language Centre
17. Department of Law
18. Department of Management
19. Marshall Institute
20. Department of Mathematics
21. Department of Media and Communications
22. Department of Methodology
23. Department of Philosophy, Logic and Scientific Method
24. Department of Psychological and Behavioural Science
25. School of Public Policy (formerly Institute of Public Affairs)
26. Department of Social Policy
27. Department of Sociology
28. Department of Statistics

A04JLU. Department/College
1. School of Philosophy and Society
2. Art college
3. Archaeological Institute
4. Foreign Language School
5. Art Academy
6. Sports Academy
7. School of Mathematics
8. School of Physics
9. School of Chemistry
10. College of Life Sciences
11. School of Electronic Science and Engineering
12. School of Communication Engineering
13. School of Computer Science and Technology
14. Software College
15. School of Economics
16. Law school
17. School of Administration
18. Business school
19. Institute of Finance
20. School of Mechanical Engineering
21. School of Automotive Engineering
22. material science and Engineering School
23. Jiaotong University
24. College of Biological and Agricultural Engineering
25. School of Management
26. School of Food Science and Engineering
27. School of Earth Sciences
28. School of Earth Exploration Science and Technology
29. School of Construction Engineering
30. School of New Energy and Environment
31. School of Instrument Science and Electrical Engineering
32. Basic Medical School
33. School of Public Health
34. College of Pharmacy
35. School of Nursing
36. School of Clinical Medicine
37. Bethune First Hospital
38. Bethune Second Hospital
39. Bethune Third Hospital
40. Bethune Dental Hospital
41. School of Animal Medicine
42. Faculty of Plant Science
43. College of Animal Science
44. Artificial Intelligence Academy

A04NUM. Department/College
1. Business School
2. School of International Relations and Public Administration
3. School of Law
4. School of Engineering and Applied Sciences
5. School of Sciences – Division of Social Sciences
6. School of Sciences – Division of Natural Sciences
7. School of Sciences – Division of Humanities

A04UC. Department/College
1. Facultad de Ciencias Contables, Administrativas y Económicas
2. Facultad de Ciencias y Tecnología
3. Facultad de Ciencias de la Salud
4. Facultad de Ciencias Jurídicas y Diplomáticas
5. Facultad de Filosofía y Ciencias Humanas

A04UNITN. Department/College
1. CIBIO
2. Economics and Management
3. Faculty of Law
4. Physics
5. Civil, Environmental and Mechanical Engineering
6. Information Engineering and Computer Science
7. Industrial Engineering
8. Humanities
9. Mathematics
10. Psychology and Cognitive Science
11. Sociology and Social Research
12. Center Agriculture Food Environment
13. CIMeC - Centre for Mind/Brain Sciences
14. SSI - School of International Studies
15. Other structures

PLACES

A09UC. Where do you live during term time?
1. Asunción [go to A10UC]
2. In the town where the university is located.
3. Close to the city where the university is located (less than 1.30 hours of travel).
4. In another city away from where the university is located (more than 1.30 hours of travel)

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5. Abroad (e.g. Erasmus student)

A09UNITN. Where do you live during term time?
1. Trento [go to A10UNITN]
2. Rovereto
3. Close to the city where the university is located (less than 1.30 hours of travel).
4. In another city away from where the university is located (more than 1.30 hours of travel)
5. Abroad (e.g. Erasmus student)

A10AAU. And exactly in which neighbourhood of the town do you live?
1. Vesterbro/Kongens Enghave
2. Nørrebro
3. Østerbro
4. Amager Øst
5. Amager Vest
6. Valby
7. Bispebjerg
8. Vanløse
9. Brønshøj-Husum

A10LSE. In which area do you live?
1. London Central (30 minutes from LSE)
2. Outer London (1hour from LSE)
3. Outside London

A10LSE. What is your first three digits of post code?
|__|__|__|

A10NUM. Please, enter the zip code of where you live during term time*
* Please, find zip code of the place using the website http://zipcode.mn/map#mongolia

A10UC. What area exactly do you live in?
1. Centro
2. Sajonia
3. San Vicente y Santa Ana
4. Mcal López1 (entre Brasil y Gral Santos)
5. España1 (entre Brasil y Gral Santos)
6. Mcal López2 (entre Gral Santos y Rca. Argentina)
7. España2 (entre Gral Santos y Rca. Argentina)
8. Pinoza/ Seminario
9. Los Laureles
10. Shopping del Sol hasta calle Última
11. Trinidad
12. Loma Pyta

A10UNITN. And exactly in which district of the town do you live?
1. Center (from Cristo Re/San Martino to Fersina)
2. Piedicastello/Vela
3. Trento North (from Gardolo to loc.Solteri/Via Brennero/Via Maccani)
4. North of Gardolo (Lavis, Meano, Spini)
5. Argentario (Cognola/Martignano/Montevaccino/Villamontagna)
6. East hill (Mesiano/Povo/Oltrecastello/San Donà/Cognola/Villazzano)
7. Trento South (Bolghera/Clarina/San Bartolomeo/Madonna Bianca/Villazzano Tre)
8. Mattarello/Ravina/Romagnano
9. Bondone/Cadine/Sardagna/Sopramonte

A11NUM. What kind of accommodation are you living in?
1. University dormitory (dormitory)
2. In the university apartment
3. Dormitory (Private dormitory)
4. Rental apartment / house
5. Own apartment or house (may be yours, parents 'or relatives')
6. As a private guest / guest (adjoining room for rent)
7. As a friend or guest of friends
8. Mongolian ger and fence
9. Fence in the house

