

D4.1. Baseline Analysis

Video gamEs for Skills trAining (VERSA)

EU Horizon 2020 SWAFS project (topic 8)

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A. Introduction

In this interim report on deliverable 4.1 of the VERSA project, we present the baseline of soft skills before the start of the modules. First, we explain the method used to gather the results. Second, we provide a short summary of the results and third, we depict the results in graphs and tables, including a short explanation and interpretation per relevant question. The complete tables with all the information can be found in the appendix.

B. Methods

The analysis was based on an initial survey sent out to PhD students of three partner universities, regarding the student's affiliation and motivation for the soft skills and modules of their choice. The questions included in the survey were:

- 1. At what graduate school are you studying?**
- 2. Have you ever participated in a soft skills training or workshop?**
- 3. Within the VERSA project, there are 8 different soft skills to choose from. In which ones are you interested?**
- 4. Out of these 8 soft skills, which are the ones that you think you are already quite good at?**
- 5. Out of these 8 soft skills, which are the ones of which you think you could still use some training?**
- 6. Please choose one soft skill you want to improve most**
- 7. Why did you choose this particular soft skill?**
- 8. What field of work are you interested in?**
- 9. Do you already have a STEAM-account?**
- 10. Have you already bought (one of) these games yet? Which one(s)?**

Questions 1-8 were formulated to be able to develop a baseline analysis of the student's soft skill affiliation and interests. We asked these questions to be able to get a global impression of the motivation PhD students have to participate in our programme and what the main reasons were. Questions 7 and 8 required a typed answer, the others were in the form of choosing a selection of possible answers. Questions 9 and 10 are purely for procedural purposes.

Affiliation of participating PhD students:

- UIBK: 34,7% of total participating PhD Students
- URV: 15,3% of total participating PhD Students
- VU: 50% of total participating PhD Students

C. Short summary

There were some clear differences between the different partner universities, due to different education systems. For example, UIBK had no participating students from the faculties of dentistry, medicine and law, because they are either taught at a different university or the curriculum did not require soft skill training. Therefore, the knowledge areas were merged in larger categories. Most students came from the area of science, an umbrella term for multiple subdisciplines. Other broadly represented fields are medicine, behavioral and movement sciences, social sciences and engineering. Around one fourth (25,3%) of the students has already had a training in soft skills before.

The interests were distributed fairly evenly amongst the different soft skills, with a slightly higher interests in the first four soft skills (cognitive flexibility, creativity, critical thinking and complex problem solving) as compared with the other four (people/team management, time management, judgment and decision making and goal setting). There was a relatively even distribution for the skills the students think they are good at, with the exceptions being a high number of students rendering critical thinking as a skill they already possess (98%, 40% more than the mean) and a low number of students rendering judgment and decision making as one (38%, 20% less than the mean). This is not reflected in the student's answer to questions 5 and 6, asking about which skills they think still need some training and which skill they want to improve most.

The answers to question 5 are fairly evenly distributed, the answers to questions 6 showed a high interest in improving creativity and remarkably, a low interest in improving judgment and decision making. The reasons for choosing the particular skills could roughly be divided into three main categories:

- the overall importance or benefit of the skill,
- the suitability of the skill with regard to current or future activities, and
- the current lack of or difficulties with the particular skill.

Each of these categories approximately made up a third of the total reasons given.

D. Results

In this section the results to the above-mentioned question will be discussed, leaving out questions 9 and 10, since they are for practical purposes only. In total, 170 students filled in the survey, 59 of the UIBK, 26 of URV, and 85 of the VU.

1. At what graduate school are you studying?

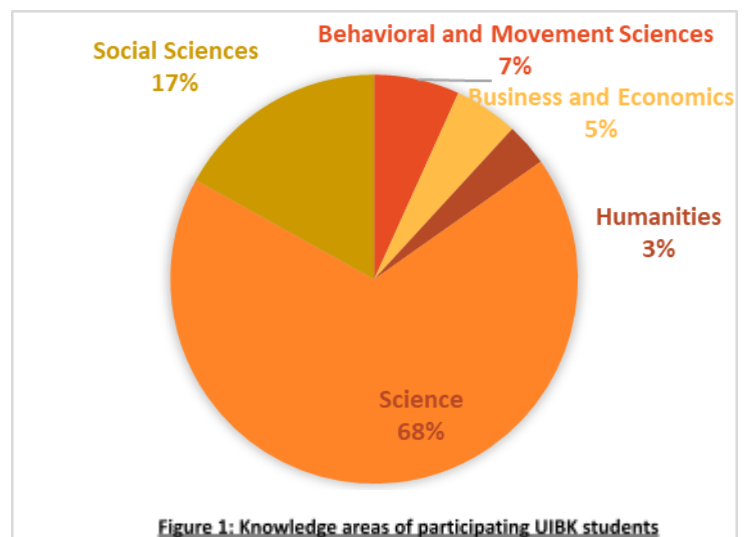
All three universities have different systems of categorizing their respective graduate schools (UIBK and VU) or postgraduate and doctoral school (URV). To generalize the results based on all the participants' respective areas of knowledge, they were combined in general categories (see table 1.1).

