PBL Future work report 2

Preliminary findings of the student survey. Presentation of frequencies on faculty level

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PBL Future Work Report 2:

Preliminary findings of the student survey

Presentation of frequencies on faculty level

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Aalborg Centre for Problem Based Learning
in Engineering Science and Sustainability
under the auspices of UNESCO

PBL Future Contributors

The overall goal for PBL Future research project is to develop research-based directions for problem- and project-based learning (PBL) in a Digital Age. This project will re-conceptualize how PBL could operate in new formats, based on the core principles of PBL, while exploring and developing new digital approaches that operate in and open up for new hybrid PBL learning models. An important goal of the project is to have a high degree of global and local impact. The ambition of the project is that AAU will be among the top-five institutions in the global PBL ranking.

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1. INTRODUCTION

PBL-Future

PBL Future is a research collaboration across faculties at Aalborg University with the aim of developing research-based directions for future problem- and project-based learning (PBL) in a digital age.

This is important as:

- the AAU model for PBL develops as response to new societal challenges,
- AAU remains at the international forefront in developing PBL,
- students develop PBL competencies that are relevant in a digital age.

This project will re-conceptualise how PBL could be interpreted and operate in new formats, based on the core principles of PBL, while exploring and developing new digital approaches that operate in and open up for new hybrid PBL learning models. This will be achieved by setting a research agenda for PBL in a digital age that will attract international attention as new directions for more student-centred learning is a global need.

The PBL-future project consists of 5 sub-projects:

Baseline study: PBL competences – common baseline study and future directions
Subproject 1: Student centred problem design
Subproject 2: Emerging PBL Collaboration Skills for a Digital Age
Subproject 3: Strengthening PBL competence development of individual students
Subproject 4: Towards a flipped semester PBL approach

The baseline study is meant to deliver broad insights into PBL at Aalborg University, creating a point of reference or state-of-the-art of the curricula for the other projects. In the baseline study, questionnaires have been sent out to all academic staff and all students in May, 2018. In this report the student questionnaire will be presented.

Report Structure

This report is meant to present the main results of the student questionnaire of the baseline study of the PBL-future project with a focus on preliminary findings on the differences between the faculties of AAU. The first chapter describes the method for the questionnaire and the data analysis presented in this report. The rest of the report structure is based on the questions included in the questionnaire. Several of the questions have also been asked to the academic staff at Aalborg University, therefore many of the introduction sections in each chapter share the same research background as described in the staff report.

The focus for this report is to present descriptive frequencies from each Faculty. All chapters are introduced with an overview of the data, delivering transparency and presenting all respondents at AAU followed by data for each faculty at AAU. The report is meant to give the reader a chance to look at the particular faculty students' profile.

The order of all sub-variables in the figures presented in each chapter will be the same across all figures, following the structure from all AAU respondents which should allow for easier comparisons between each faculty. There are no measures of statistical significance reported and the report is meant mostly as a brief presentation of the data and to give an overview of the preliminary findings of this part of the baseline study. The detailed and deeper analyses will be presented in articles.

We thank Nanna Vinberg Hansen for working on this as student assistant and for making the graphs and first draft of text.

2. METHOD

Baseline

The intention with the baseline study was to create a state-of-the-art for PBL at Aalborg University – or an information base to compare to after a development process. As AAU faces new developments in the PBL model, the PBL-future decided to draw a baseline to compare with in the future.

In order to create a baseline, a literature study of existing studies form the basis together with what kind of changes AAU expect to face in the future. Here the AAU strategy emphasize implementation of PBL progressive competencies together with integration of digital competencies. This will impact the formal curriculum and there are ideas for creating new relations between the traditional taught discipline courses and the projects as digital teaching and learning will allow for integrating a just-in-time learning principle.

As part of the baseline, we would like to have three aspects covered: the formal curriculum, the view of academic staff and the view of students. From all three perspectives, we have focused on:

- The PBL competencies as the added value of a PBL curriculum as this is the core common research topic for the entire PBL-future project.
- The formal curriculum framing students' learning process in PBL combined with staff and student view on PBL elements in the curriculum.
- The priority of elements in a future formal PBL curriculum model

For these purposes, two surveys were constructed, overlapping on number of topics, but adapted to the academic staff and students. A content analyses of the formal curriculum of several programs was also conducted.

Survey construction

The survey was constructed in a cooperation with participants from the different subprojects from PBL-Future and importantly the PBL-future participants represents all faculties at AAU. Each subproject brought expertise on different aspects of the survey and the cooperation ensured a level of validation of the questions – partly from a theoretical perspective and partly during the pilot testing phase. These collaborations among the subprojects with participants from all faculties with their different insights ensured that the specific formulations and subjects touched upon by the survey were interesting, relevant and pertained to the state-of-the-art in their specific theoretical subfield. Colleagues outside the PBL-Future project also contributed in this phase with input to the questionnaire.

The questionnaire was constructed in SurveyXact and sent out in both a Danish and English version. Translation of the questionnaire was conducted with outside consultation as to the cultural connotations of specific words and phrases as well as to ensure that the overall message of each variable was as precise as possible. At any time while answering the questionnaire the respondent could change language.

Distribution

The questionnaire was sent out through student e-mails and distributed to all students at AAU. Distribution was done through SurveyXact. Reminders were sent out at appropriate intervals and data collection took about two months.

Response rate

The questionnaire was sent out to 21.426 students in total. Responses were received from 2096, giving us a total response rate of 9,8%. Of the responses 1799 gave a complete response and 297 a partial, see table 2.1.

		Full response	Partial response
Entire population	21.426		
Respondents	2096	1799	297

Table 2.1: Population and response rate

For 51 students of the population it was not possible to get information about which faculty they belonged to. Four of these responded to the student survey and in this report, they are counted in when tables and figures are presented for all respondents but not in the division into faculties.

As noted above only a small percentage of the entire student population have answered the survey. That has been a major concern in regards to giving a representative presentation of the opinions and thoughts of the students of the entire university. We believe that the low response rate is caused in part by the late time of survey distribution, in the end of May where the students' workload from project work and exams are usually at their highest and where they are often already doing semester and course evaluations.

Despite this general low response rate, the response of the five faculties is equally divided which gives us a response rates between 9,3% - 10,3% for the individual faculties, see table 2.2. Although some faculties in the overall response rate make up a greater portion of the full population, as seen below in table 2.2; however, this is representative for the students' population (e.g. Engineering has 3660 students in total, making up 17,1% of the full population, of which 358 have responded to the survey, corresponding to 17,1% of the respondents). As noted in the two tables, there are an almost perfect comparable correlation between the size of the faculties on the overall size of student population and the part of the respondent students from each faculty in this survey, giving the faculties very similar response rates.

Population	Engineering	Health	HUM	Social Sciences	TECH	Total
N	3660	1779	4032	7334	4571	21.426
% of full pop	17,1%	8,3%	18,9%	34,3%	21,4%	100%
Respondents						
N	358	179	406	679	470	2092
% of responses	17,1%	8,6%	19,4%	32,5%	22,5%	100%

Table 2.2: Population and Responses across faculties (N: 2092 - 21426)

Year of study

The above table 2.4 shows that 52,6% are studying their bachelor and 47,4% their master.

Year of study	1. year	2. year	3. year	4. year	5. year
N	319	335	298	432	426
%	17,6%	18,5%	16,5%	23,9%	23,5%

Table 2.3: Year of study (N: 1810)

3. COMPETENCIES

The questions on competencies are the same formulations and variables as in the staff report (Clausen and Kolmos, 2019). Therefore, the background for the question is also the same.

Recent study on engineering students and engineering graduates verify that graduates from AAU compared to graduates from other Danish universities, seem to have a higher self-efficacy in their teamwork, collaboration, project management and social competencies (Kolmos and Koretke, 2016). These competences are also always highlighted as some of the added value in a PBL curriculum. In this study, we asked the question to the students how important they think particular competencies are for their future work life? The intention was to get an answer indirectly for which competencies the students found would be important also in the curriculum. In the questionnaire this question was split into two lists of 13 variable to which the respondent had to answer on a 5-point scale ranging from “not at all important” to “extremely important”.

In general, the competence concept is very difficult and many organizations have formulated lists of competences like the UNESCO competence framework indicating (UNESCO, 2016) and the OECD competency (OECD, 2014; UNESCO, 2016). The list of variables in this question is developed with inspiration from the 21st century, UNESCO and OECD competence framework. These three sources have given inspiration in combination with a list of competencies from the PROCEED-2-Work project which has been well tested in previous studies (Kolmos and Bylov, 2016) .

Furthermore, the participants from the other subprojects in the PBL-Future project were also encouraged to expand the list. After compilation, the full list was first shortened to avoid categories with too much overlap and afterwards, on the basis of a discussion on what would be most vital to look into and theoretically interesting, further shortened. The various inspiration sources together with colleagues’ response resulted in a very long list of wanted/needed competencies that capture all educational programs at AAU. With respect to the respondents’ time a list was compiled with the objective of using formulations that were generic enough to cover most educations. Not be specific and long enough as to discourage the respondents from continuing the questionnaire or made to feel that the categories were altogether irrelevant for their particular field, while still encapsulating most aspects of their students’ competencies.

As already explained in the introduction, the structure of the analyses firstly showing the frequency of the answers to the question. The variables have been sorted according to “extremely” important and this order will be used also in presenting the following responses per faculty. We have decided

to present both tables and figures to present most transparent data as the figures represent percentage-wise distribution.

Across all the faculties it is notable that the students find PBL competencies such as problem-solving, critical thinking, problem analysis, teamwork and communication as the extremely important for their later work life – very notable is the same top five result in the staff report. Where Disciplinary knowledge at this general level was prioritized as the sixth most important in the Staff report it is Lifelong learning in this Student report and Disciplinary knowledge as number 12 instead. What is considered as less important is again a bit different from the Staff report with experiments, design, sustainability and theoretical analysis at the very bottom. These priorities from the students across the faculties are more or less the same when looking at both very important and extremely important together.

The general trend among the students across the faculties is clearly that there is an understanding that the PBL competencies are important whereas the societal context such as sustainability, global context, business and management are less prioritized as well as the disciplinary context are such as experiments, theoretical analysis and design. Noteworthy is it though to compare the specific faculties to see the small differences in between. For example, teamwork has a way smaller importance for the health faculty when comparing across all 5 faculties. In the same sense planning is at lower importance for the students at the social science faculty.

The respondents were asked: Please indicate how important you think the following competencies are for the student's future work?

	Not at all important	Slightly important	Somewhat important	Very important	Extremely important
Problem solving	5	17	102	658	1.167
Communication	2	21	124	632	1.074
Teamwork	5	21	139	630	1.057
Critical thinking	5	20	165	711	947
Planning	3	17	156	774	900
Lifelong learning	26	92	330	743	754
Knowledge sharing	9	42	223	842	735
Problem analysis	22	80	307	755	686
Innovative thinking	12	65	369	725	678
Adaptability to changing tasks	13	43	304	817	675
Strategic thinking	12	86	337	773	642
Discipline specific methods	26	118	461	768	574
Networking	22	114	424	731	558
Adaptability to changing work forms	11	75	399	817	546
Creativity	37	158	490	733	528
Management	26	125	446	729	528
Business knowledge	49	167	468	755	509
Social responsibility	69	185	466	724	503
Knowledge of social issues	61	231	496	701	458
Ethics	83	229	539	650	444
Knowledge of global contexts	63	227	597	671	390
Problem formulation	58	270	534	626	362
Theoretical analysis	48	242	604	716	335
Knowledge of sustainability	182	383	634	462	289
Design	220	450	542	464	268
Ability to perform experiments	205	431	571	479	262

Table 3.1: Answer to question: *Please indicate how important you think the following competencies are for your future work?* All respondents (N: 1848 – 1950)

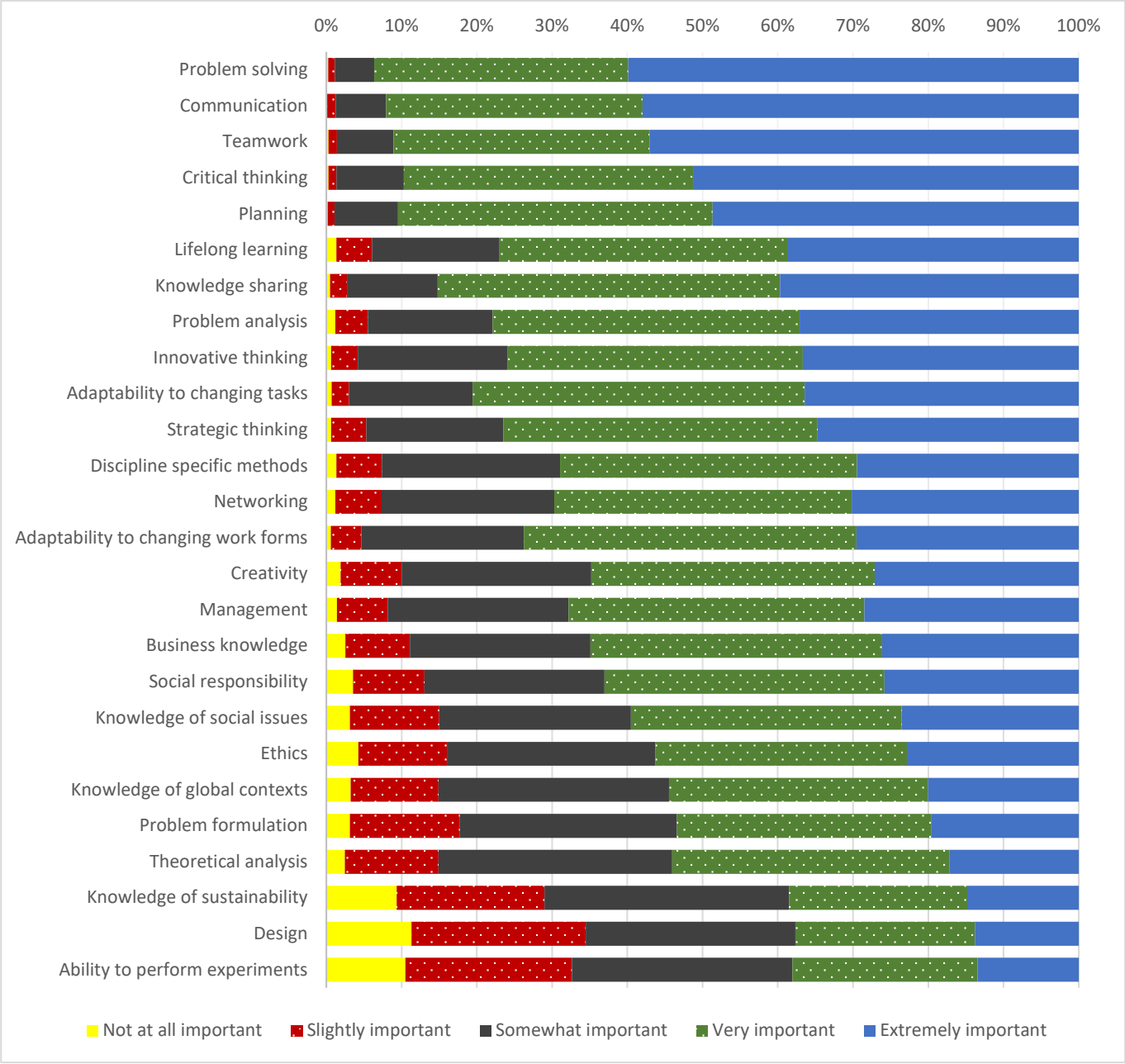

Figure 3.1: Answer to question: Please indicate how important you think the following competences are for your future work? All respondents *(N: 1848 – 1950)*

Engineering

	Not at all important	Slightly important	Somewhat important	Very important	Extremely important
Problem solving	1	2	16	114	204
Communication	1	3	19	121	179
Teamwork	1	3	24	109	186
Critical thinking	3	4	24	130	161
Planning	2	4	19	140	158
Lifelong learning	5	15	50	123	144
Knowledge sharing	2	4	42	146	129
Problem analysis	5	11	49	146	112
Innovative thinking	9	10	52	131	120
Adaptability to changing tasks	3	10	48	141	121
Strategic thinking	3	18	55	138	109
Discipline specific methods	4	20	74	140	98
Networking	7	25	73	118	100
Adaptability to changing work forms	3	12	70	129	106
Creativity	12	22	75	125	102
Management	6	22	76	130	89
Business knowledge	10	31	87	122	87
Social responsibility	13	32	81	119	91
Knowledge of social issues	13	39	92	119	74
Ethics	21	38	89	103	86
Knowledge of global contexts	8	37	109	124	58
Problem formulation	14	36	103	112	58
Theoretical analysis	12	45	91	135	53
Knowledge of sustainability	42	59	95	76	64
Design	40	77	92	76	51
Ability to perform experiments	34	69	97	80	56

Table 3.2: Answer to question: *Please indicate how important you think the following competences are for your future work?* ENG (N:320-337)