ONLY FOR NUM

N01. How did you make a decision to become a student?
1. By myself
2. Followed my parents' advice
3. Followed my brother/sister's advice
4. Other, please specify: ____

N02. Are you a resident of the city?
1. Born in the city
2. Migrated to the city [go to N03]

N03. From where did you migrate?
1. Arkhangai
2. Bayan-Ulgii
3. Баянхонгор
4. Bayankhongor
5. Govi-Altai
6. Govisumber
7. Darkhan-Uul
8. Dornogovi
9. Dornod
10. Dundgovi
11. Zavkhan
12. Orkhon
13. Uvurkhangai
14. Umnugovi
15. Sukhbaatar
16. Selenge
17. Tuv
18. Uvs
19. Khovd
20. Khuvsgul
21. Khentii

N04. For how long are you living in the current place?
1. Less than 1 year
2. 1-2 years
3. 3-4 years
4. 4-5 years
5. 5 or more years

N05. Before coming to the current place, where were you living? *

_____

*Please, find zip code of the place using the website http://zipcode.mn/map#mongolia Please choose the last place.

N06. Please, give the reason to migrate to the city
1. To study
2. Followed my parent's decision
3. Followed my brother/sister's decision
4. To work
5. To change my living place
6. Other, please specify: ____

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SOCIAL MEDIA

E01JLU. How often do use the following social networking channels?

(99) No account (1) Several times a day (2) about once a day (3) a few times a week (4) every few weeks (6) Rarely/Never

1. Weibo(微博)
2. LinkedIn
3. Bilibili
4. Acfun
5. Ivzhou(绿洲)
6. Telegram
7. Pinterest
8. Huaban(花瓣)
9. Xiaohongshu(小红书)
10. Reddit
11. Tieba(贴吧)
12. Douban(豆瓣小组)
13. Skype
14. Zoom
15. Tencent Meeting(腾讯会议)
16. DingDing(钉钉)
17. Tinder
18. Tantan(探探)
19. Momo(陌陌)
20. WeChat(微信)
21. QQ
22. TikTok(抖音)
23. Kuaishou(快手)
24. Huoshan (火山小视频)

PARENTS EDUCATION

H01LSE F/M. Which is/was the highest educational level of your father/mother or guardian …? [See Appendix]

1. Nursery schools, Playgroups, Reception classes; left school before age 11
2. Primary school, Adult literacy and numeracy courses; left school at age11–14(no qualification)
3. GCSE, SCE Standard Grade (general), NVQ Level1 (pre-vocational), NVQ Level2 (vocational); Left school after age 14 without qualification
4. GCEA/AS Level, Higher Grade, CSYS (general), GNVQ/GSVQ Advanced, NVQ Level3 (vocational); Left school after age 14 without qualification
5. HE Access Courses
6. medium: BA
7. long: MA, PGCE, PGDE; NVQ4&5, HNC, HND, CertHE, DipHE
8. Doctorate
9. Other
10. Prefer not to say
11. Don't know

FINAL QUESTION

AAU INVITATION

Would you like to shape the next generation of services available at your university? Then, join the next phase of our survey! We are looking for 300 students to participate in a paid experiment to test a new data collection smartphone app.

The experiment will start at the beginning of NOVEMBER and will last for two weeks. If you accept to participate, during this period you will receive four short questions every half hour for you to respond throughout the day. If you complete the task successfully, you will be paid 150 kr and you will have the opportunity to be selected (from a random draw) for a telephone top-up of 40 kr, in a daily draw of 5 participants. You will also have the opportunity to participate in a random draw for the final three prizes of 800 kr.

If you wish, you can also continue to use the App for another two weeks. In these two additional weeks your commitment will be reduced and the request to answer the three questions will be every 1 hour. If you complete the task successfully, you will be paid an additional 150 kr, and have the opportunity to participate in the daily random draw for 5 phone top-ups of 40 kr each. You have also the opportunity to participate in the final extraction of three prizes of 1200 kr.

Your contribution is important to us.

If you are interested, please answer the next five questions.

Feel free to contact us at helpdeskAAU@we-net.eu for further information about the experiment.

Thanks in advance for your attention. Looking forward to listening from you,

Prof. Amalia De Götzen

LSE INVITATION

Would you like to contribute to shape the next generation of online services available at the LSE and other universities? If so, then apply to join the next phase of our study, a test of a new data collection application to be installed on smartphones.

The study will last two weeks, during which participants be sent three short questions every half hour, which can be answered at any time during the day. Having completed the two weeks they will be entered into a lottery with a 1 in 50 chance of winning £150, For those who would like to continue for another two weeks, the commitment will be reduced to three question every hour. Those completing this extension will be entered into a second lottery with a 1 in 50 chance of winning £150.

We very much hope that you will put your name forward to be considered for this study. We aim to have 300 participants from across the School's departments.

If you are interested, open the link below and answer three questions the responses to which will guide our selection of a broad sample of participants.

For clarification on any issues you can contact the following email address: helpdeskLSE@we-net.eu

With thanks and our best wishes from the WeNet pilot study coordinators

Profs George Gaskell (LSE), Ivano Bison (Trento) and Amalia de Goetz (Copenhagen)

JLU INVITATION

Do you want to contribute to the construction of the next generation of universities? We sincerely invite you to join our in-depth investigation! We are looking for 300 students to join a paid experiment that started in the middle of this month (November 23) to test a new data collection application installed on a smartphone.

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The experiment will last for 2 weeks, during which three short questions will be sent to you every half an hour, and you will need to answer the questions every day. If you successfully complete the task, you will be paid 100 yuan (2 weeks).
If you want, you can continue to use the app for 2 weeks. In these two extra two weeks, your work will be reduced, and the frequency of three questions will be reduced to once an hour. If you successfully complete the task, you will be paid an additional 100 yuan (2 weeks).