UIBK

Since Medicine and Dentistry are taught at a different university in Innsbruck, and law does not yet require soft skills in the curriculum, there were no participants from those areas of knowledge. The following areas were represented:

- **Business and economics**
Behavioral and Movement Sciences:
Psychology, Sport Science
- **Science:** *Chemistry, Biology, Earth Science, Mathematics, Pharmaceutical Science, Physics*
- **Humanities:** *Linguistics and Media Studies, Philosophy*
- **Social Sciences:** *Political Science, Architecture, Education*

The courses were especially advertised to participants of a COFUND programme who are enrolled in the PhD curricula of chemistry, biology or pharmaceutical



science. In part, this explains the relative high representation of science students.

URV

Spanish legislation states that all doctoral programmes belong to the Doctoral School (instead of the Faculties). Therefore, all students belong to the same school. Doctoral programmes are divided into 5 knowledge areas as shown on this website:

<http://www.doctor.urv.cat/en/prospective-students/courses/>:

- **Humanities (Arts and Humanities):** *Anthropology and Communication; Cognitive Science and Language; Quaternary and Prehistory; City, Territory and Sustainable Planning; Classical Archeology; Humanistic Studies.*
- **Engineering:** *Computer Science and Mathematics of Security; Technologies for Nanosystems, Bioengineering and Energy; Fluid Mechanics; Thermodynamic Fluid Engineering; Nanoscience Materials and Chemical Engineering.*
- **Health Sciences:** *Biomedicine; Nutrigenomics and Personalised Nutrition; Health, Psychology and Psychiatry; Nutrition and Metabolism; Neuroscience; Nursing and Health.*
- **Social Sciences (Social and Legal Sciences):** *Economics and Business; Law, Educational Technology; Social Work; Gender Studies; Culture, Societies and Policies; Tourism and Leisure.*
- **Sciences:** *Chemical Science and Technology; Oenology and Biotechnology.*

Figure 2: Knowledge areas of participating URV students

Since there were no participants from the 'Sciences' area, we shared 'Health Sciences' under the general category of 'Sciences'. Especially the engineering area is represented.

VU:

- | | |
|--|--|
| <ul style="list-style-type: none"> ● Behavioral and Movement sciences ● Business and Economics ● Dentistry ● Humanities ● Law ● Medicine | <ul style="list-style-type: none"> ● Religion and Theology ● Science: <i>including gamma and beta sciences, ecology, biology, physics, chemistry, computer science, mathematics, water science, health science</i> ● Social Sciences |
|--|--|

Three knowledge areas stand out here: medicine (32 students), sciences (22 students) and behavioral and movement sciences (18 students). Sciences is a large faculty with multiple subdisciplines, which might explain the large number of participants. For medicine, both VUmc and Amsterdam UMC students could join, which could very well explain the large number of participants. It might also display a higher interest from students in these specific fields.

2. Have you ever participated in a soft skills training or workshop?

Around 25% of the students have already done a soft skills training or workshop before.