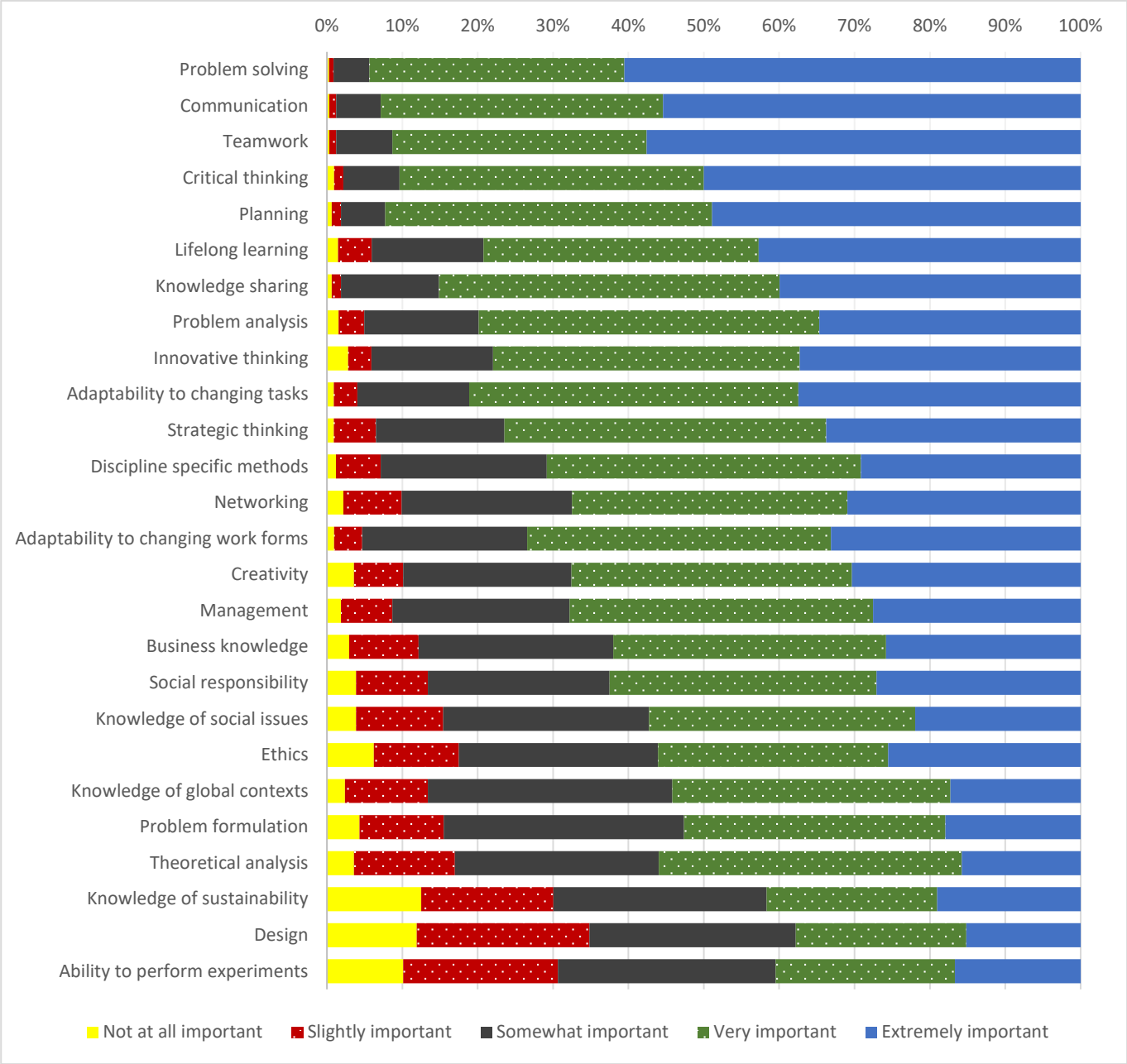

Figure 3.2: Answer to question: *Please indicate how important you think the following competences are for your future work?* ENG (N:320-337)

Health

	Not at all important	Slightly important	Somewhat important	Very important	Extremely important
Problem solving	0	2	8	50	102
Communication	0	1	9	41	103
Teamwork	1	0	8	50	95
Critical thinking	0	0	12	47	94
Planning	1	1	9	57	85
Lifelong learning	1	5	24	65	66
Knowledge sharing	0	2	19	50	83
Problem analysis	2	8	21	60	62
Innovative thinking	1	2	37	47	67
Adaptability to changing tasks	0	5	16	68	64
Strategic thinking	0	6	26	63	59
Discipline specific methods	2	8	36	57	58
Networking	3	8	33	61	49
Adaptability to changing work forms	1	6	30	63	54
Creativity	4	14	41	58	45
Management	2	5	33	64	50
Business knowledge	4	16	37	62	43
Social responsibility	7	11	42	60	42
Knowledge of social issues	4	18	40	54	46
Ethics	6	28	40	53	34
Knowledge of global contexts	5	21	44	59	33
Problem formulation	3	25	42	57	26
Theoretical analysis	3	18	48	58	34
Knowledge of sustainability	11	32	54	39	26
Design	21	33	44	41	22
Ability to perform experiments	8	50	40	44	20

Table 3.3: Answer to question: *Please indicate how important you think the following competencies are for your future work?* Health (N:153-162)

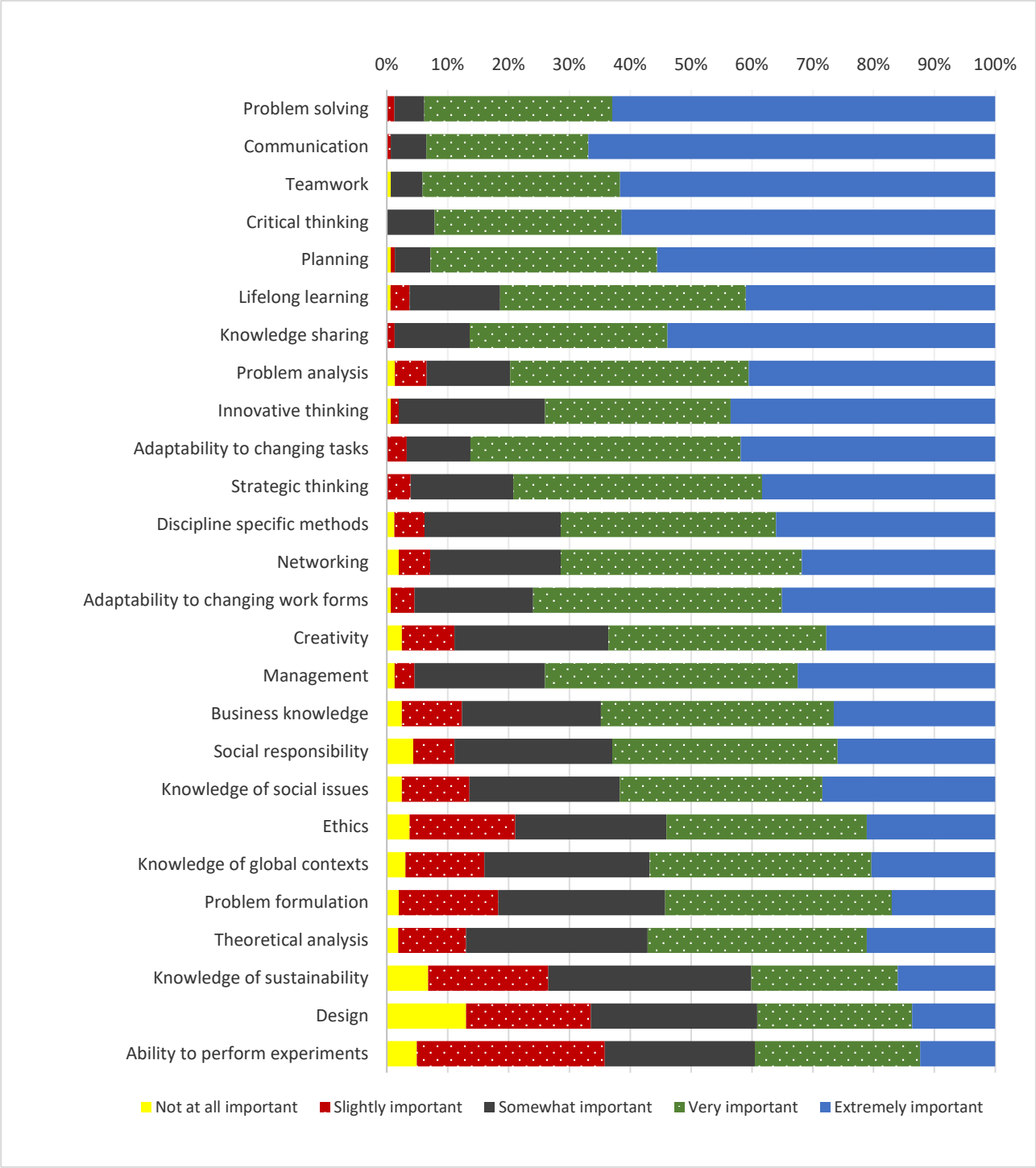

Figure 3.3: Answer to question: *Please indicate how important you think the following competences are for your future work?* Health (N:153-162)

HUM

	Not at all important	Slightly important	Somewhat important	Very important	Extremely important
Problem solving	2	3	24	123	222
Communication	1	5	30	125	194
Teamwork	1	7	25	129	193
Critical thinking	1	4	36	139	174
Planning	0	7	32	155	159
Lifelong learning	5	17	72	138	143
Knowledge sharing	2	10	46	164	133
Problem analysis	7	15	49	157	126
Innovative thinking	0	11	60	150	131
Adaptability to changing tasks	2	12	54	162	123
Strategic thinking	1	20	61	158	114
Discipline specific methods	6	25	85	146	113
Networking	2	20	81	149	99
Adaptability to changing work forms	1	16	73	166	98
Creativity	3	34	90	136	112
Management	7	24	91	134	99
Business knowledge	10	33	92	143	96
Social responsibility	11	32	96	138	97
Knowledge of social issues	9	52	87	130	95
Ethics	13	41	113	128	80
Knowledge of global contexts	15	40	123	122	76
Problem formulation	13	47	101	122	71
Theoretical analysis	8	44	127	130	64
Knowledge of sustainability	30	83	126	79	57
Design	40	89	116	79	50
Ability to perform experiments	43	85	118	82	46

Table 3.4: Answer to question: *Please indicate how important you think the following competencies are for your future work*? HUM (N:351-376)

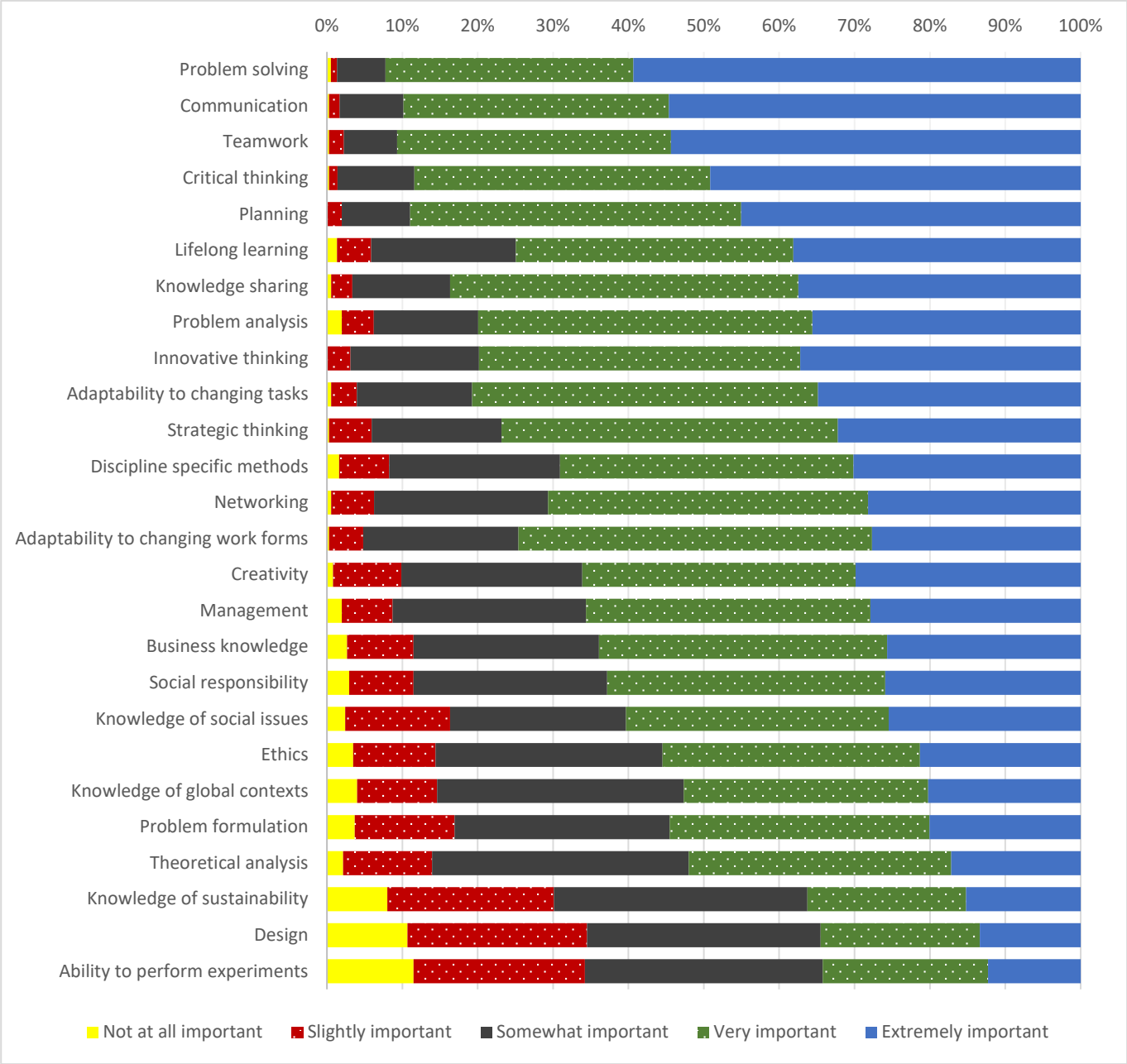

Figure 3.4: Answer to question: *Please indicate how important you think the following competences are for your future work?* HUM (N:351-376)

Social Sciences

	Not at all important	Slightly important	Somewhat important	Very important	Extremely important
Problem solving	2	8	34	211	380
Communication	0	9	40	208	346
Teamwork	2	6	52	206	338
Critical thinking	1	8	61	231	301
Planning	0	3	55	246	299
Lifelong learning	8	32	108	241	244
Knowledge sharing	3	21	71	268	238
Problem analysis	6	29	111	230	227
Innovative thinking	2	25	132	231	214
Adaptability to changing tasks	6	4	116	262	217
Strategic thinking	3	25	116	242	215
Discipline specific methods	9	43	167	233	182
Networking	6	36	135	241	186
Adaptability to changing work forms	3	24	141	260	174
Creativity	12	49	172	239	161
Management	4	39	145	240	176
Business knowledge	20	57	144	258	156
Social responsibility	21	65	157	234	158
Knowledge of social issues	16	74	177	228	139
Ethics	28	70	180	208	145
Knowledge of global contexts	20	80	182	220	132
Problem formulation	13	94	162	197	138
Theoretical analysis	17	79	204	223	112
Knowledge of sustainability	60	127	224	148	77
Design	68	150	183	157	77
Ability to perform experiments	75	127	183	165	85

Table 3.5: Answer to question: *Please indicate how important you think the following competencies are for your future work?* Social Science (N:601-636)

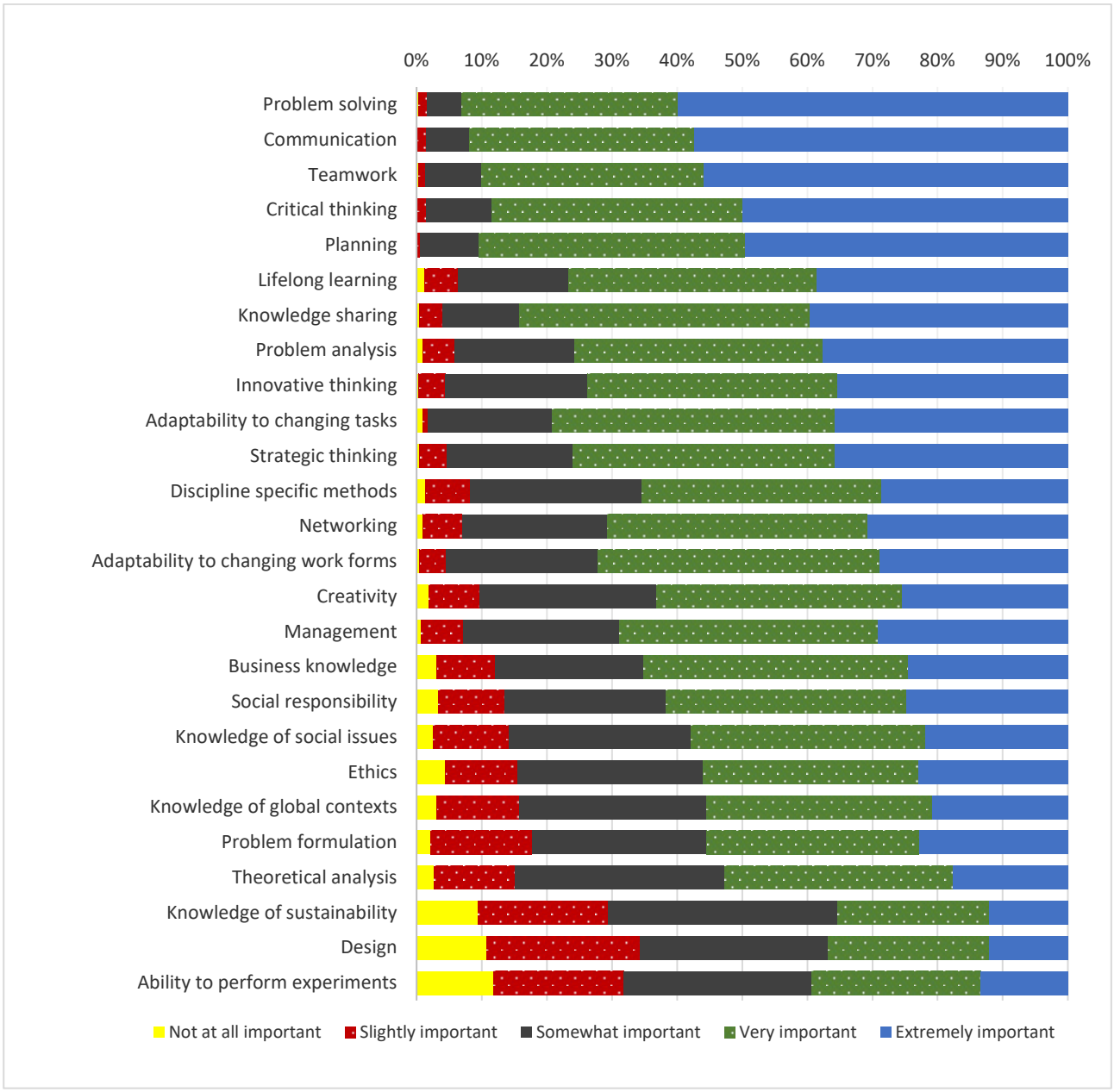

Figure 3.5: Answer to question: *Please indicate how important you think the following competences are for your future work?* Social Science (N:601-636)