Students who have fully participated in the 4-week experiment will also have the opportunity to participate in three additional prizes of 100 yuan (randomly drawn).

Your contribution is very important to us.
If you are interested in our research, please open the link below and answer three questions:

_
If you have any questions or requests, please contact the following email address:
wenet_jlu@hotmail.com
To thank you for your attention, we would like to extend our sincere thanks and greetings to you.
Professor Xu Hao, Professor Fausto Giunchiglia

NUM INVITATION
Would you like to shape the next generation of services available at your university? Then, join the next phase of our survey! We are looking for 300 students to participate in a paid experiment to test a new data collection smartphone app.

The experiment will start at the beginning of NOVEMBER and will last for two weeks. If you accept to participate, during this period you will receive four short questions every half hour for you to respond throughout the day. If you complete the task successfully, you will be paid 10,000 MNT and you will have the opportunity to be selected (from a random draw) for a telephone top-up of 5,000 MNT, in a daily draw of 5 participants. You will also have the opportunity to participate in a random draw for the final three prizes of 100,000 MNT.

If you wish, you can also continue to use the App for another two weeks. In these two additional weeks your commitment will be reduced and the request to answer the three questions will be every 1 hour. If you complete the task successfully, you will be paid an additional 10,000 MNT, and have the opportunity to participate in the daily random draw for 5 phone top-ups of 5,000 MNT each. You have also the opportunity to participate in the final extraction of three prizes of 150,000 MNT.

Your contribution is important to us.

If you are interested, please answer the next five questions.

Feel free to contact us at helpdeskNUM@we-net.eu for further information about the experiment.

Thanks in advance for your attention. Looking forward to listening from you,

Sincerely yours
Deputy prof. Amarsanaa Ganbold

UC INVITATION

If you are interested, please answer the next five questions.

Would you like to contribute to shape the next generation of services available at your university? Then join the next phase of our survey! We are looking for 300 students to participate in a paid experiment that will start during this semester, to test a new data collection application to be installed on your smartphone.

The experiment will last two weeks, during which you will be sent four short questions every half hour, which you can answer throughout the day. If you complete the task successfully, you will receive a telephone top-up (or e-wallet) of 25.000 guaraníes and you will have the opportunity to be selected (from a random draw) for a dinner voucher at a local restaurant, in a drawing of 5 vouchers.

If you wish, you can also continue to use the App for another two weeks. In these two additional weeks your commitment will be reduced and the request to answer the three questions will be every 1 hour. If you complete the task successfully, you will receive an additional telephone top-up (or e-wallet) of 25,000 guaraníes, and will again have the opportunity to participate in a random drawing for a dinner voucher at a local restaurant, in a drawing of 5 vouchers. You will also have the opportunity to participate in the extraction of a final prize consisting of a voucher for a dinner for two at a local restaurant, randomly drawn among the participants who remain during the 4 weeks of the experiment and register the higher percentage of completed tasks.

Your contribution is important to us.

If you are interested, please answer the next five questions. Feel free to contact us at helpdeskUC@we-net.eu for further information about the experiment. Thanks in advance for your attention.

Looking forward to listening from you,

Prof. Luca Cernuzzi

UNITN INVITATION
Would you like to shape the next generation of services available at your university? Then, join the next phase of our survey! We are looking for 300 students to participate in a paid experiment to test a new data collection smartphone app.

The experiment will start at the beginning of NOVEMBER and will last for two weeks. If you accept to participate, during this period you will receive four short questions every half hour for you to respond throughout the day. If you complete the task successfully, you will be paid 20 euros and you will have the opportunity to be selected (from a random draw) for a telephone top-up of 5 euros, in a daily draw of 5 participants. You will also have the opportunity to participate in a random draw for the final three prizes of 100 euros.

If you wish, you can also continue to use the App for another two weeks. In these two additional weeks your commitment will be reduced and the request to answer the three questions will be every 1 hour. If you complete the task successfully, you will be paid an additional 20 euros, and have the opportunity to participate in the daily random draw for 5 phone top-ups of 5 euros each. You have also the opportunity to participate in the final extraction of three prizes of 150 euros.

Your contribution is important to us.

Co-funded by the Horizon 2020 Framework Programme of the European Union

Feel free to contact us at helpdeskUNITN@we-net.eu for further information about the experiment.

Thanks in advance for your attention. Looking forward to listening from you,

Prof. Ivano Bison

I02JLU. Please give us your contact details [See Appendix]
1. Email
2. Phone number
3. WeChat number
4. QQ number

I02NUM. Please give us your contact details [See Appendix]
1. Registration number
2. SiSi ID
3. Mobile phone number
4. University email address
5. Personal email address

I02UC. Please give us your contact details [See Appendix]
1. Personal email

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9.1.2. WeNet - Questionnaire i-Log

WeNet – Questionnaire n.2

(Before i-Log administration)

ACCOMODATION & UNIVERSITY ROUTINE

A01. With whom do you live?
1. Alone [Go to A07]
2. Other students
3. Partner
4. Your children
5. Parents or other relatives [Skip C01]
6. Other, please specify: _____

A02. In addition to you, how many people do you share the accommodation with? |__|

A03. How many of these people attend university? |__|

A04. Do you have a:
1. Single bedroom
2. Bedroom shared with another person
3. Bedroom shared with two people or more

A06. In your accommodation, which items do you have? (Multiple choice)
1. Colour television (common area)
2. Colour television (in your bedroom)
3. Home theatre/Stereo system
4. Satellite dish / Sky TV
5. Home computer/PC
6. Laptop computer
7. Tablet
8. Landline telephone
9. Dishwasher
10. Wi-Fi

A07. All in all, what is your commute time and distance from your accommodation to university department?
1. Time in minutes _____
2. Distance in Km _____ (Note: use decimals to indicate meters. For example, enter 0.800 if you travel 800 meter or write in 2.5 if you travel two and a half kilometres.)