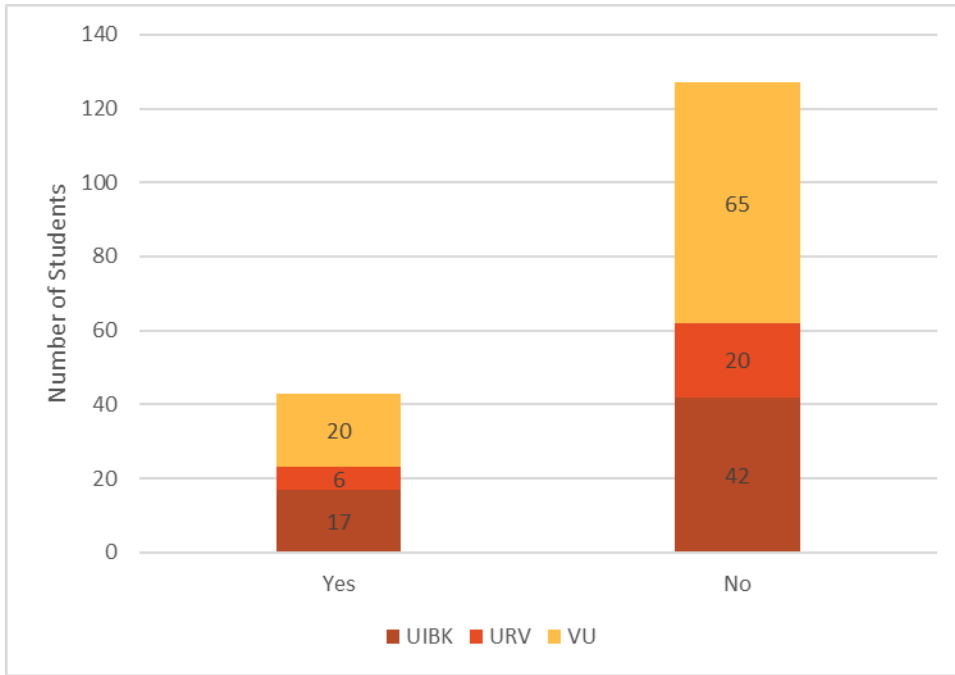


Figure 4: Number of students per university who have or have not had previous soft skill training

3. Within the VERSA project, there are 8 different soft skills to choose from. In which ones are you interested?



Figure 5: Interest in Soft Skills

The first four skills (cognitive flexibility, complex problem solving, creativity, and critical thinking) are more popular than the final four skills (goal setting, judgment and decision making, people/team management, and time management). This might be because the latter are connected with modules that start or continue in

2022. And students interested in them might register later. However, not all students were aware of the schedule prior to the survey. However, this is not certain and the results could also reflect a greater interest in the cognitive flexibility, complex problem solving, creativity, and critical thinking. The average amount of skills chosen per participant was 5, which deviates slightly from the total mean calculated as the added means per university because of rounding up or down to decimals.

4. Out of these 8 soft skills, which are the ones that you think you are already quite good at?

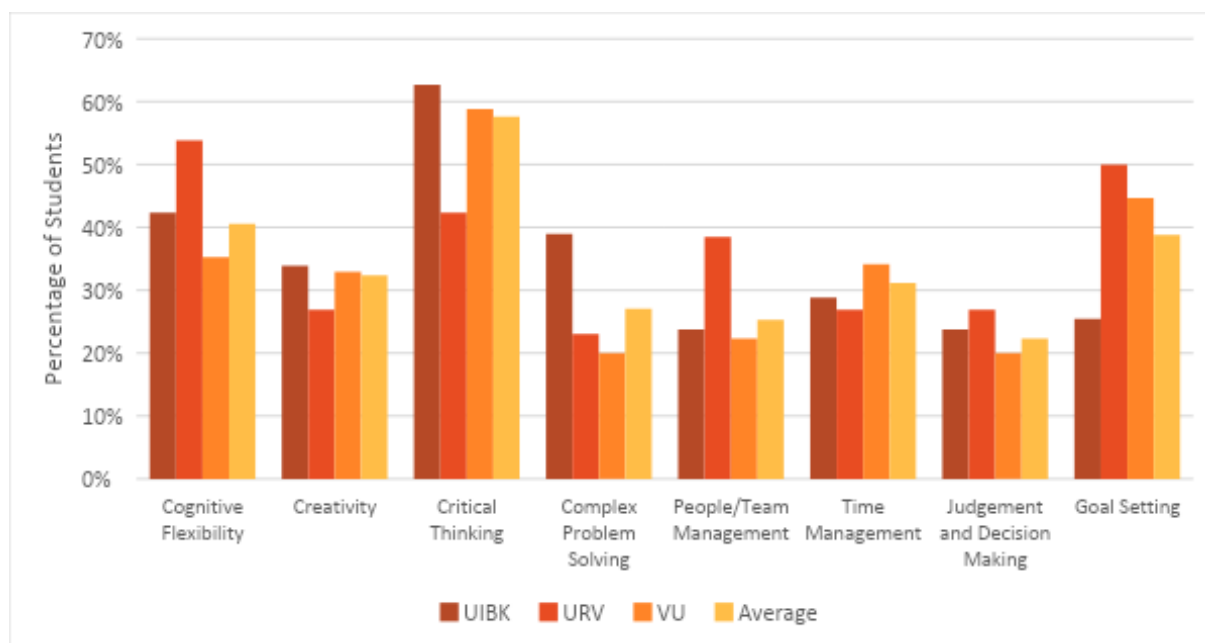


Figure 6: Soft Skills of which the students think they are already quite good at, per university and total

In average, for each soft skill 58 students indicated that they are already quite good at it. It can be seen that students rendered their critical thinking level already quite high, with almost 100 students considering this as a skill they are quite good at. On the other end of the spectrum, students consider their judgment and decision making the least well-developed. Complex problem solving and people/team management are also considered less developed. The other skills are in relatively close range to the mean.