TECH

	Not at all important	Slightly important	Somewhat important	Very important	Extremely important
Problem solving	0	2	20	159	256
Communication	0	3	26	137	248
Teamwork	0	5	30	135	242
Critical thinking	0	4	32	162	215
Planning	0	2	41	174	197
Lifelong learning	7	23	75	174	156
Knowledge sharing	2	5	45	211	151
Problem analysis	2	17	77	160	157
Innovative thinking	0	17	88	163	145
Adaptability to changing tasks	2	12	69	183	148
Strategic thinking	5	17	77	171	144
Discipline specific methods	5	21	98	192	121
Networking	4	25	101	160	123
Adaptability to changing work forms	3	17	83	198	113
Creativity	6	39	110	174	107
Management	7	35	99	160	113
Business knowledge	5	30	107	168	126
Social responsibility	17	45	90	169	115
Knowledge of social issues	19	46	99	169	104
Ethics	15	52	115	157	98
Knowledge of global contexts	15	47	138	145	91
Problem formulation	15	67	124	138	68
Theoretical analysis	8	54	133	169	72
Knowledge of sustainability	39	80	133	120	65
Design	51	100	107	109	67
Ability to perform experiments	45	99	131	107	55

Table 3.6: Answer to question: *Please indicate how important you think the following competencies are for your future work?* TECH (N:412-437)

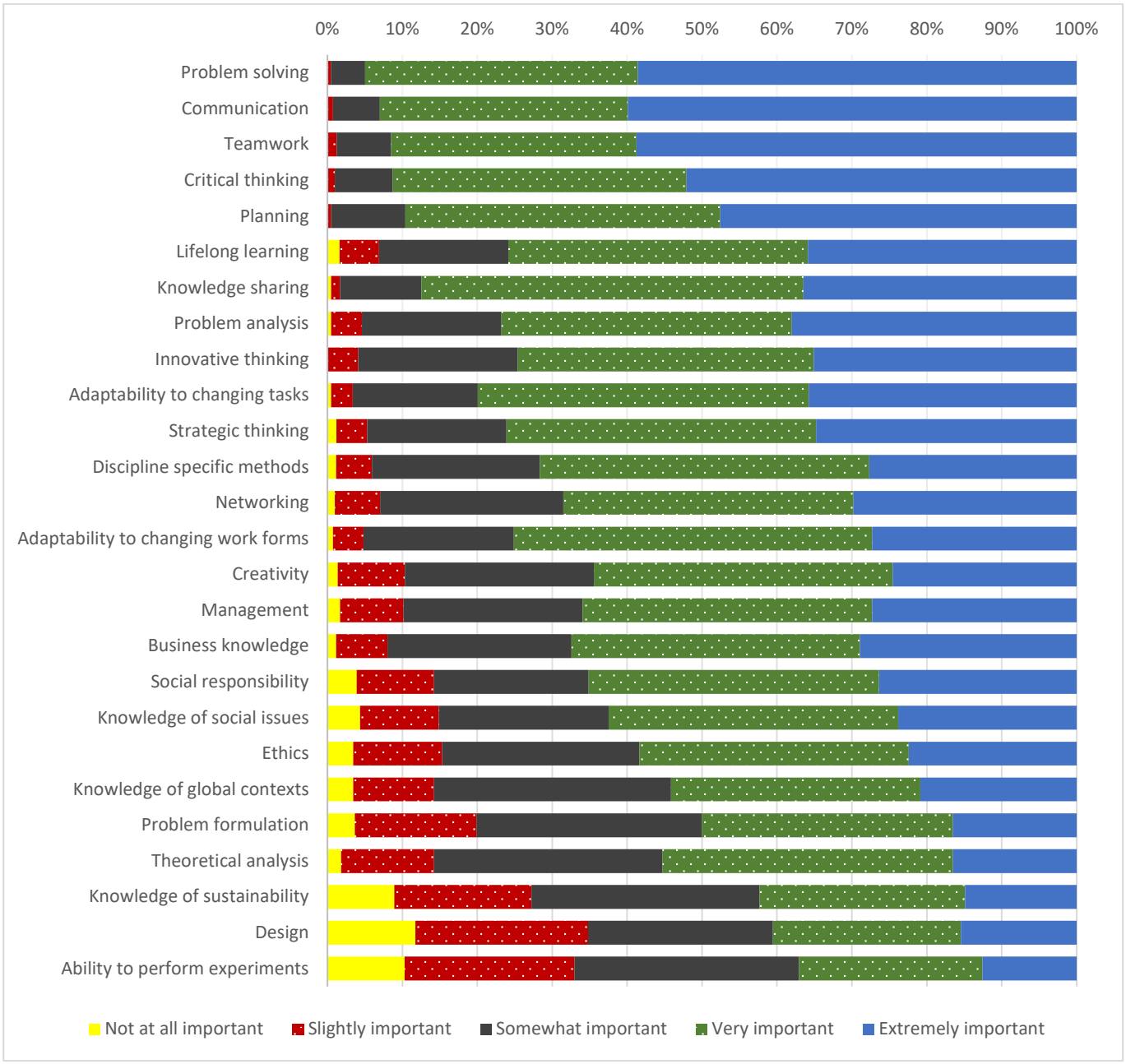

Figure 3.6: Answer to question: *Please indicate how important you think the following competences are for your future work?* TECH (N:412-437)

4. COURSES & GROUP-BASED PROJECT WORK

The questions on course and group-based project work are do have similar formulations and variables as in the staff report (Clausen and Kolmos, 2019). Therefore, the research background for the question is also the same.

One of the themes in the questionnaire was the students' opinions on their learning in courses and group-based project work. Ten statements were presented to the respondent and they were asked to indicate to what extent they agreed or disagreed with each statement on a 5-point scale ranging from "completely disagree" through "tend to disagree", "neither agree nor disagree", "tend to agree" to "completely agree".

Both positive and negative statements to PBL are based on literature review. For all the PBL competences, there is clearly documentation that students from PBL studies do gain these types of competences and that students from PBL studies seem to achieve these competences to a higher degree compared with students from other curriculum models. The group-based project assessment has also been well researched as the best aligned model for assessing collaborative project work.

There are two statements on types of problems and knowledge in the PBL process. Research has indicated that student motivation is created by the degree of influencing the learning process and therefore broad frameworks/themes for the student projects are recommendable. Some of the critics of PBL is that students achieve too specialised knowledge and that students lack overview of the disciplines (Strobel and van Barneveld, 2009; Kolmos and Graaff, 2014).

The statements on student rooms derive from internal discussion at AAU. It has been a tough discussion at several faculties to figure out what the "break-even point" would be for students to have proper space to facilitate the learning process. There will be no answer to this – but it will be important to identify possible differences among the students at the various faculties.
The results indicate that almost 40% of the respondents tend to completely agree that access to a group room is essential for their study intensity.

The respondents were asked: Please indicate to what extent you agree or disagree with each statement?

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Access to group rooms is essential for my study intensity (how much time i spend on my studies)	162	237	323	587	768
Knowledge and methods I have gained from the courses in my current semester are important to my current semester project	106	210	406	886	474
The use of digital media (video, soundbites, podcasts e.g.) is important for my preparations for courses	138	272	567	659	442
The projects are the primary source of my learning	94	327	568	664	424
Courses are the basis for project work	83	293	504	855	343
It is primarily through the courses that I learn theoretical knowledge	76	348	525	799	327
I spend too much of my study time on project work	217	578	545	455	280
There is a good correlation between the contents of the courses and the projects	82	282	511	935	267
I learn the most with very broad project frameworks	81	360	859	547	233
I spend too much of my study time on courses	259	861	634	242	83

Table 4.1: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. All Respondents (N: 2075-2082)

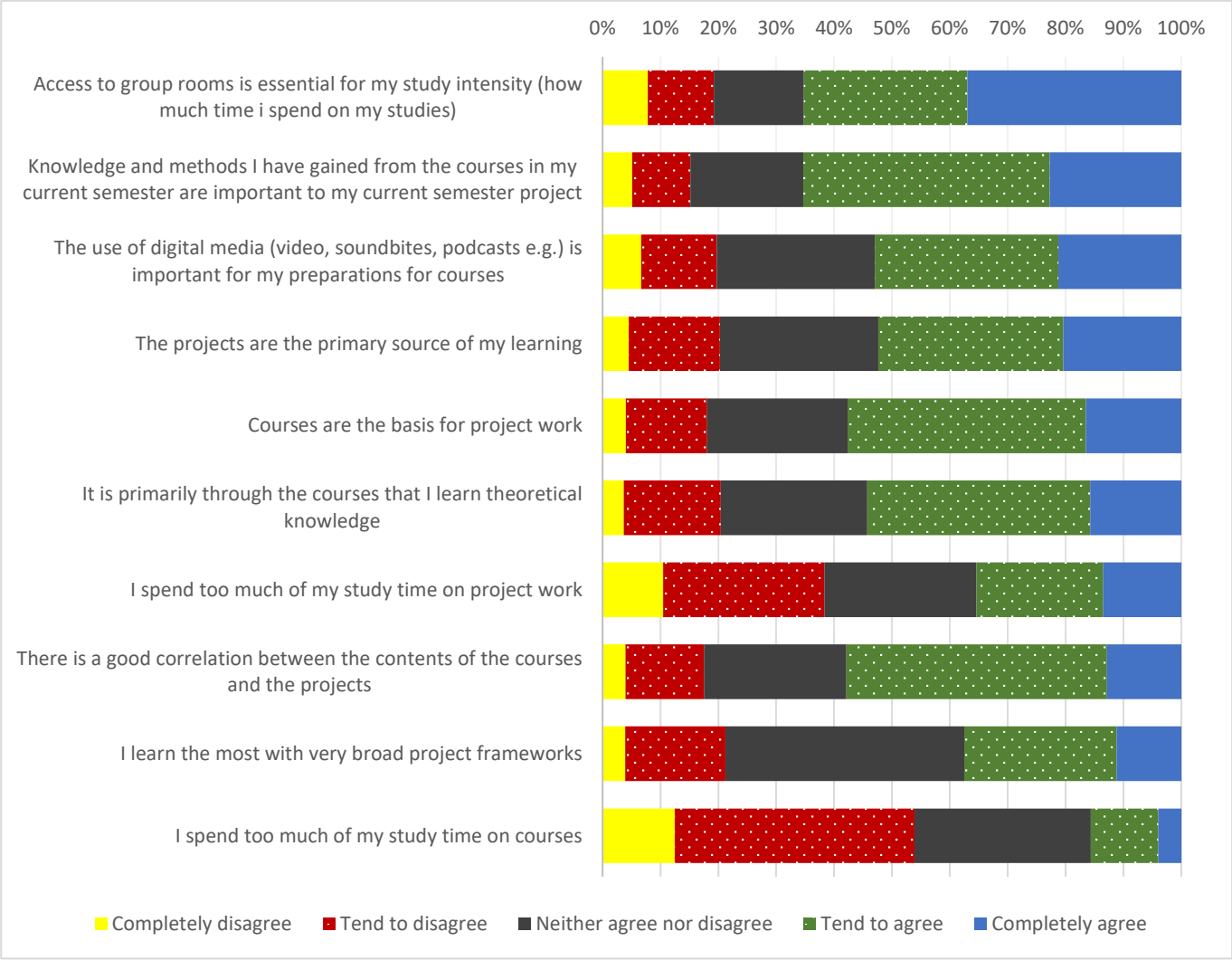

Figure 4.1: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. All Respondents (N: 2075-2082)

Engineering

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Access to group rooms is essential for my study intensity (how much time i spend on my studies)	35	37	52	101	132
Knowledge and methods I have gained from the courses in my current semester are important to my current semester project	21	26	72	150	89
The use of digital media (video, soundbites, podcasts e.g.) is important for my preparations for courses	29	37	90	111	88
The projects are the primary source of my learning	18	75	92	102	69
Courses are the basis for project work	17	40	103	139	56
It is primarily through the courses that I learn theoretical knowledge	10	62	79	149	56
I spend too much of my study time on project work	39	99	99	72	46
There is a good correlation between the contents of the courses and the projects	14	49	97	153	43
I learn the most with very broad project frameworks	20	76	151	68	41
I spend too much of my study time on courses	49	146	119	30	13

Table 4.2: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. ENG (N: 355-358)

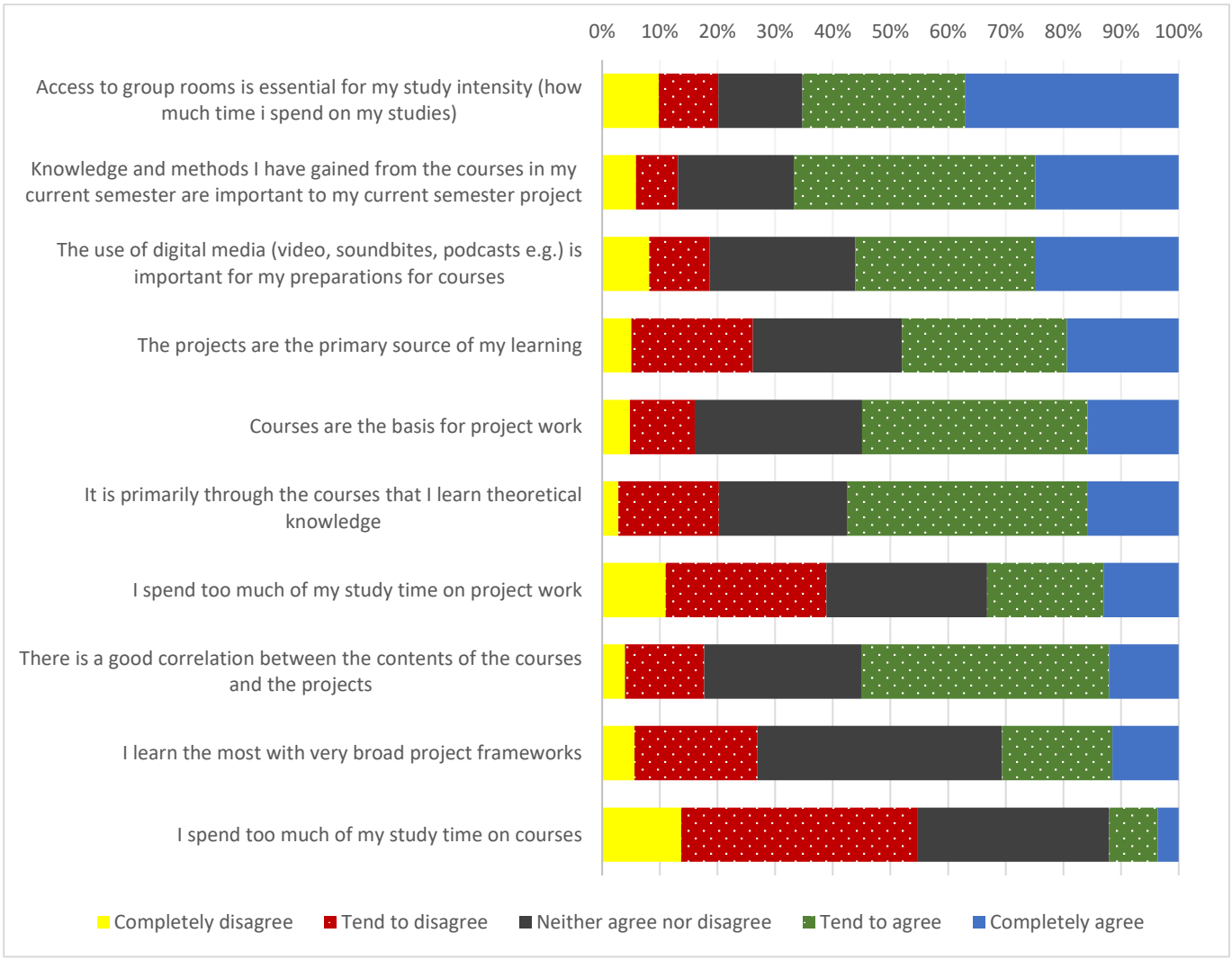

Figure 4.2: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. ENG (N: 355-358)