WORK ACTIVITY

A08. Have you been in paid employment in the last year or so?
1. Yes
2. No

A09. Do you currently do any work, including occasional work?
1. Yes
2. No

TRANSPORTS

B01. Do you have …?
1. Yes, 2. No
1. …a car driver's license?
2. …a motorbike driver's license?
3. …a bike of your own?
4. …a car of your own?
5. …a motorbike of your own?
6. …access to a car whenever you want?
7. …access to a motorbike whenever you want?

B02. What is the main method that you use for getting about in your daily life? (Multiple choice)
1. Walking
2. Cycling
3. Car (Filter: go to question
4. Car-sharing (with friends/relative etc.)
5. Motorbike
6. City bus/suburban bus/Tube (Public Transport)
7. Train
8. Electric scooters

B03. How often do you use public transport in the weekday?
1. Never
2. Less than once a week
3. Once a week
4. Once or twice a week
5. Most days
6. Everyday

COOKING AND SHOPPING HABITS

We would like to study your consumption habits. This section explores your cooking habits and competencies as well as your shopping behaviour.

C01. Would you say you know how to cook?
1. Yes, I know how to cook.
2. Yes, but only basic things.
3. No, I do not know how to cook. [go to D01]

C02. Is there a kitchen in your accommodation that you can use?
1. Yes, there is a kitchen that I can regularly use.
2. Yes, there is one but I don't have regular access to it.
3. No, there is no kitchen.

C03. How good you are at each of the following tasks:
1. Very poor, 2, 3, 4, 5, 6, 7. Very good, 99. Don't Know/Can't say
1. baking cakes, cupcakes, cookies, bread from raw ingredients
2. peeling and chopping raw vegetables (including potatoes, carrots, onions, broccoli)
3. preparing and cooking raw meat (red meat and poultry)
4. preparing and cooking raw fish
5. following recipes when cooking

C04. How often do you cook a main meal?
1. Daily
2. Several times a week
3. Once a week
4. Less than once a week
5. Never

C05. Please, indicate your level of agreement with the following statements. (1) strongly disagree - (7) strongly agree
1. Cooking makes me happy.
2. Cooking is time consuming.
3. I am good at cooking.
4. Cooking is costly.
5. Cooking helps me eat healthy.
6. Cooking is difficult.
7. Cooking is important to me.
8. Cooking is just a chore I have to do.
9. When cooking, I like to try new recipes.

C06. When looking for ideas or inspiration about cooking, what are you most likely to do? (Multiple choice)

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1. Turn to your family for tips
2. Look online for recipes
3. Look in cookbooks/magazines
4. Use recipe apps
5. Watch cooking shows online or on TV
6. Ask friends for ideas

C07. Let us talk about your diet. Which of the following applies to you? (Multiple choice)
1. I don't follow a specific diet
2. I follow a vegetarian or vegan diet
3. I avoid certain foods for religious or cultural reasons
4. I avoid or limit my intake of certain foods due to health problems (allergies, gluten intolerance, …)
5. I have no health issues but follow a health-food diet rigidly
6. I limit consumption of certain foods to lose/maintain weight
7. I like to try new foods and tastes.

C08. Which of the following statements best describes you?
1. For me, eating is a pleasure.
2. Eating for me is just a way not to feel hungry.

C09. Last month, how often did you shop for food groceries?
1. Rarely/Never [go to C13]
2. Once every 2 weeks
3. Once a week
4. A few times per week
5. Everyday

C10. Last month, how often did you buy the types of food products and supplements:
1. Never, 2. Rarely, 3. Often, 4. Always
1. Organic
2. Zero-mile
3. Weight-loss pills, teas and products - slim fast, weight watchers, meal replacements
4. Dietary supplements - vitamins, iron, potassium…
5. Frozen items
6. Allergen-free products - gluten free, lactose free
7. Ready meals - to be just heated or defrosted in microwave/oven

C11. How much time do you spend shopping for your food groceries? Do not include the time to get to and from the store.
1. Little time, I shop as quickly as possible.
2. Time enough to find all I need.
3. More time than the strictly necessary.

C12. How often did you shop at the following super/markets last month?
1. Never, 2. Rarely, 3. Often, 4. Always, 5. No nearby shops
1. Specialised food shops (fishery, butchery, bakery, fruit and vegetable shops)
2. Organic Shops
3. Supermarkets
4. Discount supermarket
5. Street markets

SPORTS AND PHYSICAL ACTIVITIES

D01. Beyond walking about, do you engage in other physical activities?
1. Yes
2. No

D02. Have you been physically active on a regular basis in the last year or so?
1. Yes
2. No

[If D01=No and D02=No go to F01]

D03. During the last year or so, how often have you done the following types of sport activities?
1. Not at all; 2. Less than once a week; 3. At least once a week; 4. Almost daily.
1. Cardio/fitness activities like swimming, running, jogging, stair climbing, cycling or rope skipping
2. Yoga, stretching and fitness dancing activities like aerobics, dance exercise, Pilates
3. Water sports like skiing, snowboarding, wakeboarding, diving, canoeing or rowing
4. Weightlifting and resistance training including free weights, bench press, leg press, push ups, pull ups or sit ups
5. Team sports like soccer, basketball, hockey, baseball, and volleyball
6. Boxing and martial arts like judo, karate and taekwondo
7. Racket sports such as tennis, ping pong, and squash
8. Outdoor recreational sports like climbing, hill trekking, walking, mountain biking, orienteering, skateboarding

D04. How often do you do physical exercise?
1. Every few weeks or less
2. Once or twice a week
3. Three to five days a week
4. Six to seven days a week

D05. How often do you exercise...
1. Never, 2. Seldom, 3. Sometimes, 4. Often, 5. Always
1. … alone?
2. … with Friends, family members?
3. … with Trainer, a group or sport team?