5. Out of these 8 soft skills, which are the ones of which you think you could still use some training?

In average, each soft skill was chosen by 83 students.

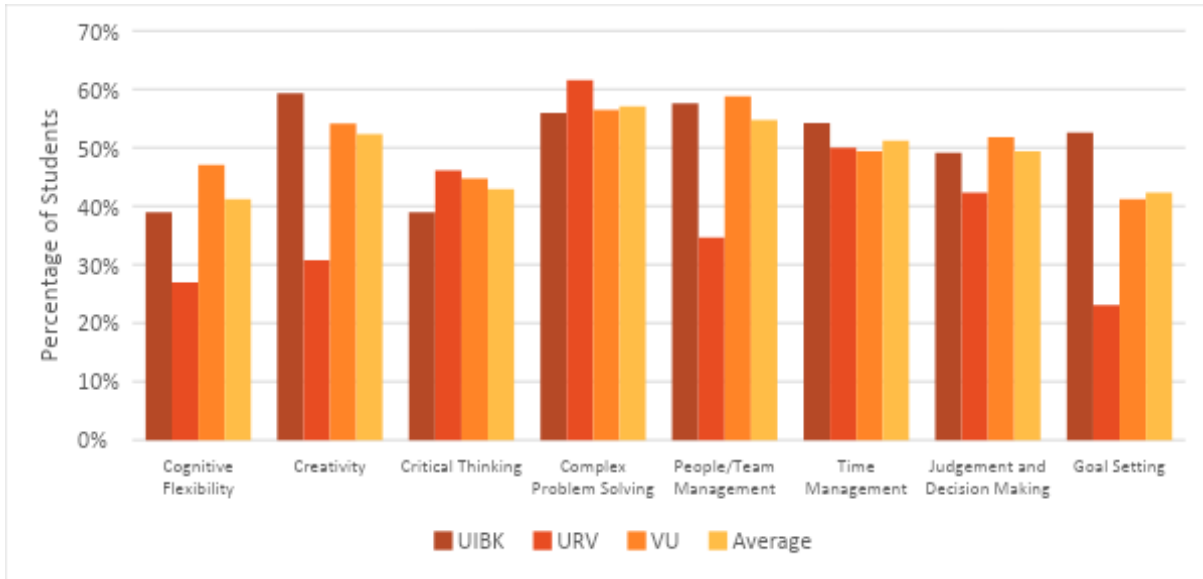


Figure 6: Soft Skills the students would like to train

The answers do not deviate much from this mean. Complex problem solving was indicated as a skill that could use more training by most students, goal setting, critical thinking and creativity by the fewest students. The data roughly reflects the results of question 4.