Health

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Access to group rooms is essential for my study intensity (how much time i spend on my studies)	13	20	29	45	71
Knowledge and methods I have gained from the courses in my current semester are important to my current semester project	10	21	34	79	35
The use of digital media (video, soundbites, podcasts e.g.) is important for my preparations for courses	13	29	50	48	38
The projects are the primary source of my learning	6	27	49	56	40
Courses are the basis for project work	9	29	42	66	32
It is primarily through the courses that I learn theoretical knowledge	11	22	46	67	32
I spend too much of my study time on project work	17	44	55	37	25
There is a good correlation between the contents of the courses and the projects	6	21	43	81	27
I learn the most with very broad project frameworks	7	37	64	44	27
I spend too much of my study time on courses	23	68	51	28	8

Table 4.3: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. Health (N: 178-179)

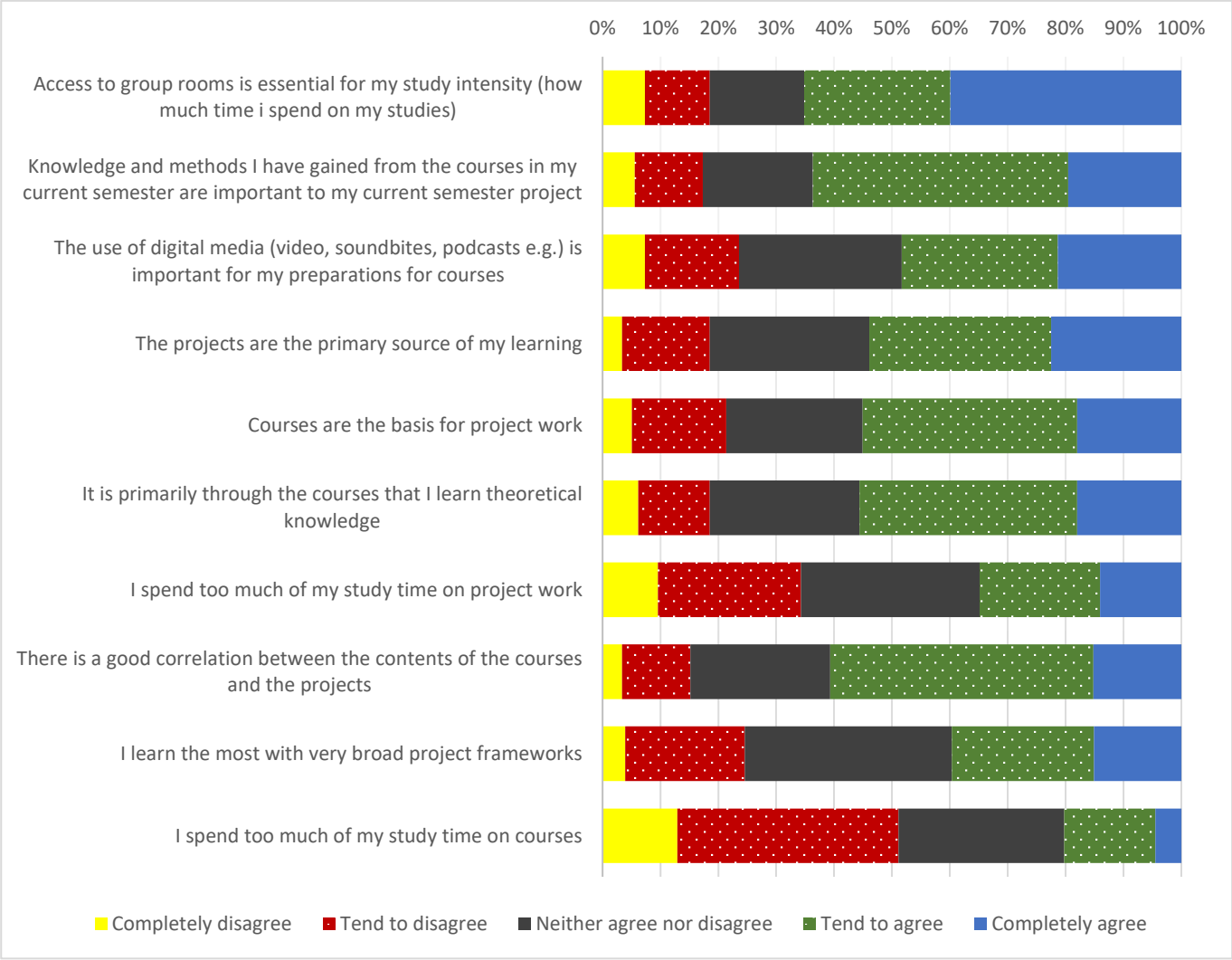

Figure 4.3: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. Health (N: 178-179)

HUM

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Access to group rooms is essential for my study intensity (how much time i spend on my studies)	26	45	72	122	137
Knowledge and methods I have gained from the courses in my current semester are important to my current semester project	20	45	75	167	95
The use of digital media (video, soundbites, podcasts e.g.) is important for my preparations for courses	31	58	104	129	80
The projects are the primary source of my learning	19	66	116	126	76
Courses are the basis for project work	11	51	106	179	53
It is primarily through the courses that I learn theoretical knowledge	12	64	102	164	60
I spend too much of my study time on project work	35	118	107	91	51
There is a good correlation between the contents of the courses and the projects	15	51	94	195	47
I learn the most with very broad project frameworks	13	69	157	119	45
I spend too much of my study time on courses	46	166	135	39	16

Table 4.4: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. HUM (N: 400-402)

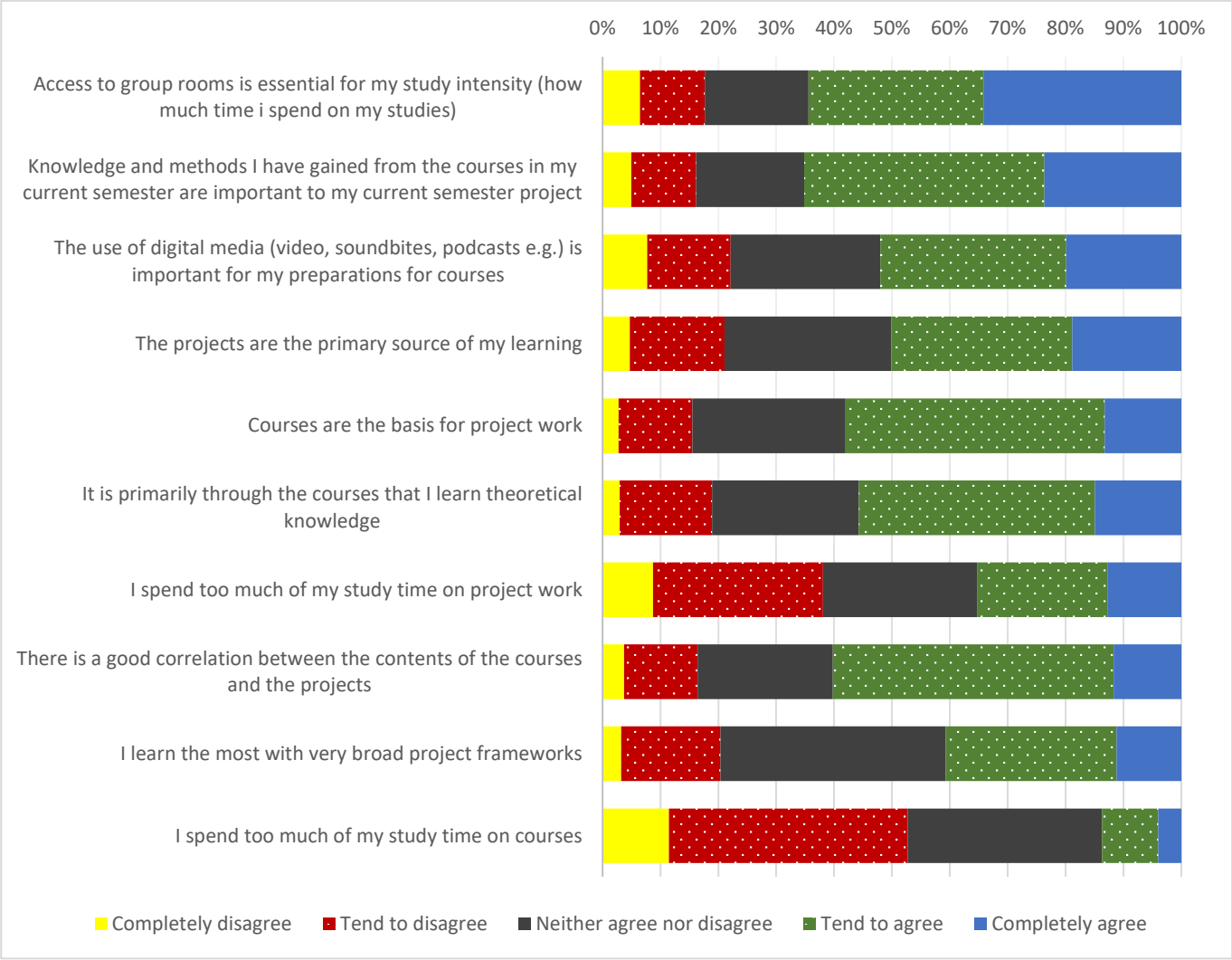

Figure4.4: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. HUM (N: 400-402)

Social Sciences

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Access to group rooms is essential for my study intensity (how much time i spend on my studies)	51	69	99	197	254
Knowledge and methods I have gained from the courses in my current semester are important to my current semester project	33	71	144	275	153
The use of digital media (video, soundbites, podcasts e.g.) is important for my preparations for courses	39	88	206	208	132
The projects are the primary source of my learning	32	94	182	221	142
Courses are the basis for project work	32	97	141	282	123
It is primarily through the courses that I learn theoretical knowledge	24	117	181	236	113
I spend too much of my study time on project work	76	183	173	144	97
There is a good correlation between the contents of the courses and the projects	30	102	161	300	82
I learn the most with very broad project frameworks	28	103	290	185	68
I spend too much of my study time on courses	85	289	190	84	27

Table 4.5: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. Social Science (N: 670-676)

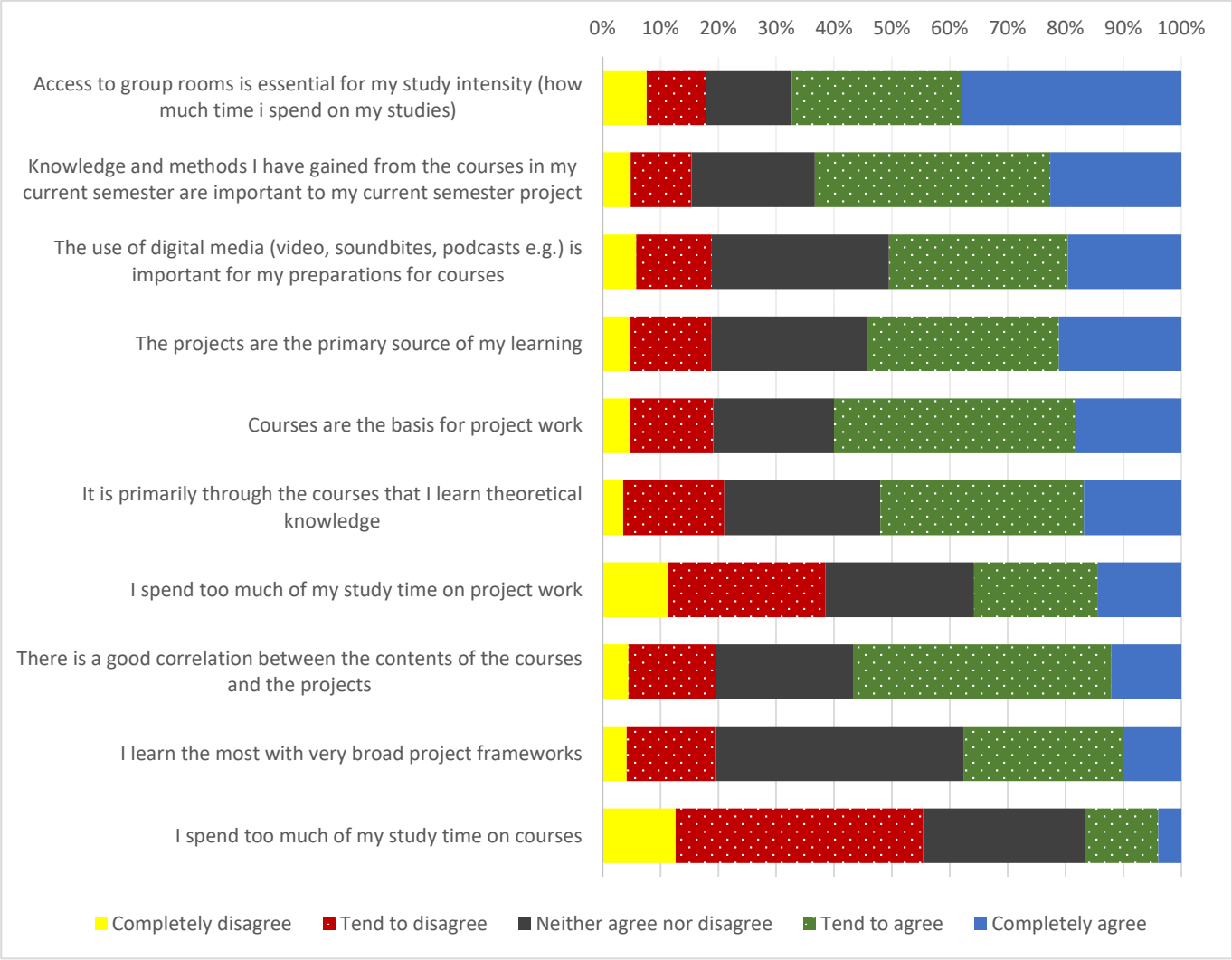

Figure 4.5: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. Social Science (N: 670-676)

TECH

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Access to group rooms is essential for my study intensity (how much time i spend on my studies)	37	66	70	121	172
Knowledge and methods I have gained from the courses in my current semester are important to my current semester project	22	46	80	214	101
The use of digital media (video, soundbites, podcasts e.g.) is important for my preparations for courses	25	60	116	162	103
The projects are the primary source of my learning	19	65	128	159	94
Courses are the basis for project work	14	75	112	187	78
It is primarily through the courses that I learn theoretical knowledge	19	83	115	181	66
I spend too much of my study time on project work	50	130	111	111	61
There is a good correlation between the contents of the courses and the projects	17	57	115	205	68
I learn the most with very broad project frameworks	13	74	196	130	51
I spend too much of my study time on courses	55	189	139	61	19

Table 4.6: Answers to question on courses and group based project work: *Please indicate to what extent you agree or disagree with each statement*. TECH (N: 462-466)

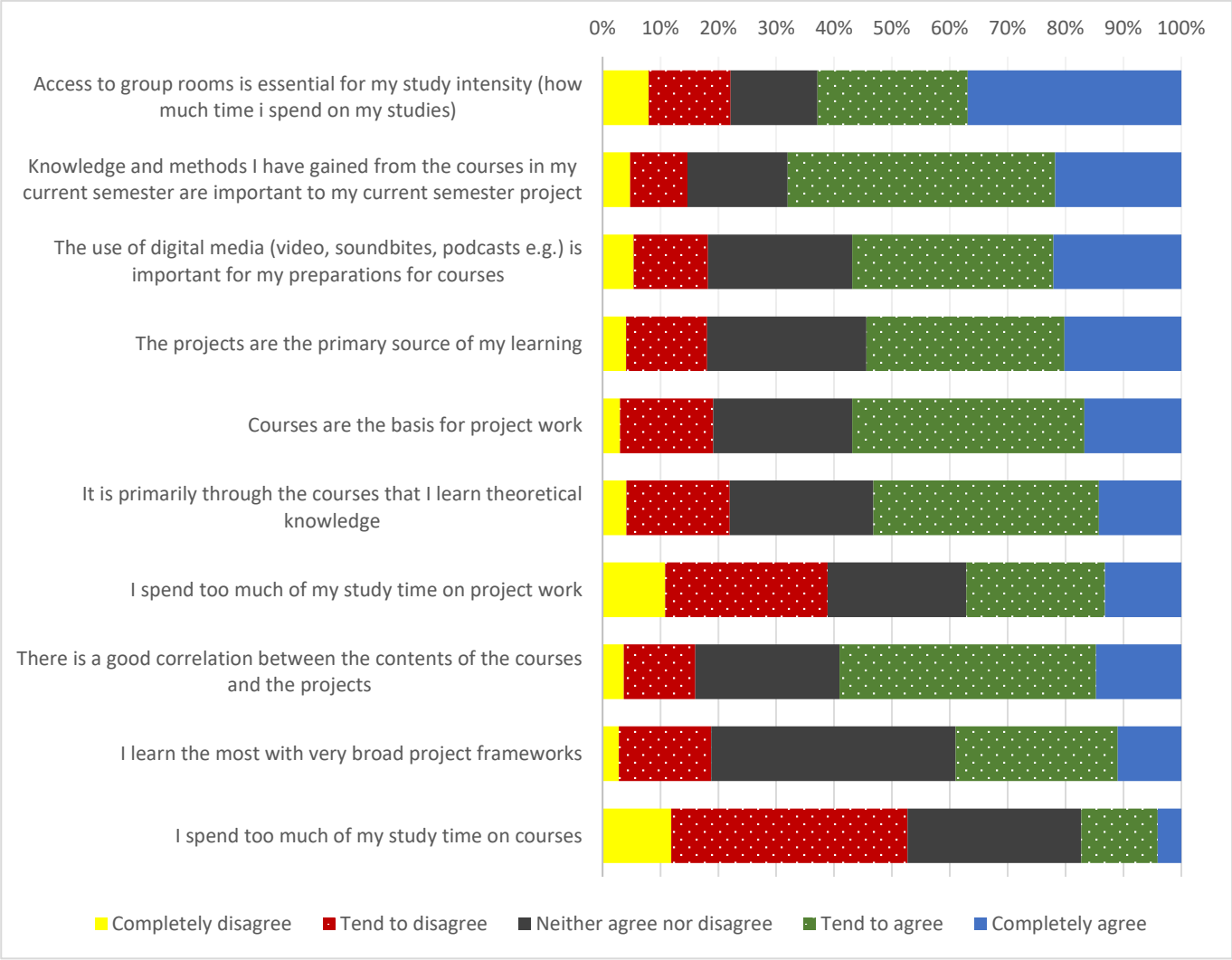

Figure 4.6: Answers to question on courses and group-based project work: *Please indicate to what extent you agree or disagree with each statement*. TECH (N: 462-466)

5. SELF-DETERMINATION

The questions on course and group-based project work are do have similar formulations and variables as in the staff report (Clausen and Kolmos, 2019). Therefore, the research background for the question is also the same.