D06. When exercising, which of the following devices do you use? (Multiple choice)
1. Wearable fitness trackers
2. Smartwatches
3. Smartphone fitness apps
4. Headphones
5. None
6. Other, please specify: _____

D07. Read the following statements and indicate how often you do the following:
1. Never/Rarely, 2. Occasionally, 3. Often, 4. Always
1. Look for fitness information on the Internet
2. Read specialised magazines about sports and physical activities
3. Ask fitness trainers for advice on how to improve your workout routines
4. Talk with sporty people about training routines and sports equipment
5. Use Apps for fitness information

MECHANISM MEASURES

F01. Have you given your time to help in any of the following ways outside of school or college hours in the last three months?
1. Yes, 2. No
1. …Helped out at a local club, group, organization or place of worship
2. …Helped out other organizations
3. …Raised money for charity (including taking part in a sponsored event)
4. …Contacted someone (e.g., council, media, school) about something affecting your local area
5. …Organized a petition or event to support a local or national issue

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6. …Done something to help other people, or to improve a local area

F02. Now, think about people you know who you would feel happy getting in touch with to ask for advice or a favour. How many are…

1. None, 2. Almost none, 3. Someone, 4. Many

1. … from a different school or college to you?
2. … from a different ethnicity to you?
3. … from a different religious background to you?
4. … from a richer or poorer background to you?
5. … of a different sexual orientation than yours?

PSYCHOSOCIAL PROFILE

G01. Below is a brief description of some people. Please read each description and tell us how much each person is or is not like you. Use this scale for your answer:

1. Very much like me; 2. Like me; 3. Somewhat like me; 4. A little like me; 5. Not like me; 6. Not like me at all; 7. Prefer not to say; 8. Don't know

The items must be expressed for men, women and non-binary (for LSE)

1. Thinking up new ideas and being creative is important to them. They like to do things in their own original way
2. It is important to them to be rich. They want to have a lot of money and expensive things
3. They think it is important that every person in the world be treated equally. They want justice for everybody, even for people they don't know.
4. It's very important to them to show their abilities. They want people to admire what he does
5. It is important to them to live in secure surroundings. They avoid anything that might endanger their safety
6. They think it is important to do lots of different things in life. They always look for new things to try
7. They believe that people should do what they're told. They think people should follow rules at all times, even when no-one is watching
8. It is important to them to listen to people who are different from them. Even when he disagrees with them, they still want to understand them
9. They think it's important not to ask for more than what you have. They believe that people should be satisfied with what they have
10. They seek every chance he can to have fun. It is important to them to do things that give them pleasure
11. It is important to them to make their own decisions about what he does. They like to be free to plan and to choose their activities for themself
12. It's very important to them to help the people around them. They want to care for other people
13. Being very successful is important to them. They like to impress other people
14. It is very important to them that their country is safe. They think the state must be on watch against threats from within and without
15. They like to take risks. They are always looking for adventures
16. It is important to them always to behave properly. They want to avoid doing to anything people would say is wrong
17. It is important to them to be in charge and tell others what to do. They want people to do what he says
18. It is important to them to be loyal to their friends. They want to devote themself to people close to them
19. They strongly believe that people should care for nature. Looking after the environment is important to them
20. Religious belief is important to them. They try hard to do what their religion requires
21. It is important to them that things be organized and clean. They do not want things to be a mess
22. They think it is important to be interested in things. They like to be curious and to try to understand all sorts of things
23. They believe all the worlds' people should live in harmony. Promoting peace among all groups in the world is important to them
24. They think it is important to be ambitious. They want to show how capable he is
25. They believe it is best to do things in traditional ways. It is important to them to follow the customs he has learned
26. Enjoying life's pleasures is important to them. They like to 'spoil' themself
27. It is important to them to respond to the needs of others. They try to support those he knows
28. It is important to them to be obedient. They believe he should always show respect to their parents and to older people
29. They want everyone to be treated justly, even people he doesn't know. It is important to them to protect the weak in society
30. They like surprises. It is important to them to have an exciting life
31. They try hard to avoid getting sick. Staying healthy is very important to them
32. Getting ahead in life is important to them. They strive to do better than others
33. Forgiving people who might have wronged them is important to them. They try to see what is good in them and not to hold a grudge
34. It is important to them to be independent. They like to rely on themself
35. Having a stable government is important to them. They are concerned that the social order be protected
36. It is important to them to be polite to other people all the time. They try never to disturb or irritate other expectations
37. They really want to enjoy life. Having a good time is very important to them
38. It is important to them to be humble and modest. They try not to draw to themself
39. They always want to be the one who makes the decisions. They like to be the leader
40. It is important to them to adapt to nature and to fit into it. They believe that people should not change nature

G02. Chose the left or the right circle that better describe yourself. Select the middle circle if both apply equally.