6. Please choose one soft skill you want to improve most

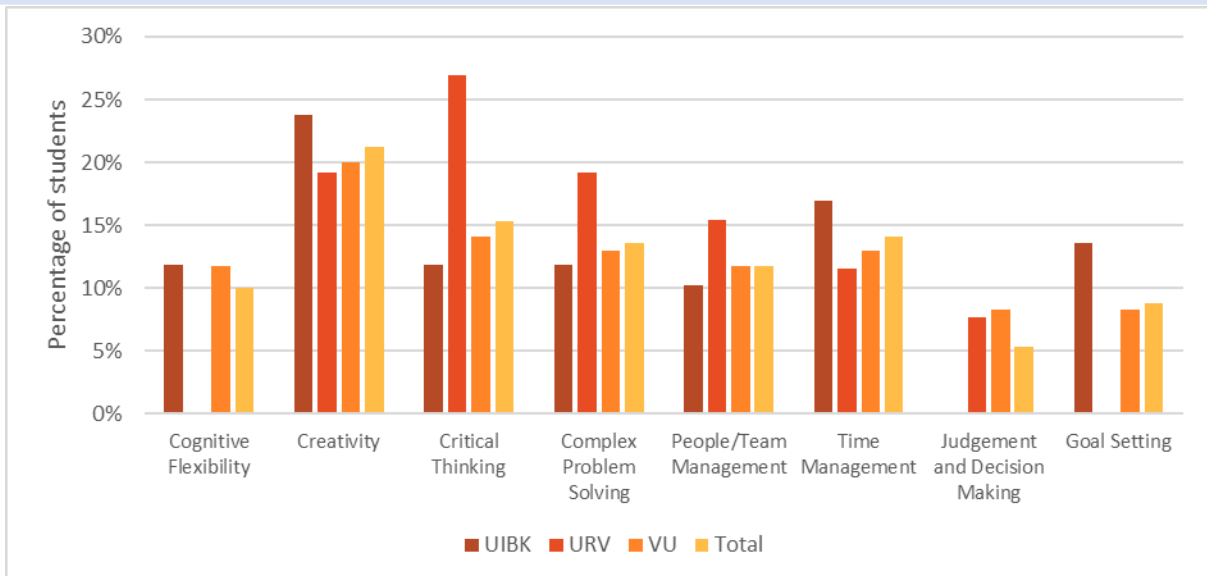


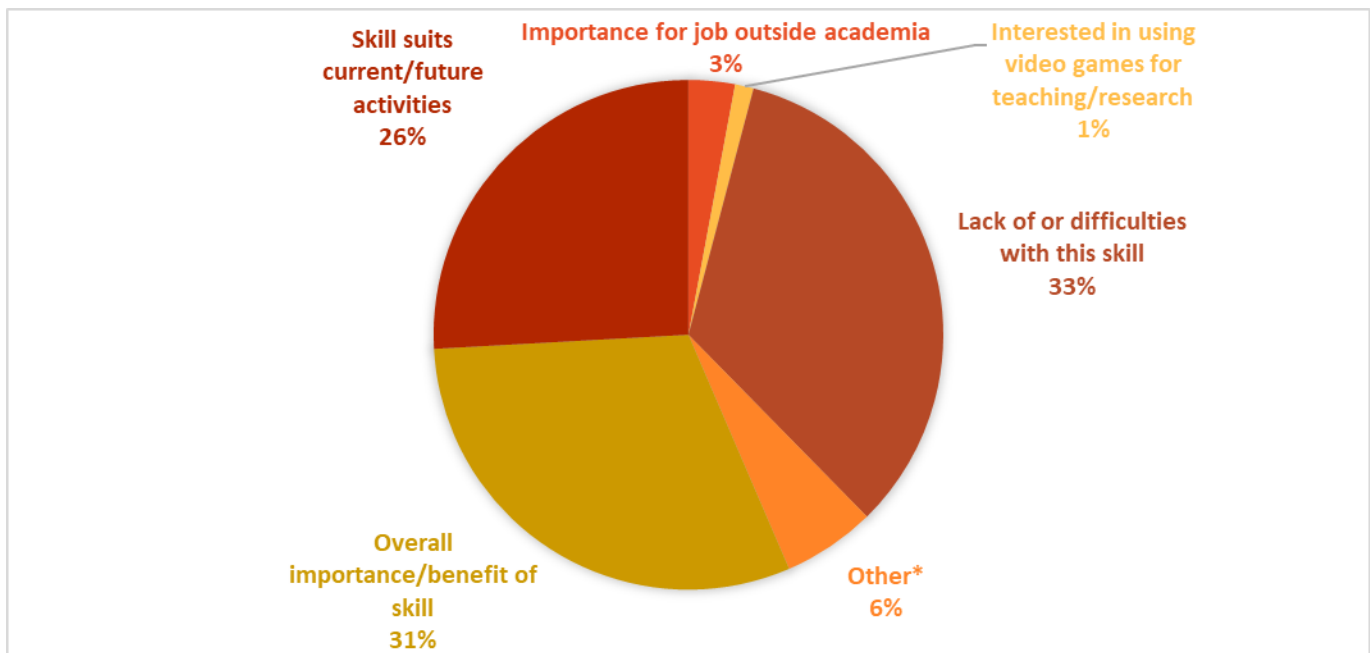
Figure 8: Soft Skills the students want to improve most

When forced to choose just one soft skill, students seem to choose different skills from the answers to questions 4 and 5. 22% of the students wants to improve their creativity, while only 5% chose judgment and decision making. Remarkably, the latter was also the least frequent answer to question 4: “Out of these 8 soft skills, which are the ones that you think you are already quite good at?” This discrepancy could reflect a lack of understanding about the topic of judgment and decision making or, a lack of interest in the skill.