Participant directed learning has been one of the core learning principles for the Danish versions of PBL, in broader terms student centered learning. One of the subprojects in PBL-future is working specifically on the impact of the students' self-determination in different aspects of their project work, which inspired us to try and get a quantitative measure of the level of self-determination at AAU. This set of questions is included both in the student and staff questionnaire to get both perspectives. We have been interested in three milestones in the project process: the early group formation, the choice of the overall topic/case and the process of problem formulation, where the students formulate the specific problem.

Looking at the overall numbers, almost 70% of all the respondents answered that they believe that they have extensive or full self-determination when it comes to group formation, development of problem formulation and their choice of topic/case attesting to the perceived openness and freedom of the project work at AAU. Quite interesting is it to compare these statistics with the staff report which resulted in almost the same division of percentage and arranged in the exact same order with group formation as the highest stated in relation to full self-determination.

The respondents were asked: The following statements relate to your degree of self-determination in project work. Please indicate the degree of self-determination you have had in the following processes during your current semester.

	No self-determination	Little self-determination	Some self-determination	Extensive self-determination	Full self-determination
Group formation	84	144	269	566	971
Development of problem formulation	41	112	324	859	692
Choice of topic/case	98	179	344	816	596

Table 5.1: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* All respondents (N: 2028 – 2034)

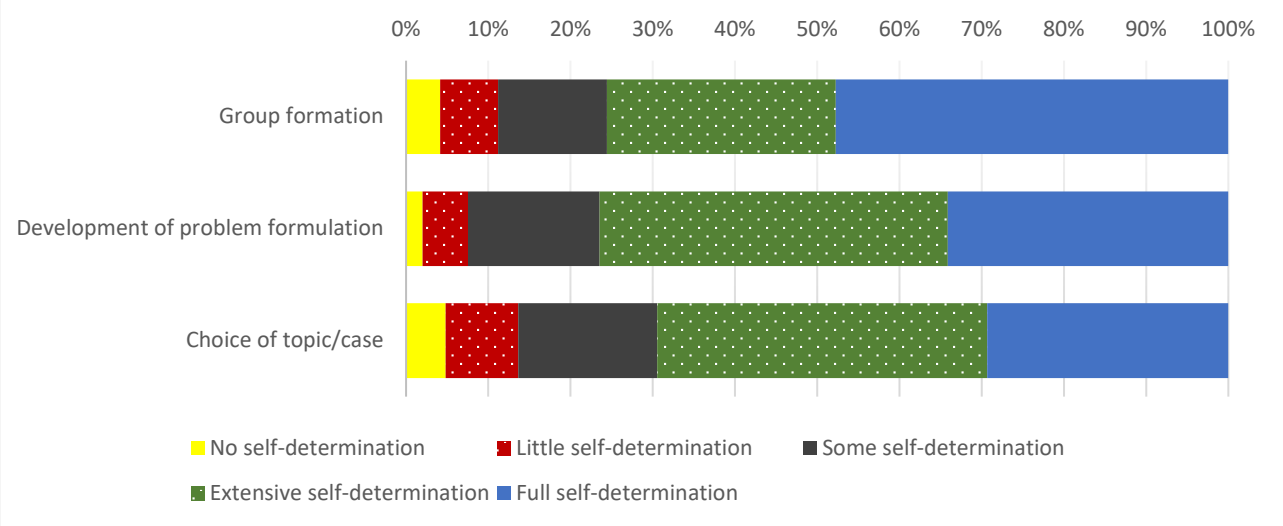

Figure 5.1: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* All respondents (N: 2028 – 2034)

Engineering

	No self-determination	Little self-determination	Some self-determination	Extensive self-determination	Full self-determination
Group formation	17	28	41	88	175
Development of problem formulation	9	20	56	145	119
Choice of topic/case	15	28	69	144	93

Table 5.2: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* ENG (N: 349)

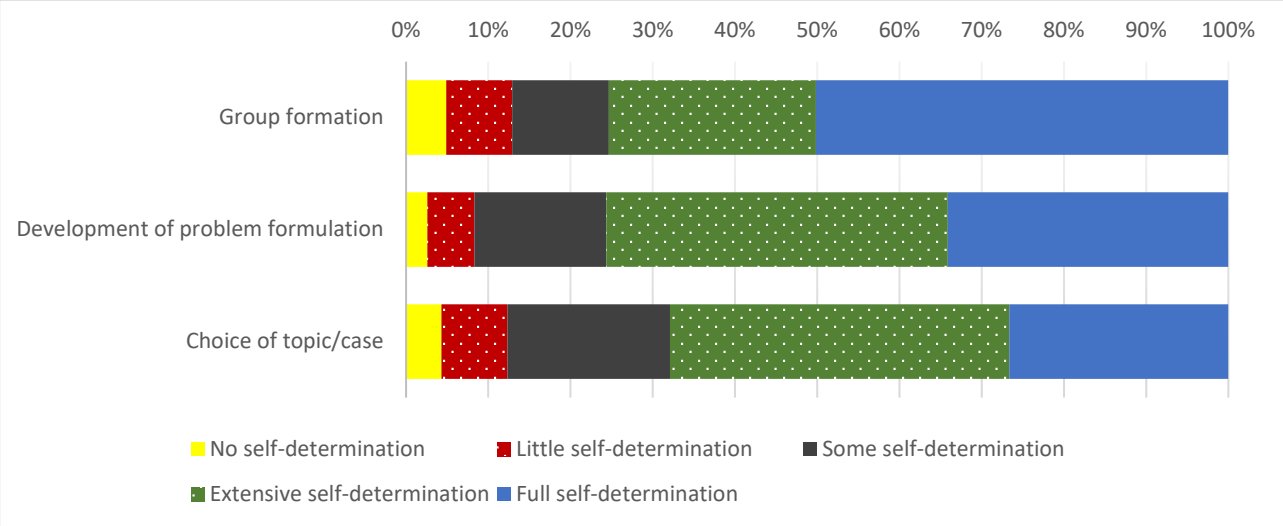

Figure 5.2: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* ENG (N: 349)

Health

	No self-determination	Little self-determination	Some self-determination	Extensive self-determination	Full self-determination
Group formation	7	12	20	31	104
Development of problem formulation	1	7	23	74	67
Choice of topic/case	6	16	27	74	51

Table 5.3: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* Health (N: 172-174)

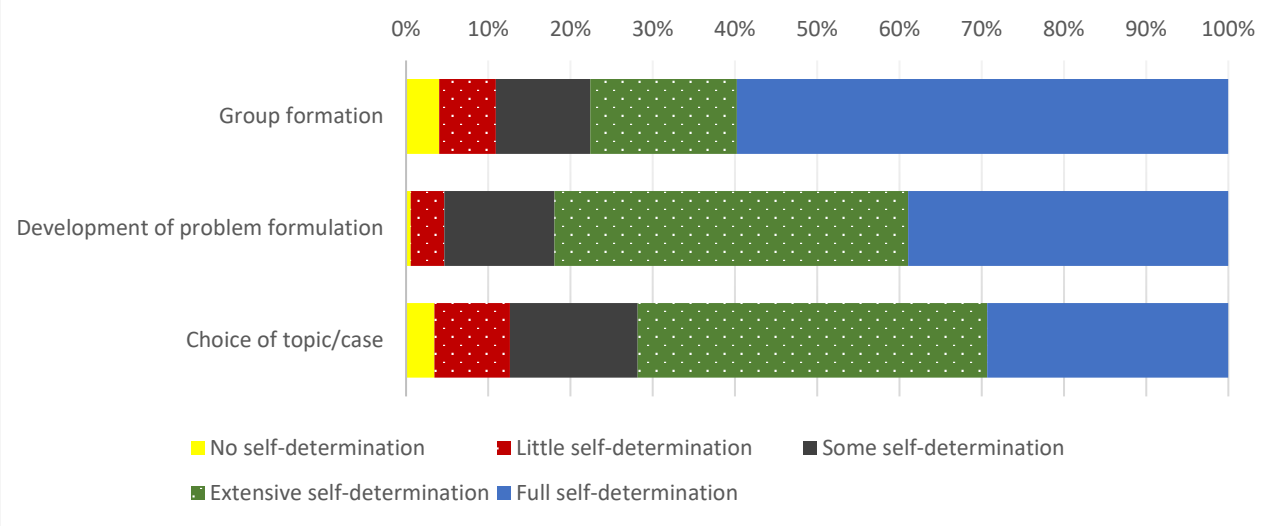

Figure 5.3: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* Health (N: 172-174)

HUM

	No self-determination	Little self-determination	Some self-determination	Extensive self-determination	Full self-determination
Group formation	14	34	53	109	180
Development of problem formulation	5	17	61	171	135
Choice of topic/case	14	30	73	159	113

Table 5.4: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* HUM (N: 389-390)

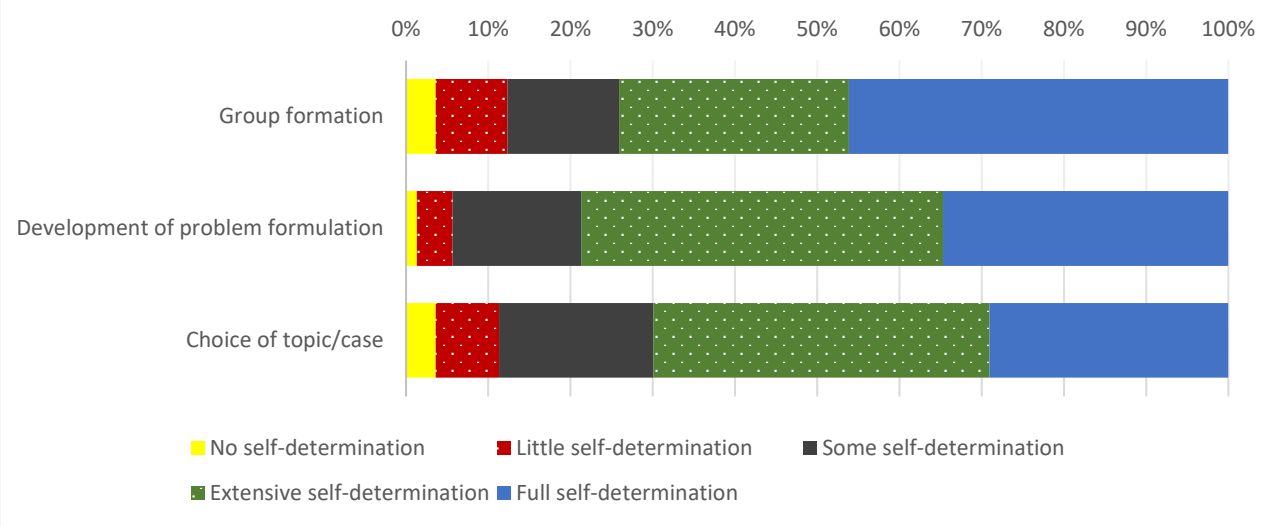

Figure 5.4: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* HUM (N: 389-390)

Social Sciences

	No self-determination	Little self-determination	Some self-determination	Extensive self-determination	Full self-determination
Group formation	35	40	91	191	300
Development of problem formulation	18	37	106	266	228
Choice of topic/case	33	64	97	263	200

Table 5.5: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* Social Science (N: 655-657)

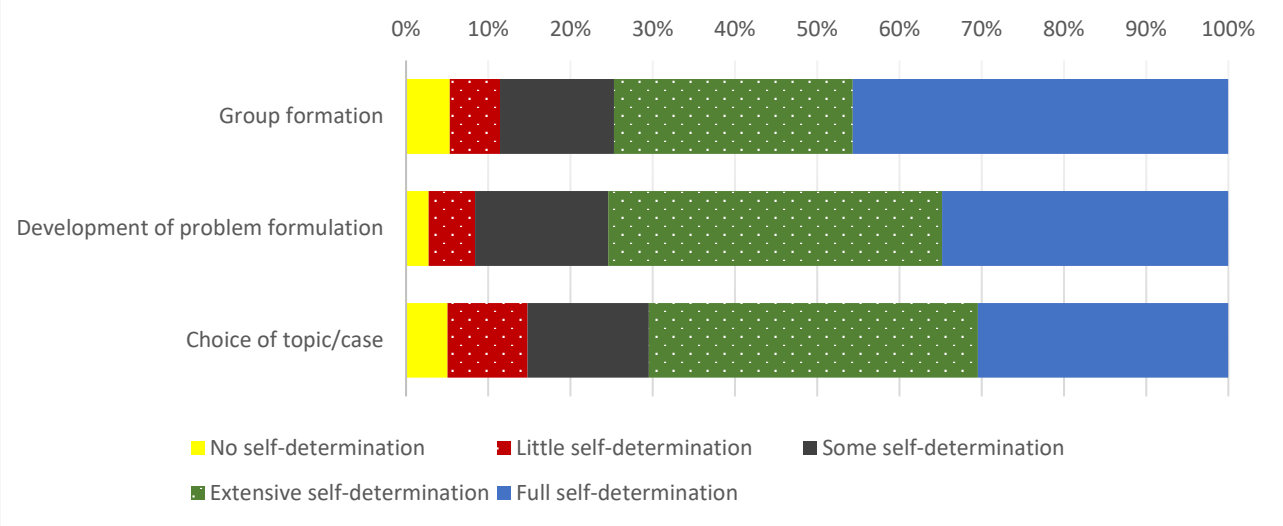

Figure 5.5: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* Social Science (N: 655-657)

TECH

	No self-determination	Little self-determination	Some self-determination	Extensive self-determination	Full self-determination
Group formation	11	30	64	144	211
Development of problem formulation	8	31	76	202	142
Choice of topic/case	30	40	78	173	139

Table 5.6: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* TECH (N: 459-460)

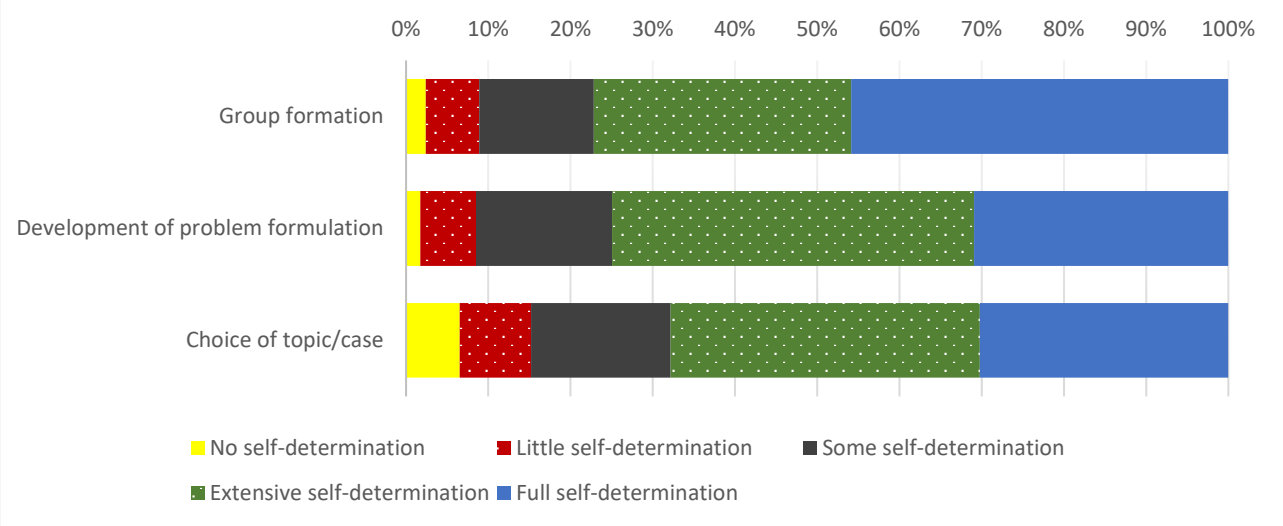

Figure 5.6: Answer to the question: *Please indicate the degree of self-determination you have had in the following processes during your current semester?* TECH (N: 459-460)

6. TIME

Across the population there is an average level on 38,2 hours per week that the students believe they use on their study. Going deeper into what type of study work the students believe they spent most time on during the semester, it is definitely project work that stands out. The students' opinion is that they use the most time on project work with 11,6% telling that they use 90-100% of their semester on this. Compared to time spend on exams, lectures, preparing for courses and meeting with the supervisor the spreading is from 0,6% - 2,2% in students responding they use 90-100%.