You are more:				
systematic	○	○	○	(casual
You are more:				
talkative	○	○	○	quiet
You prefer things:				
open-ended	○	○	○	planned
You are more:				
questioning	○	○	○	accommodating
You prefer:				
logic	○	○	○	empathy
You are more:				
sociable	○	○	○	reserved
Judges should be:				
impartial	○	○	○	merciful

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You are more:				
practical	○	○	○	conceptual
You work better:				
pressured	○	○	○	unpressured
You are more:				
sceptical	○	○	○	tolerant
You are more:				
hands-on	○	○	○	theoretical
You are more:				
contained	○	○	○	expressive
You learn better by:				
reading	○	○	○	listening
You prefer the:				
concrete	○	○	○	abstract
You are more:				
methodical	○	○	○	improviser
You prefer:				
routine	○	○	○	variety
You are more:				
truthful	○	○	○	tactful
You prefer:				
fact-finding	○	○	○	speculate
You prefer:				
individuals	○	○	○	groups
You prefer the:				
traditional	○	○	○	novel

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9.1.3. WeNet - Questionnaire i-Log2

WeNet – Questionnaire i-Log2

APP EVALUATION

A01. Do you want to continue the experiment for another two weeks? *
1. No, I want to end the experiment on **xxxx**
2. Yes, I want to continue the experiment until **xxxx**

* Payments description

A02. On which of the following smartphone brands have you installed and compiled the app?
1. Huawei
2. Wiko
3. Xiaomi
4. Samsung
5. Motorola
6. Asus
7. Lenovo
8. Other: _

A03. Did you experience any difficulties in one of the following moments while using the i-Log app?
1. I found no difficulty
2. In finding and downloading the app
3. During installation
4. During configuration
5. In interfacing with the logic of the app
6. Other: _____

A04. [If A03 ≠ 1] **Could you tell us what kind of difficulty did you encounter?** _____

A05. Were there some situations in which you were unable to place the activity you were carrying out in one of the options proposed by the app questionnaires?
1. Yes
2. No

A06. [If A05 = 1] **What activities could you not place?** _____

A07. Which of the following components would you like to see implemented?
1. Presence of a greater number of hours for the "Sleep" option
2. Introduction of pop ups that explain the content of the answer options
3. Presence of precompiled combinations (eg: Lesson -> Classroom, university laboratory -> Classmates)
4. Introduction of daily feedback on the number of completed questionnaires
5. Introduction of feedback on the progress of the compilation
6. Introduction of the possibility to change the background of the app
7. Other: _____

A09. Other considerations about the experiment _____

ATTITUDES

2. No

B01. Use this scale to evaluate your attitude towards the following statements.
1. Totally disagree, 2, 3, 4, 5. Totally agree
1. Writing is a natural way for me to express myself.
2. At school studies in native language or social studies were easier for me than mathematics, physics and chemistry.
3. I have recently written something that I am especially proud of, or for which I have received recognition.
4. Metaphors and vivid verbal expressions help me learn efficiently.
5. At school I was good at mathematics, physics or chemistry.
6. I can work with and solve complex problems.
7. Mental arithmetic is easy for me.
8. I am good at games and problem solving, which require logical thinking.
9. At school, geometry and various kinds of assignments involving spatial perception were easier for me than solving equations.
10. It is easy for me to conceptualize complex and multidimensional patterns.
11. I can easily imagine how a landscape looks from a bird's-eye view.
12. When I read, I form illustrative pictures or designs in my mind.
13. I am handy.
14. I can easily do something concrete with my hands (e.g. knitting and woodwork).
15. I am good at showing how to do something in practice.
16. I was good at handicrafts at school.
17. After hearing a tune once or twice I am able to sing or whistle it quite accurately.
18. When listening to music, I am able to discern instruments or recognize melodies.
19. I can easily keep the rhythm when drumming a melody.
20. I notice immediately if a melody is out of tune
21. Even in strange company, I easily find someone to talk to.
22. I get alone easily with different types of people.
23. I make contact easily with other people.
24. In negotiations and group work, I am able to support the group to find a consensus.
25. I am able to analyse my own motives and ways of action.
26. I often think about my own feelings and sentiments and seek reasons for them.
27. I spend time regularly reflecting on the important issues in life.
28. I like to read psychological or philosophical literature to increase my self-knowledge.
29. I enjoy the beauty and experiences related to nature.
30. Protecting the nature is important to me.
31. I pay attention to my consumption habits in order to protect environment.
32. In midst of busy everyday life, I find it important to contemplate.
33. Even ordinary every-day life is full of miraculous things.
34. I often reflect on the meaning of life.
35. It is important to me to share a quiet moment with others.

BODY MASS INDEX

C01. As a last question we would like to ask you about your Body Mass Index (BMI). This is a standard measure used in health studies related to nutrition.
Do you agree to answer?
1. Yes

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C02. What is your BMI level?
[Use the formula BMI = mass/(height x height) to calculate your BMI, where mass should be in kilograms and height should be in meters. Example: if your height is 1.6m and your weight is 52kg, your BMI would be 52/(1.6x1.6)=20.3.]

1. BMI < 18.5
2. BMI in range [18.5 – 24.9]
3. BMI in range [25.0 - 29.9]
4. BMI > 30.0

INVITATION

D01. In the coming months the WeNet team will continue its data collection and App testing activities. We would like to ask if we can contact you to participate in these activities. Your consent does not imply any obligation on your part, and you can decline the invitation at any time.

1. Yes, I agree to be contacted to participate in other data collection and App testing activities
2. No, I am not interested in continuing to participate in other App testing and data collection activities

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9.2. I-log

9.2.1. WP7_Sensor_Data_Collection

Morning ITEMS [Morning 08:00]

A1. How would you rate your sleep quality last night?

1. 😃 very good
2. 🙂 fairly good
3. 😑
4. 😕 fairly bad
5. ☹️ very bad

A2. How do you expect your day to be?