7. Why did you choose this particular soft skill?

Figure 9: Reasons indicated by the students, why they want to improve the skill indicated in question 6.

* Reasons only given once



The results of this question were written down in an open text box. To give an overview, we clustered the answers. The three main reasons that were given were:

- 'overall importance/benefit of skill',
- 'skill suits current/future activities', and
- 'lack of or difficulties with this skill'.

Some examples of reasons that were only given once are: *"skill is the most fun", "don't know", "combining video gaming as hobby with education."*

Some answers addressed multiple categories, so they were shared under the categories that matched best. As the differences between the three universities were not salient, they are not shown in figure 9.

8. What field of work are you interested in?

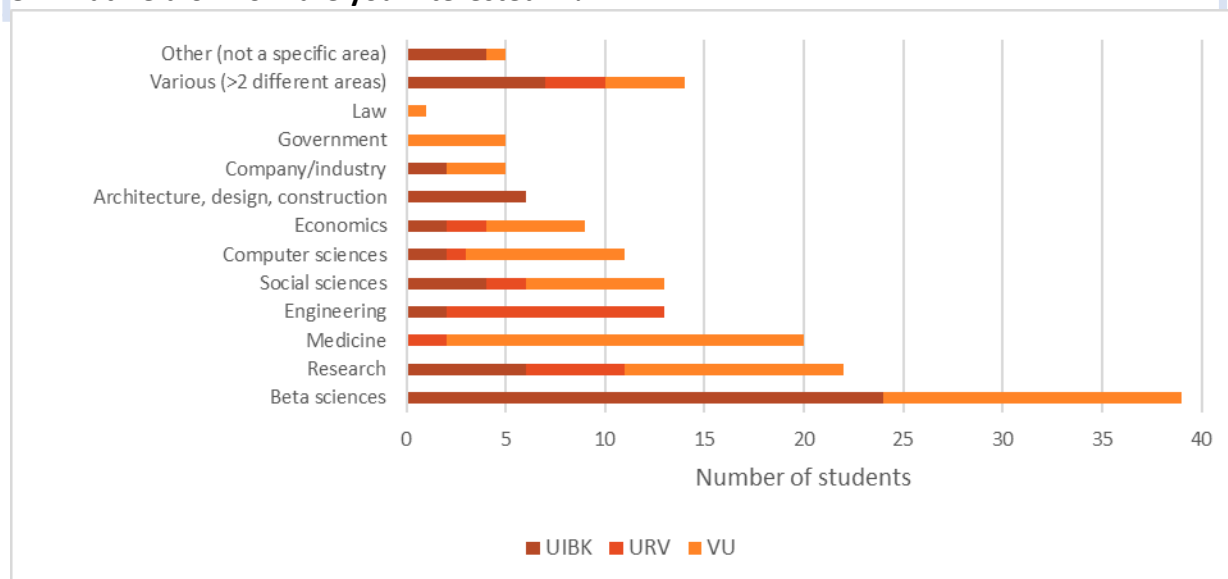


Figure 10: Field of interest

The number of answers is higher than the number of participants, because some of the participants named several areas of interest. When students indicated more than two areas, both were counted. Whenever more than 2 areas were indicated, the results were filed under 'various'. The results clearly mirror the interest of students in the different knowledge areas, with a large amount of URV students having interest in engineering, a large amount of VU students in medicine, and a large amount of UIBK students in beta sciences.

Different fields that fall under the areas of interests

Research/academia

Social Sciences

- Cognitive psychology
- Psychology
- Education
- Behavioral dynamics
- Science communication

Medicine

- Medicine (including different specializations)
- Health science (VU)
- Healthcare
- Health Management
- Neurobiology in psychiatry
- Physiotherapy
- Movement sciences

Economics

- Financial sector
- Developmental economics
- Economic geography
- Transport and urban economics

Government

- Policy maker
- Government

Company/Industry

- Company
- Industry
- Business
- Consultancy

Beta sciences:

- Geosciences
- Biomedical sciences
- Drug regulatory sciences

- Astronaut
- Neuroscience

Computer sciences

- Artificial intelligence
- AI
- Data analytics
- Machine learning

- Cognitive psychology
- Psychology
- Biomedical sciences
- Neurosciences

Other:

- Talent development
- Motor coordination

Health Sciences (URV)

E. Appendix: Tables

The annex is temporarily embargoed to avoid possible conflicts with future publications.