The respondents were asked two questions: Please indicate how many hours per week you believe you have used on your studies during the current semester? And how much of your total study time have you spent on the following types of study work during the current semester?

Hours	*N*	*Hours*	*N*	*Hours*	*N*	*Hours*	*N*
0	2	**19**	1	**37**	80	**55**	30
1	3	**20**	66	**38**	16	**56**	2
2	2	**21**	1	**39**	4	**57**	1
3	2	**22**	2	**40**	339	**58**	2
4	3	**24**	1	**41**	2	**60**	43
5	10	**25**	78	**42**	25	**63**	1
6	3	**27**	7	**43**	5	**64**	1
8	6	**28**	11	**44**	4	**65**	7
9	1	**29**	1	**45**	151	**70**	20
10	17	**30**	174	**46**	1	**75**	2
12	3	**31**	2	**47**	5	**80**	8
14	2	**32**	17	**48**	15	**85**	1
15	24	**33**	7	**49**	3	**86**	1
16	4	**34**	4	**50**	142	**100**	1
17	2	**35**	116	**52**	3	**120**	1
18	2	**36**	11	**54**	3	**160**	1

Table 6.1: Answer to question: *How many hours per week you believe you have used on your studies during the current semester?* All respondents *(N: 1505)*

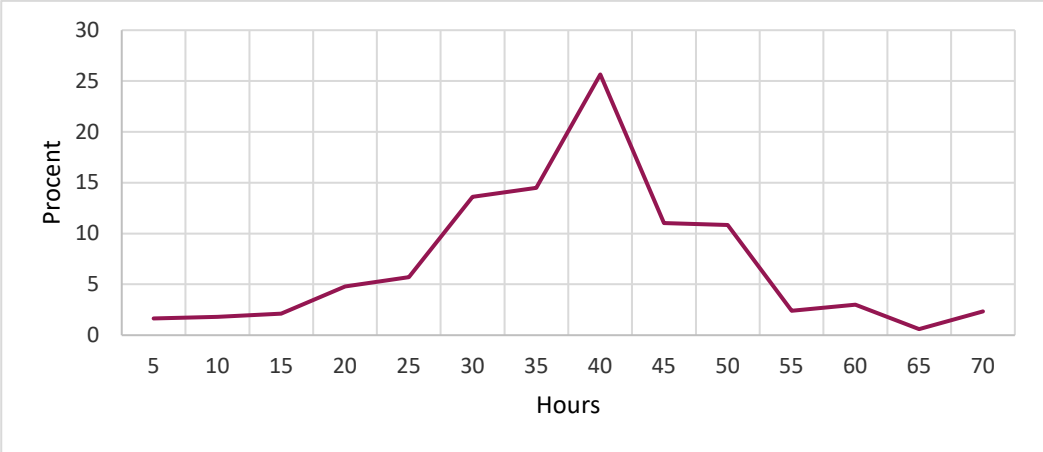

Figure 6.1: Answer to question: *How many hours per week you believe you have used on your studies during the current semester?* All respondents *(N: 1505)*

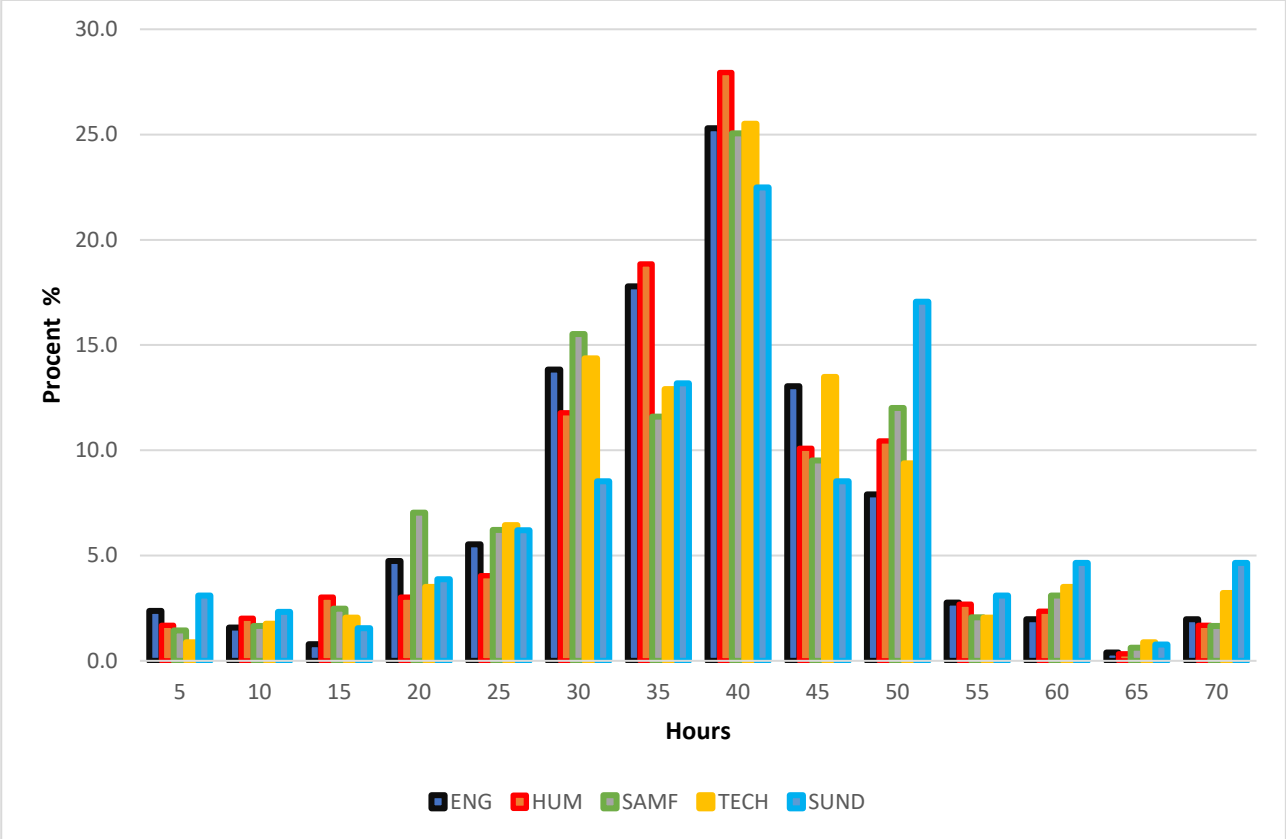

Figure 6.2: Answer to question: *How many hours per week you believe you have used on your studies during the current semester?* All respondents and faculty *(N: 1505)*

	0%-10%	10%-20%	20%-30%	30%-40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	90%-100%
Project work	59	32	90	205	278	277	214	201	203	204
Exams / tests on courses	574	481	290	128	66	50	49	39	41	38
Lectures or classes during courses	400	328	461	272	117	61	38	26	24	23
Preparing for courses	613	436	336	159	83	38	35	14	19	12
Meeting with a supervisor	1.100,00	433	107	44	22	14	11	5	11	11

Table 6.2: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester?* All respondents *(N: 1745-1763)*

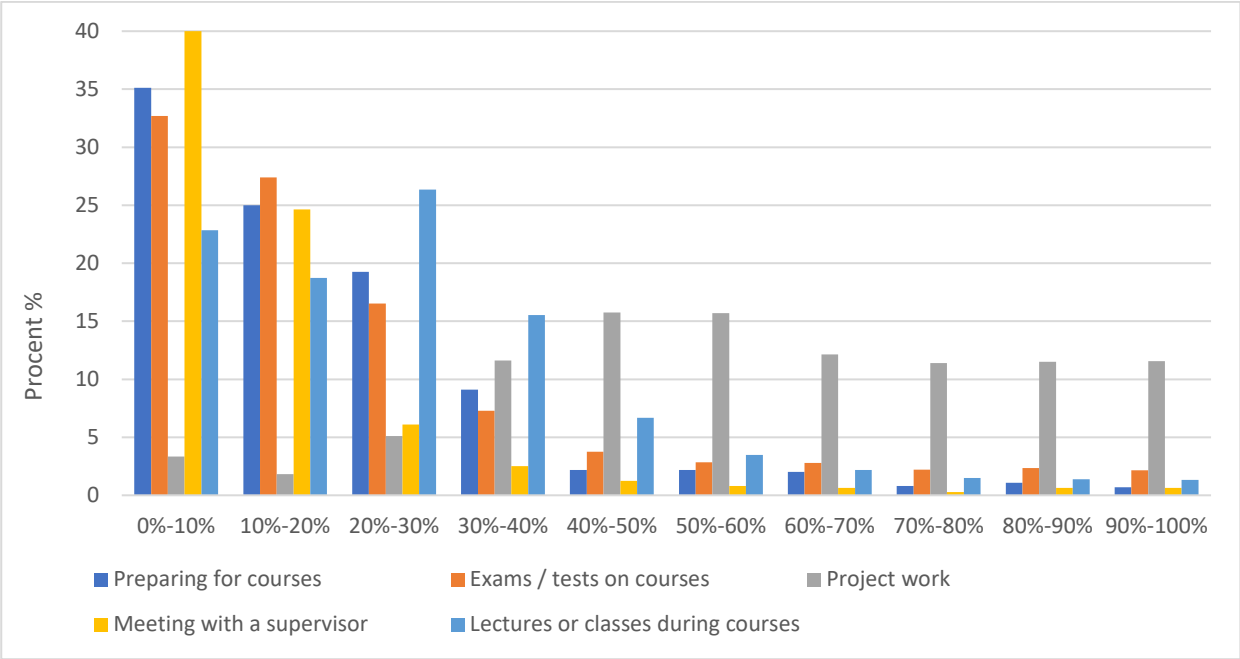

Figure 6.3: Answer to question: *How much of your total study time have you spent on the following types of study work during the current semester?* All respondents *(N: 1745-1763)*

Engineering

	0%-10%	10%-20%	20%-30%	30%-40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	90%-100%
Preparing for courses	100	86	55	29	10	7	7	4	1	2
Exams / tests on courses	82	93	59	24	12	7	11	6	3	6
Project work	11	6	13	48	47	51	36	35	31	26
Meeting with a supervisor	185	84	17	6	2	4	2	0	1	0
Lectures or classes during courses	69	56	93	43	18	7	11	2	5	1

Table 6.3: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester?* ENG (N: 301-305)

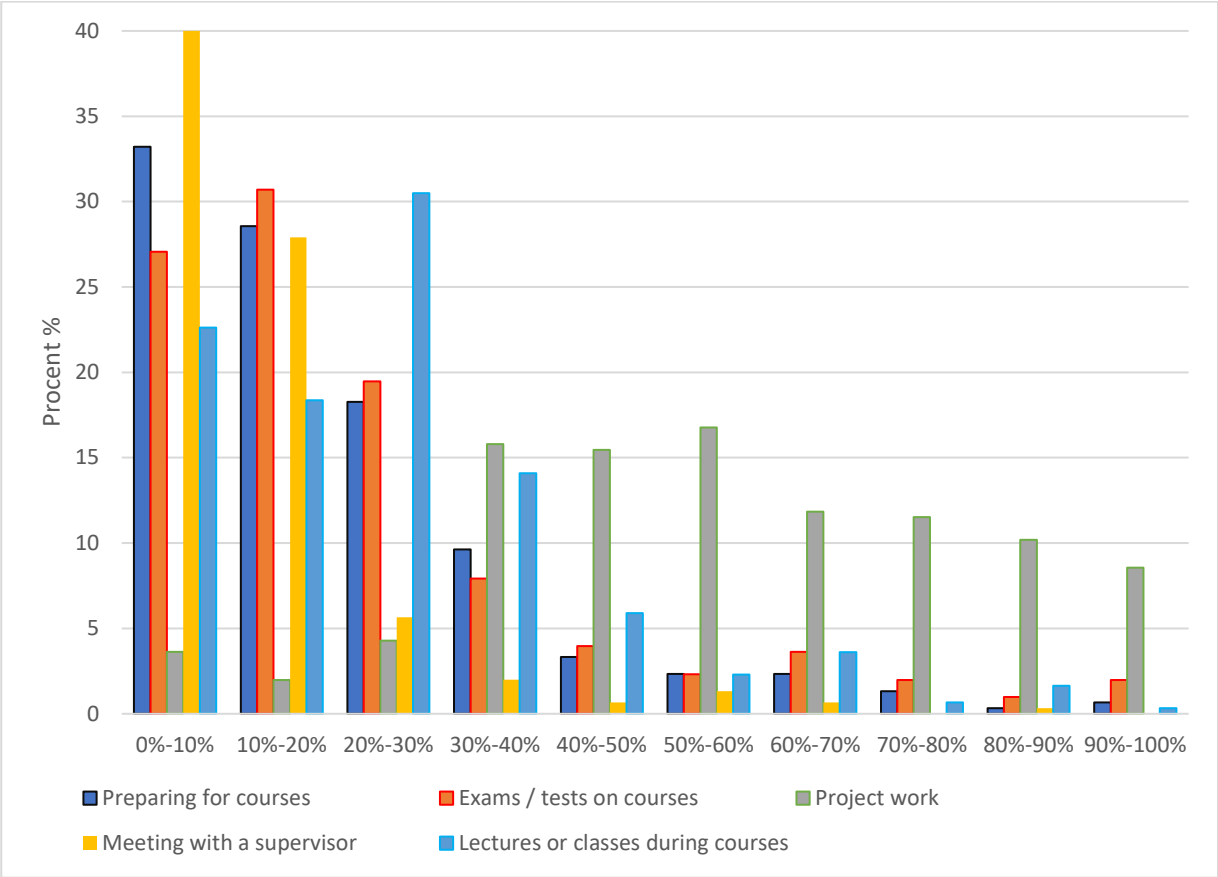

Figure 6.4: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester?* ENG (N: 301-305)

Health

	0%-10%	10%-20%	20%-30%	30%-40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	90%-100%
Preparing for courses	48	31	30	10	7	3	6	2	3	1
Exams / tests on courses	49	42	24	9	5	3	1	4	2	4
Project work	4	3	4	9	27	17	15	20	24	22
Meeting with a supervisor	80	44	8	5	2	1	0	1	3	1
Lectures or classes during courses	34	24	33	21	11	6	3	6	1	2

Table 6.4: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester?* Health (N: 141-145)

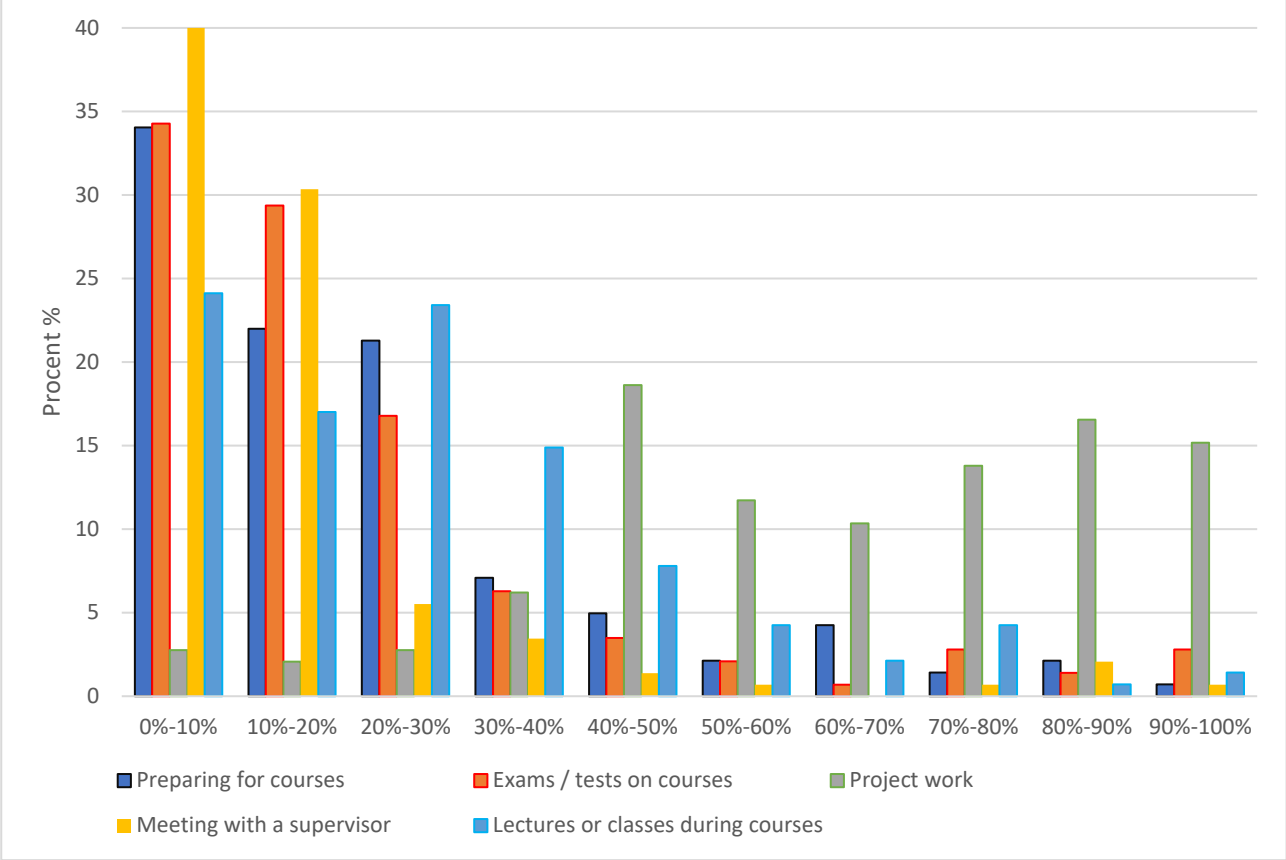

Figure 6.5: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester?* Health (N: 141-145)