1. 😃
2. 🙂
3. 😑
4. 😕
5. ☹️

Evening ITEMS [Evening 10:00 pm]

A7. How was your day?

1. 😃
2. 🙂
3. 😑
4. 😕
5. ☹️

A8. Did you have any problem at [college (weekdays)] today?

Yes
No

A9. What was the problem you had?

A10.Were you able to solve the problem (alone or with help of someone)?

A11. Is there anything that you would have liked to do today that was not possible because of the Covid-19 virus?

Tab 1. Time Diaries (every half an hour questions)

A3. What are you doing?

1. Sleeping
2. Personal care
3. Eating (go to A3c)
4. Cooking, Food preparation & management
5. Study/work group
6. Lecture/seminar/conference/university meeting
7. Did not do anything special (Just let the time pass, Lazed around, etc.)
8. Rest/nap
9. Break (coffee, cigarette, drink, etc.)
10. Walking
11. Travelling (go to A3a1, a2)
12. Social life (Socialising, visiting, receiving, conversating with family, relatives friends, classmate, visitors, neighbour, and others)
13. Happy Hour/Drinking/Party
14. Phone/Video calling; Skype/Zoom/WhatsApp/Messenger or other VoIP
15. In chat on Internet or reading, sending e-mail
16. Surfed or seeking, reading information via Internet
17. Social media (Facebook Instagram etc.)
18. Watching TV, video, YouTube, etc.
19. Listening to music
20. Reading a book, periodicals, news, etc.
21. Movie Theatre Concert ...
22. Entertainment Exhibit, and Culture (Art exhibitions and museums, Historical place, Cathedral, etc.)
23. Others Entertainment and Culture (Consumer/Sports events)
24. Arts (visual, performing, literary, paintings, photography, singing, acting, playing)
25. Hobbies (assembling/repair apparatus/pc, gardening, etc.)
26. Games (Computer games, parlour games, gambling, etc.)
27. Free Time Study (e.g. piano lesson, artistic courses - painting, music, etc.)
28. Sport (go to A3b)
29. Voluntary work, and participatory activities (social, political, religious, sports, etc.)
30. Household and family care
31. Grocery Shopping
32. Other Shopping
33. Work
34. Other

A3c. Select the main food & drink you ate [MULTIPLE CHOICES]

- Bread, steamed buns and/or breakfast cereals
- Rice, potatoes, beans, pasta, noodles, dumplings, etc.
- Vegetables
- Fruits
- Meat
- Fish
- Processed meat (ham, bacon, sausages)
- Dairy products (Plain or low-fat milk, yoghurt, cheese)
- Soya-based food (milk, yoghurt, tofu)
- Pastries and sweets
- Snack/sandwiches (chips…)
- Water
- Soda
- Coffee/tea or similar
- Others non-alcoholic drink
- Beer
- Wine
- Spirit
- Others alcoholic drink
- Other food

A3a1.And you travel to/from or related to:

- study
- social life
- shopping and services
- other leisure
- work
- changing locality
- other or unspecified travel purpose

A3a2. How are you moving?

- on foot
- by bike
- by bus/tram
- by metro/subway/underground
- by train
- by e-scooter
- by car
- by car as passenger
- by car sharing
- by moped, motorbike
- by moped, motorbike as passenger
- by motorboat
- by airplane
- by taxi/Uber
- other private transport mode
- other public transport mode

A3b What kind of sports activity?

- Walking, Trekking, and hiking
- Jogging and running
- Cycling, skiing, and skating
- Ball games
- Gymnastics and fitness
- Water sports
- Other or unspecified sports or indoor activities
- Other or unspecified sports or outdoor activities
- Productive exercise (e.g. hunting, fishing, picking berries, mushrooms, or herbs)

A4. Where are you?

1. Home apartment /room
2. Home garden/patio/courtyard
3. Relatives Home
4. House (friends others)
5. Classroom/ Laboratory
6. Classroom / Study hall
7. University Library
8. Other university place
9. Canteen
10. Other Library
11. Gym, swimming pool, Sports centre …
12. Grocery Shop
13. Supermarket …
14. Street markets
15. Shops, shopping centres, indoor markets, other shops
16. Café, pub, bar
17. Restaurant, pizzeria, Street food vendor
18. Movie Theatre Museum …
19. In the street
20. Public Park/Garden
21. Countryside/mountain/hill/beach
22. Workplace/office
23. Weekend home or holiday apartment
24. Hotel, guesthouse, camping site
25. Another indoor place
26. Another outdoor place

A5. With whom are you?

1. Alone
2. Friend(s)
3. Relative(s)
4. Classmate(s)
5. Roommate(s)
6. Colleague(s)
7. Partner
8. Other

A6a. What is your mood?

1. 😃
2. 🙂
3. 😑
4. 😕
5. ☹️

A6b. In the last two hours did you have any snacks or drinks (except breakfast, lunch, and dinner)**.** (A6b is administered at 10;12;15;17;19;22;24;02;04;06) [MULTIPLE CHOICES]

- No
- Yes, between now and 30 minutes ago (go to 6c)
- Yes, between 0.5 and 1 hour ago (go to 6c)
- Yes, between 1 and 1.5 hours ago (go to 6c)
- Yes, between 1.5 and 2 hours ago (go to 6c)

6c. ***Select the food & drink taken as snack. If you had more than one snack in the last two hours, only focus on the most recent one.*** [MULTIPLE CHOICES]