HUM

	0%-10%	10%-20%	20%-30%	30%-40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	90%-100%
Preparing for courses	132	70	69	34	22	3	4	0	3	2
Exams / tests on courses	111	91	68	24	9	7	10	7	5	6
Project work	10	3	23	37	54	51	46	38	31	48
Meeting with a supervisor	206	93	17	5	5	3	3	1	3	4
Lectures or classes during courses	83	63	73	57	24	14	10	3	1	7

Table 6.5: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester*? HUM (N: 338-341)

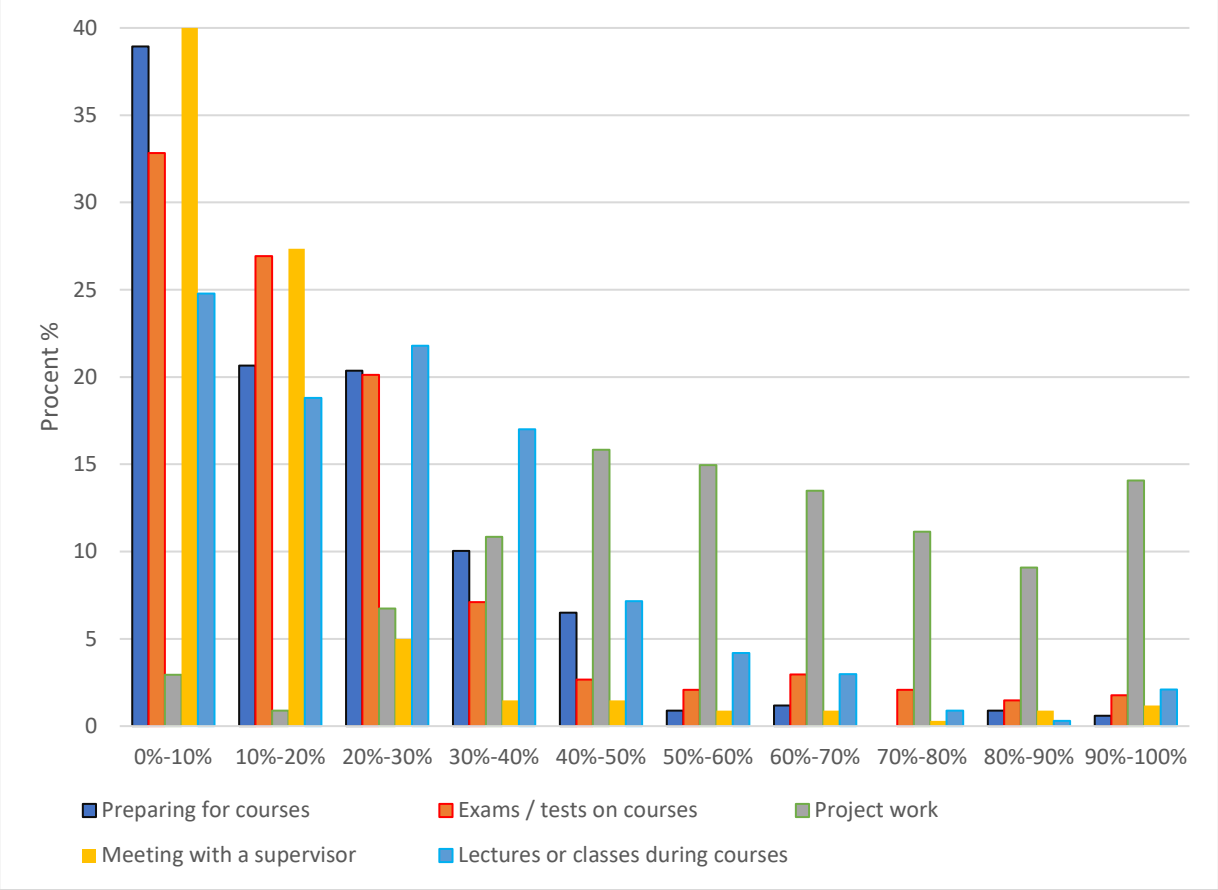

Table 6.6: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester*? HUM (N: 338-341)

Social Sciences

	0%-10%	10%-20%	20%-30%	30%-40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	90%-100%
Preparing for courses	184	159	116	44	28	13	7	7	7	3
Exams / tests on courses	188	156	79	40	31	21	14	11	20	13
Project work	18	14	26	59	94	97	68	59	73	66
Meeting with a supervisor	371	123	37	20	8	3	5	2	2	1
Lectures or classes during courses	128	112	157	85	38	20	7	8	11	6

Table 6.6: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester*? Social Science (N: 568-574)

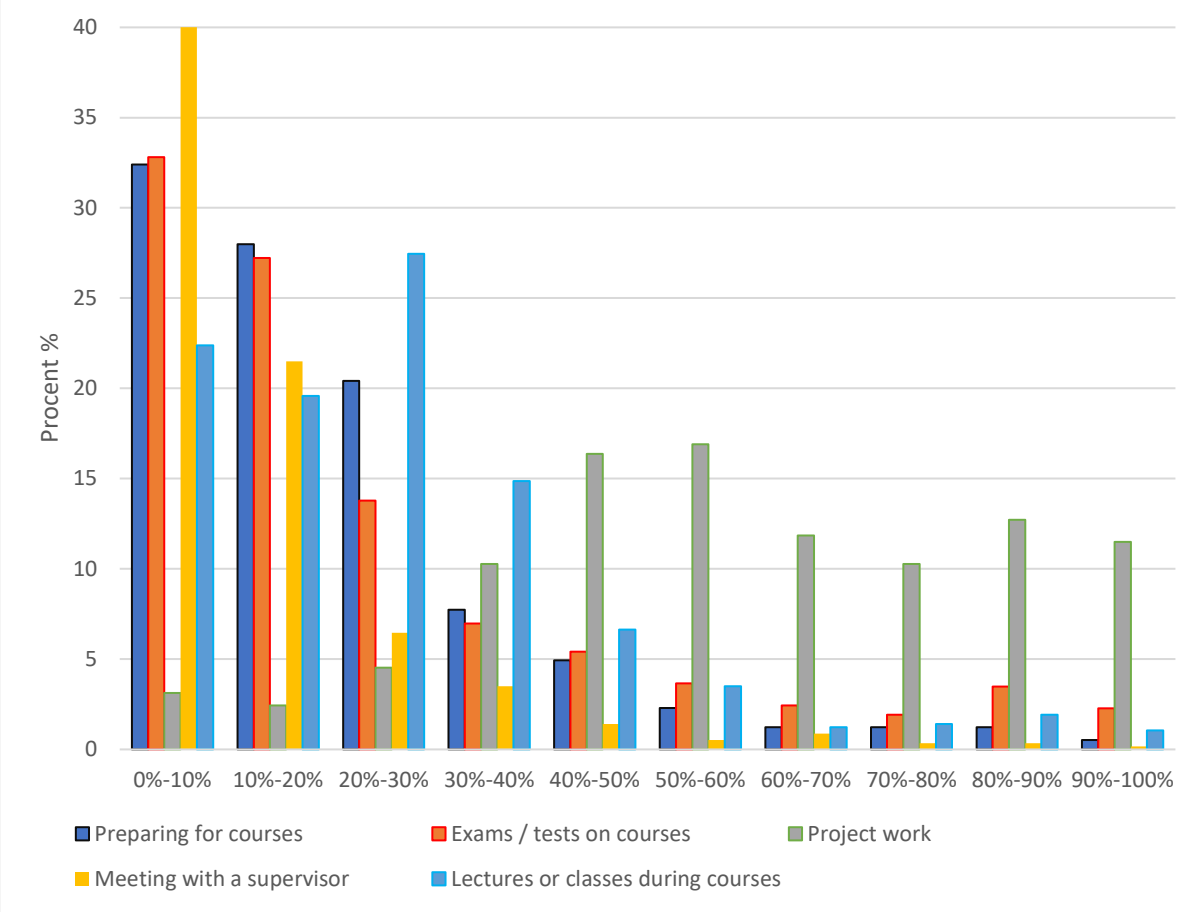

Figure 6.7: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester*? Social Science (N: 568-574)

TECH

	0%-10%	10%-20%	20%-30%	30%-40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	90%-100%
Preparing for courses	148	89	65	42	16	12	11	1	5	4
Exams / tests on courses	144	98	59	30	9	12	13	11	11	9
Project work	16	6	24	50	56	60	49	49	44	42
Meeting with a supervisor	256	88	28	8	5	3	1	1	2	5
Lectures or classes during courses	86	72	104	65	26	14	7	7	6	7

Table 6.7: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester*? TECH (N: 393-397)

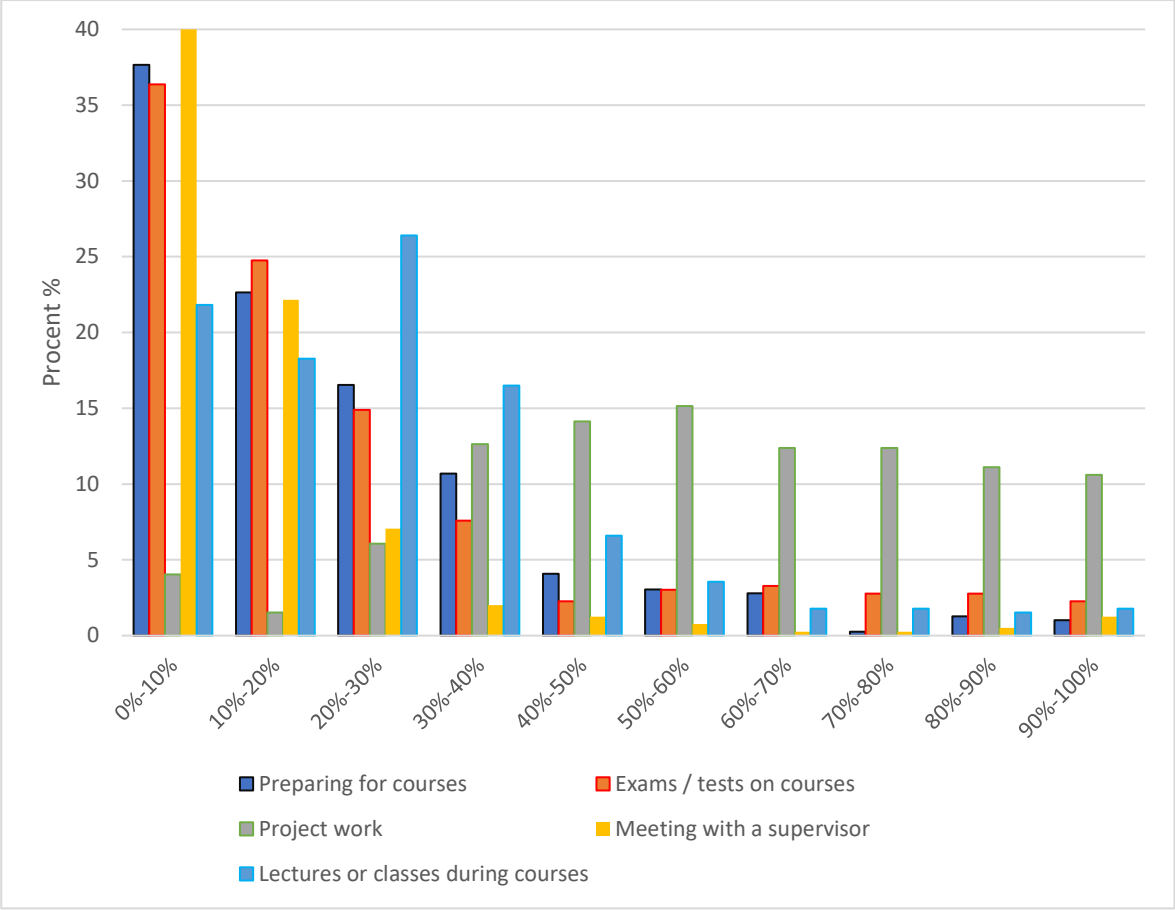

Table 6.8: ***Answer to question:*** *How much of your total study time have you spent on the following types of study work during the current semester*? TECH (N: 393-397)

7. GROUP SIZE

The sizes of the teams vary from first year to last year of study – but also from one program to the other. In this report we only present the average data. Almost 60% of the students register that they are in a group at the size of 4 or less where the size of 4 is the most common size of students in a group. Only a very small percentage of 0,2% are in a group of 8 or more people. Focusing on the level of recurrent group members it is mostly one person which could indicate that it is quite normal to enter into new groups in a new semester. However, the amount of students that claim they have 2 recurrent group members including themselves is at a high level as well with a percentage of 21%.

The respondents were both asked: How many members are there in your current project group? (including yourself) and how many of the members of your current group was also in your previous group? (including yourself)

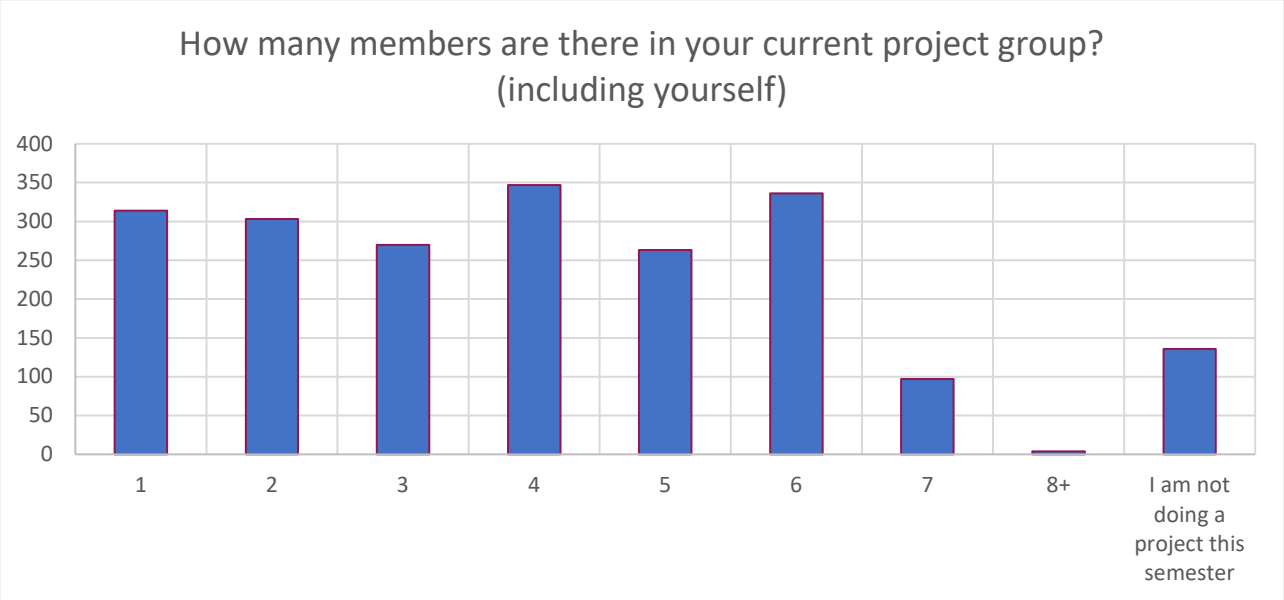

Figure 7.1: Answer to question: *How many members are there in your current project group?* All respondents (N: 2070)