1. Confectionery (Candy, Chocolate, etc)
2. Cookies, cakes, and pastries
3. Bars (Energy bar, etc.)
4. Crackers/biscuits
5. Seeds, nuts, grains, legumes
6. Savory snacks (Chips, Tapas, Pizza, Nachos, Snack mix, deep frying)
7. Sandwiches (Sandwich, Hamburgers, Hot dogs, Bagel)
8. Frozen (Ice cream, Milkshake, etc.)
9. Bread, steamed buns and/or breakfast cereals
10. Rice, potatoes, beans, pasta, noodles, dumplings, etc.
11. Vegetables
12. Fruits
13. Dairy products (milk, yoghurt, cheese)
14. Soya-based food (milk, yoghurt, tofu)
15. Meat
16. Fish
17. Processed meat (ham, bacon, sausages)
18. Water
19. Soda
20. Coffee/tea or similar
21. Others non-alcoholic drink
22. Beer
23. Wine
24. Spirit
25. Others alcoholic drink
26. Other food

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SENSORS – FREQUENCY AND VALUES

Tab 2. Sensors and frequency.

id	Sensor	Estimated Frequency
1	Accelerometer	up to 20 times per second
2	Linear Acceleration	up to 20 times per second
3	Gyroscope	up to 20 times per second
4	Gravity	up to 20 times per second
5	Rotation Vector	up to 20 times per second
6	Magnetic Field	up to 20 times per second
7	Orientation	up to 20 times per second
8	Ambient Temperature	up to 20 times per second
9	Pressure	up to 20 times per second
10	Relative Humidity	up to 20 times per second
11	Proximity	up to 20 times per second
12	Location	Once every minute
13	WIFI Network Connected to	On change
14	WIFI Networks Available	Once every minute
15	Bluetooth Devices	Once every minute
16	Bluetooth LE (Low Energy) Devices	Once every minute
17	Running Applications	Once every 5 seconds
18	Screen Status [ON/OFF]	On change
19	Airplane Mode [ON/OFF]	On change
20	Battery Charge [ON/OFF]	On change
21	Battery Level	On change
22	Doze Mode [ON/OFF]	On change
23	Headset Status [ON/OFF]	On change
24	Ring mode [Silent/Normal]	On change
25	Music Playback (no track information)	On change
26	Notifications received	On change
27	Touch event	On change
28	Cellular network info	Once every minute
29	Movement Activity	Once every 30 seconds
30	Step Counter	up to 20 times per second
31	Step Detection	On change
32	Light	up to 20 times per second
33	Time Diaries answers	On change
34	Time Diaries confirmation	On change
35	Time Diaries questions	On change

Please note that:

- The iLog frequency configurations are estimated best effort values that every phone handle considering their particular hardware and software specifications.
- The configurations in this table are the recommended estimated configuration.
- The "... every minute" sensors might collect more than 1 data input per try.
- Conditions must be verified in order to collect data from some of the sensors in the list. Conditions can be, but are not limited to, phone configurations (GPS, Bluetooth, Wi-Fi on) or about permissions granted by the user.

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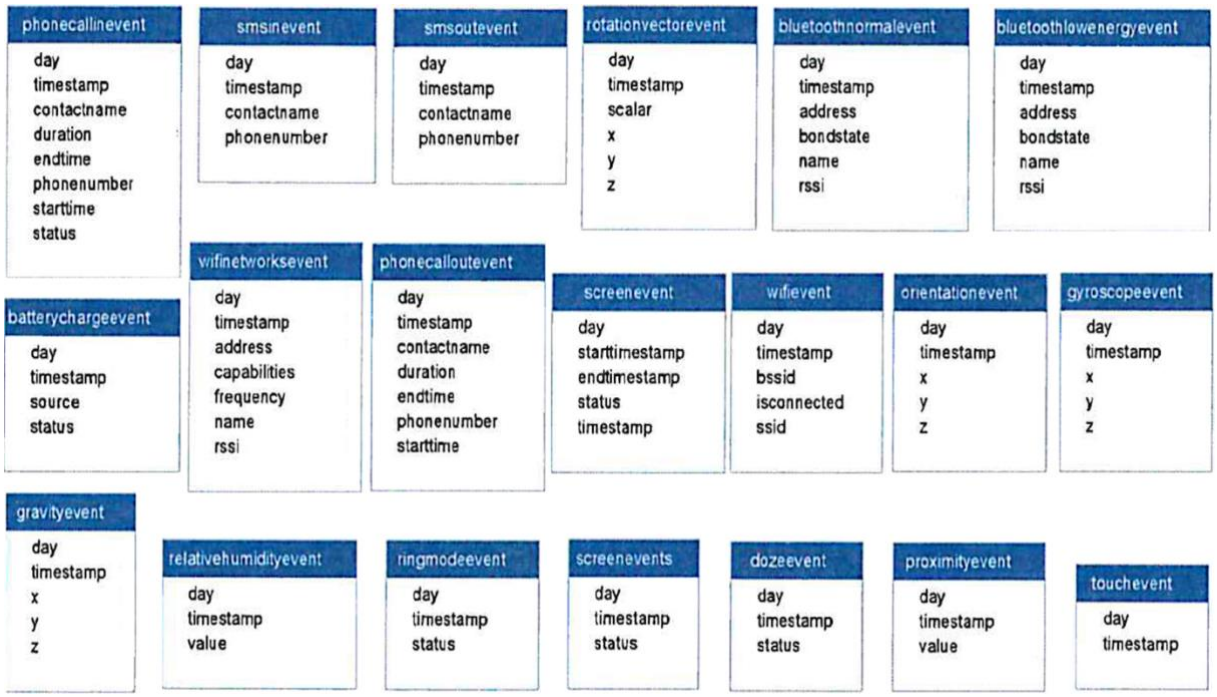

Fig 1. Sensors and label (examples of information collected)

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