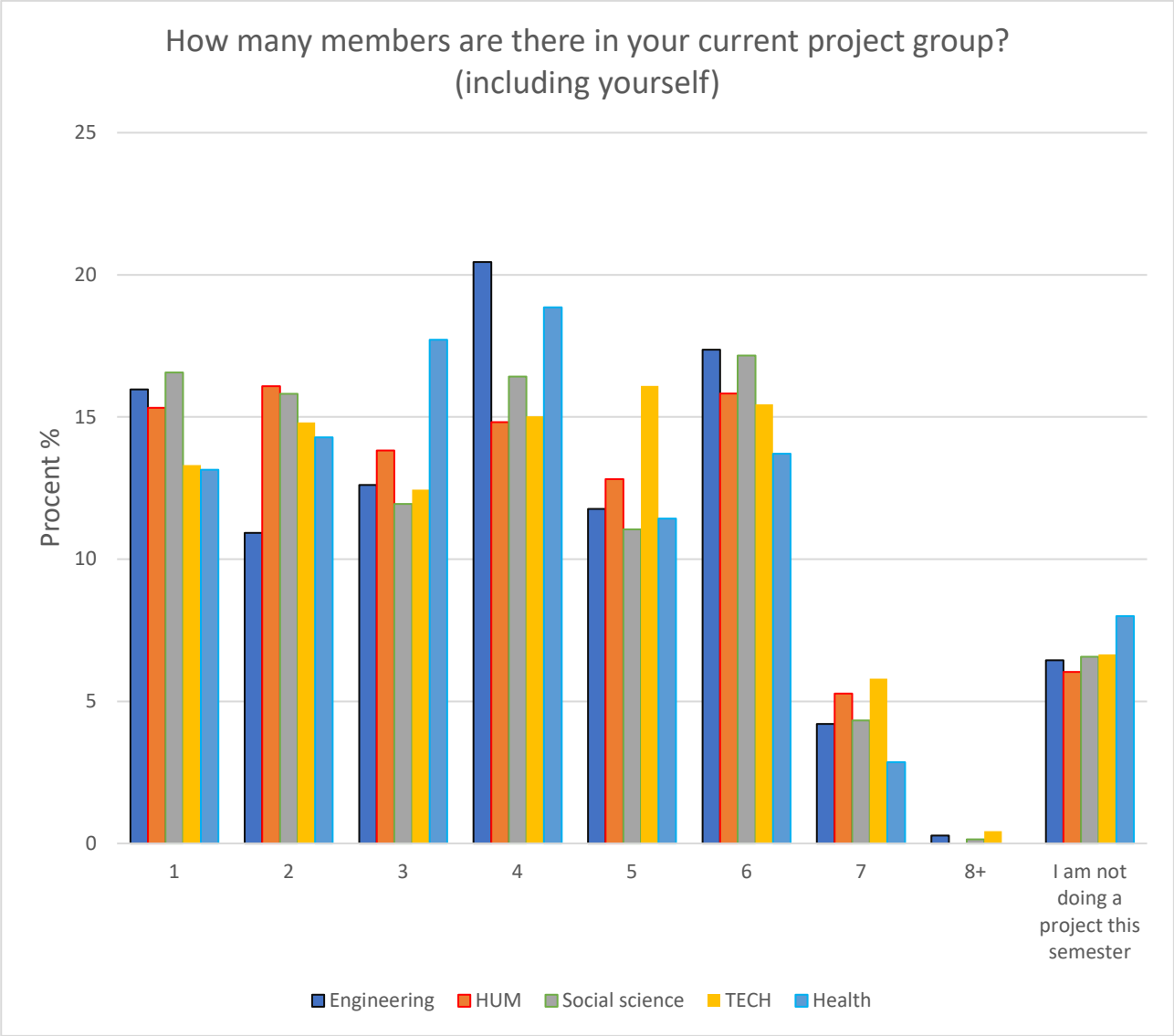

Figure 7.2: Answer to question: *How many members are there in your current project group?* All respondents distributed at faculties (N: 2070)

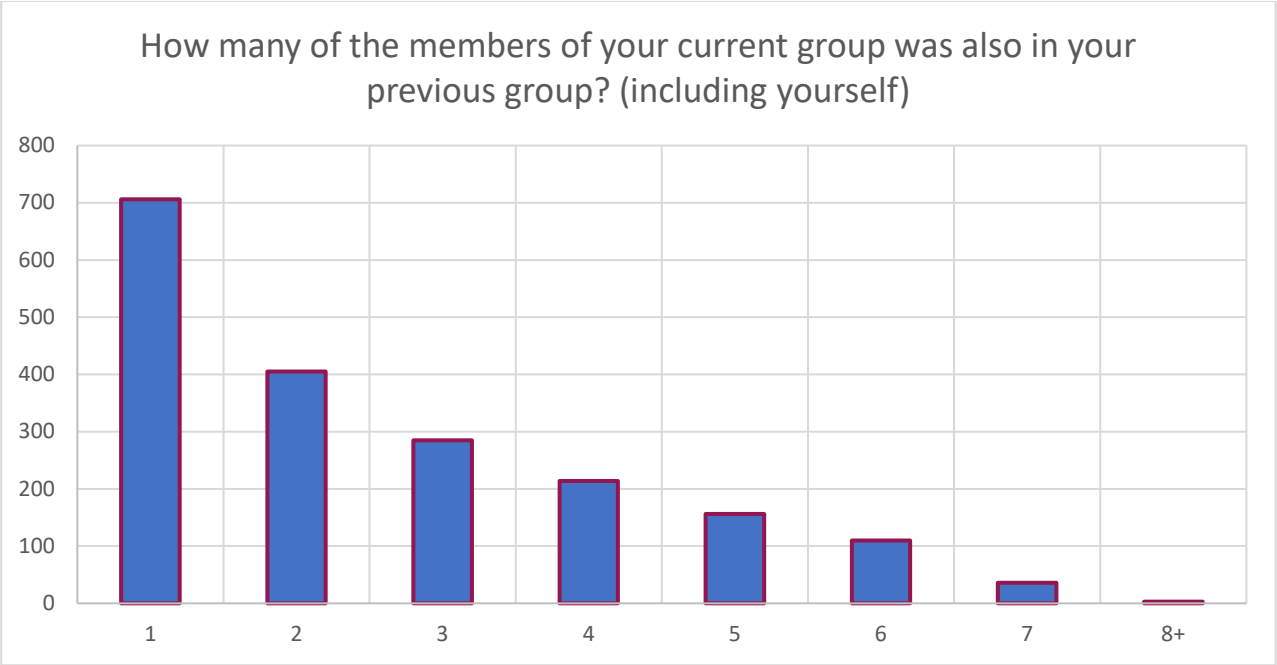

Figure 7.3: Answer to question: *How many of the members of your current group was also in your previous group?* All respondents (N:1915)

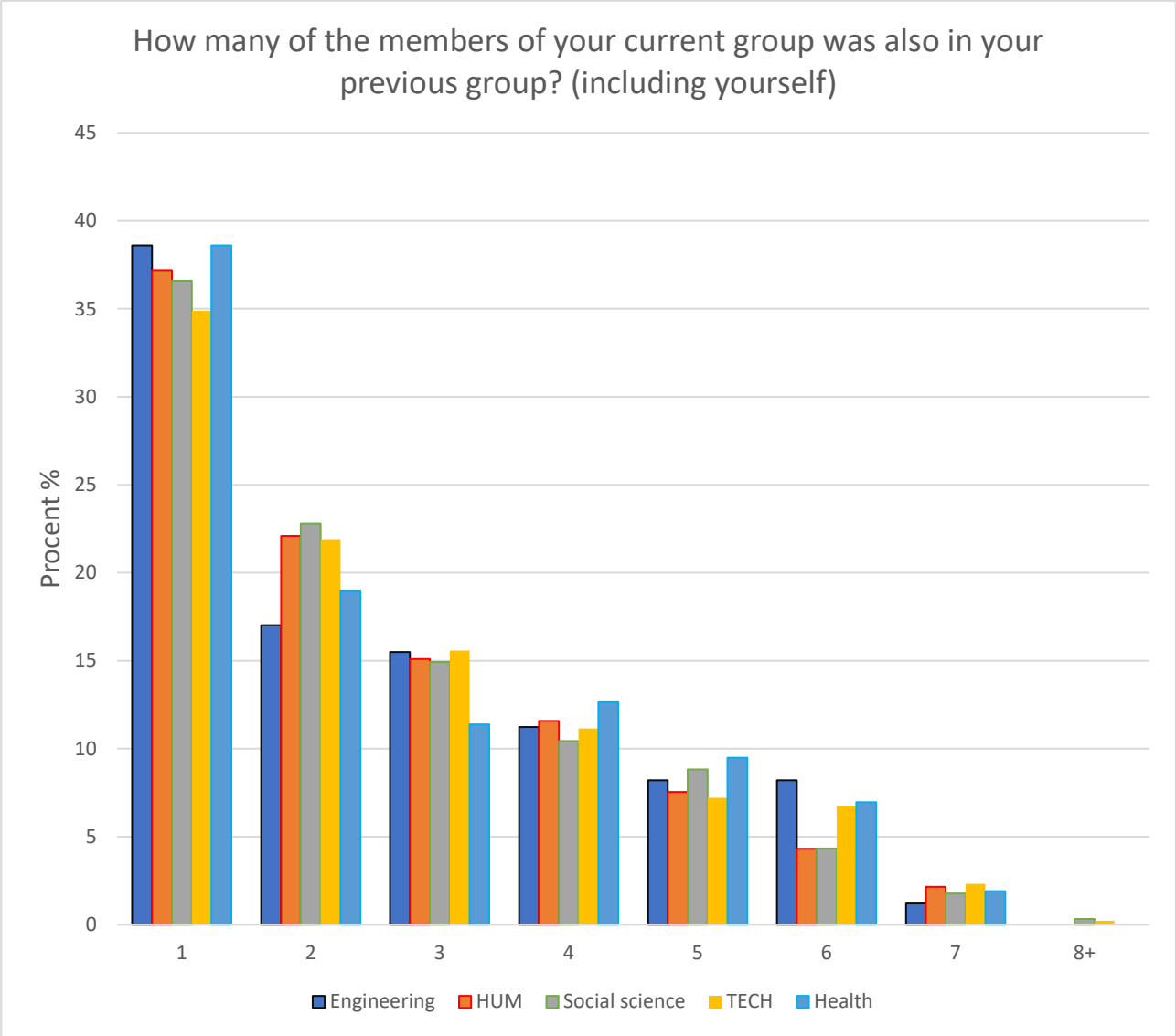

Figure 7.4: Answer to question: *How many of the members of your current group was also in your previous group? All respondents distributed at faculties* (N: 1915)

8. REFLECTION ON PROCESS COMPETENCIES

Project work seems to be a very important part of what the students both feel they use most of their time on and an activity that also develops them. Scrolling down the different statements it is very clear that the students feel they both learn, develops and achieves skills doing their project work where it is between almost 60% and 70% that answers either tend to agree or completely agree. In the bottom we find the statements about working with something they find themselves good or not good at. There is a big difference between the two where most students find themselves working with something, they are good at. In comparison, only a small percentage are working with something they are not good at.

The respondents were asked: The following questions relate to your learning and study environment at AAU. Please indicate to what extent you agree or disagree with each statement.

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Project work is the part of my studies that develops me the most	67	126	342	666	631
Group work is the part of my studies that develops me the most	96	212	455	650	422
I think about what specific skills I learn in my studies	30	147	338	915	404
I was given a sufficient introduction to problem-based project work	73	179	387	801	394
I think about what specific skills I want to achieve during my studies	37	208	422	778	389
During project work i typically work on tasks I'm good at	23	108	757	737	212
During project work i typically work on tasks I'm not good at	163	649	839	165	23

Table 8.1: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* All respondents (N: 1832 – 1839)

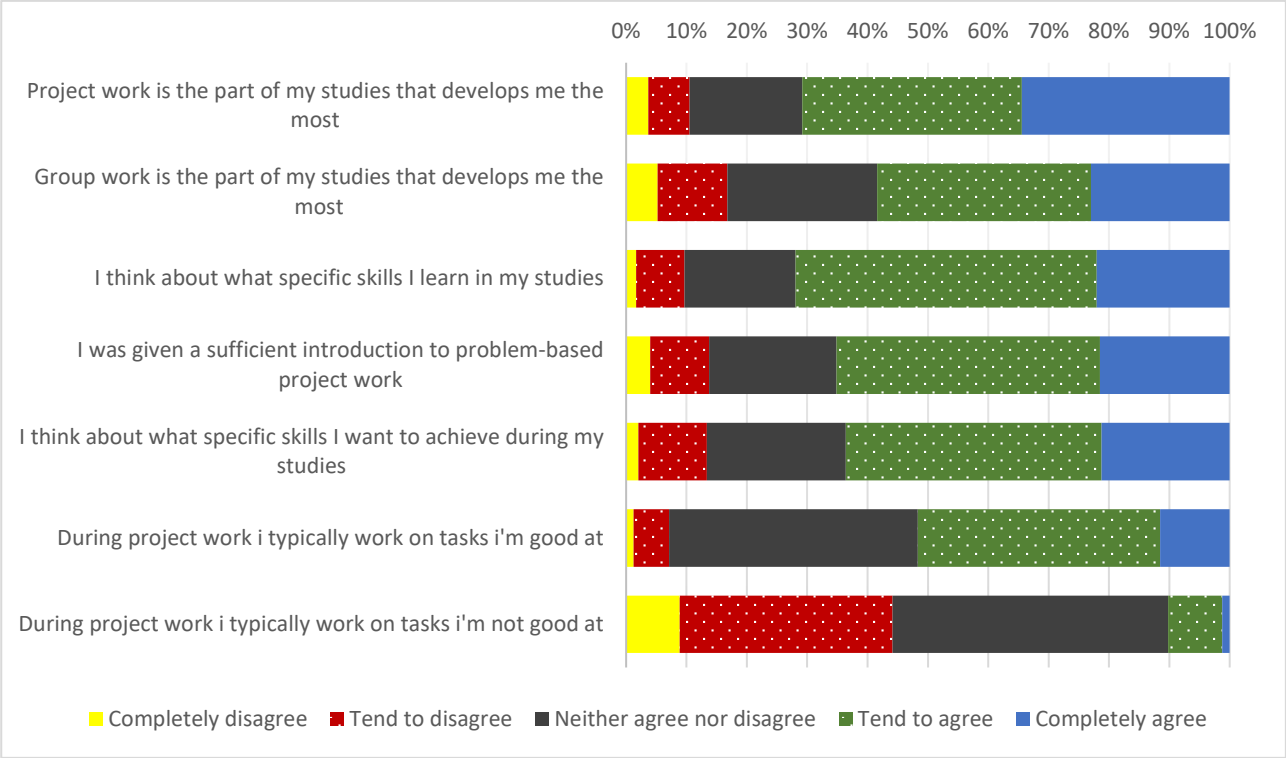

Figure 8.1: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* All respondents (N: 1832 – 1839)

Engineering

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Project work is the part of my studies that develops me the most	19	28	66	106	98
Group work is the part of my studies that develops me the most	24	47	76	101	70
I think about what specific skills I learn in my studies	7	27	45	167	71
I was given a sufficient introduction to problem-based project work	14	27	64	142	73
I think about what specific skills I want to achieve during my studies	7	35	74	134	68
During project work i typically work on tasks i'm good at	5	16	124	131	43
During project work i typically work on tasks i'm not good at	32	113	143	29	3

Table 8.2 : Answer to question: *Please indicate to what extent you agree or disagree with each statement.* ENG (N: 317-320)

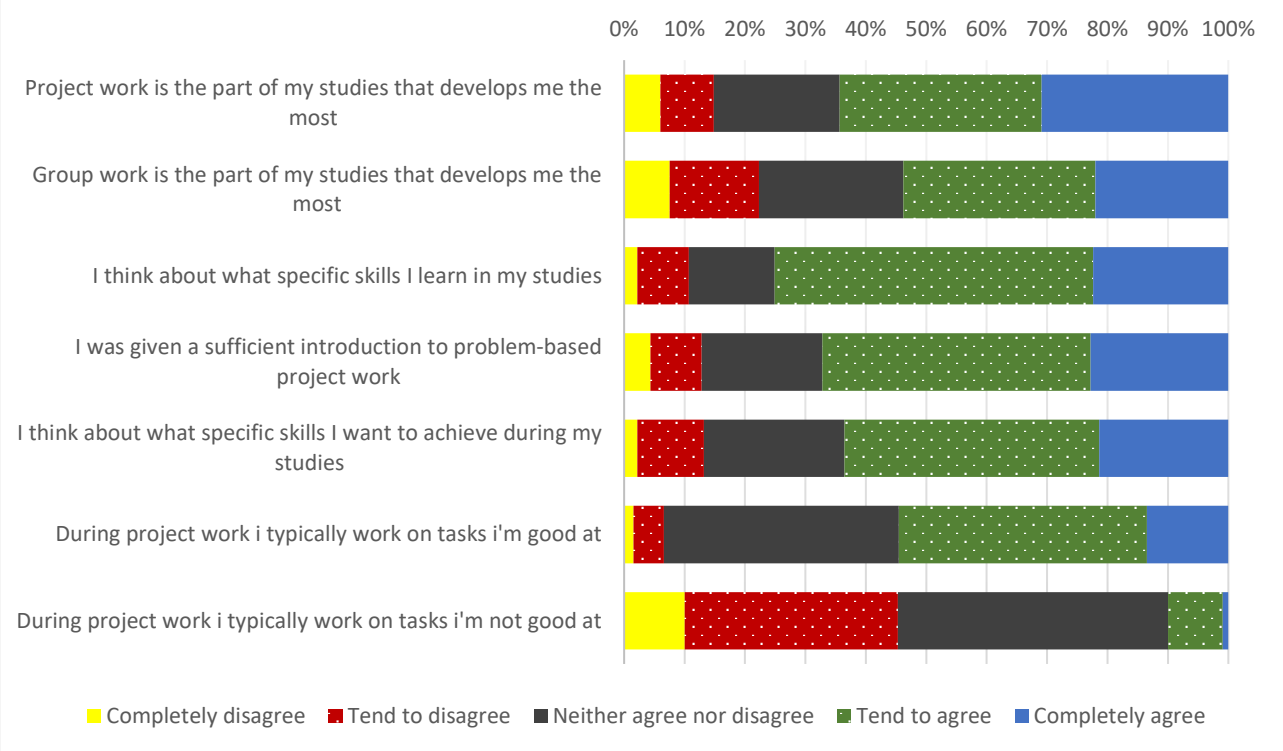

Figure 8.2: Answer to question: *Please indicate to what extent you agree or disagree with each statement*. ENG (N: 317-320)

Health

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Project work is the part of my studies that develops me the most	5	7	24	61	53
Group work is the part of my studies that develops me the most	7	13	40	55	35
I think about what specific skills I learn in my studies	5	11	30	61	43
I was given a sufficient introduction to problem-based project work	7	12	31	64	34
I think about what specific skills I want to achieve during my studies	3	17	33	61	36
During project work i typically work on tasks i'm good at	5	12	55	57	21
During project work i typically work on tasks i'm not good at	14	54	66	12	4

Table 8.3: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* Health (N: 148-150)

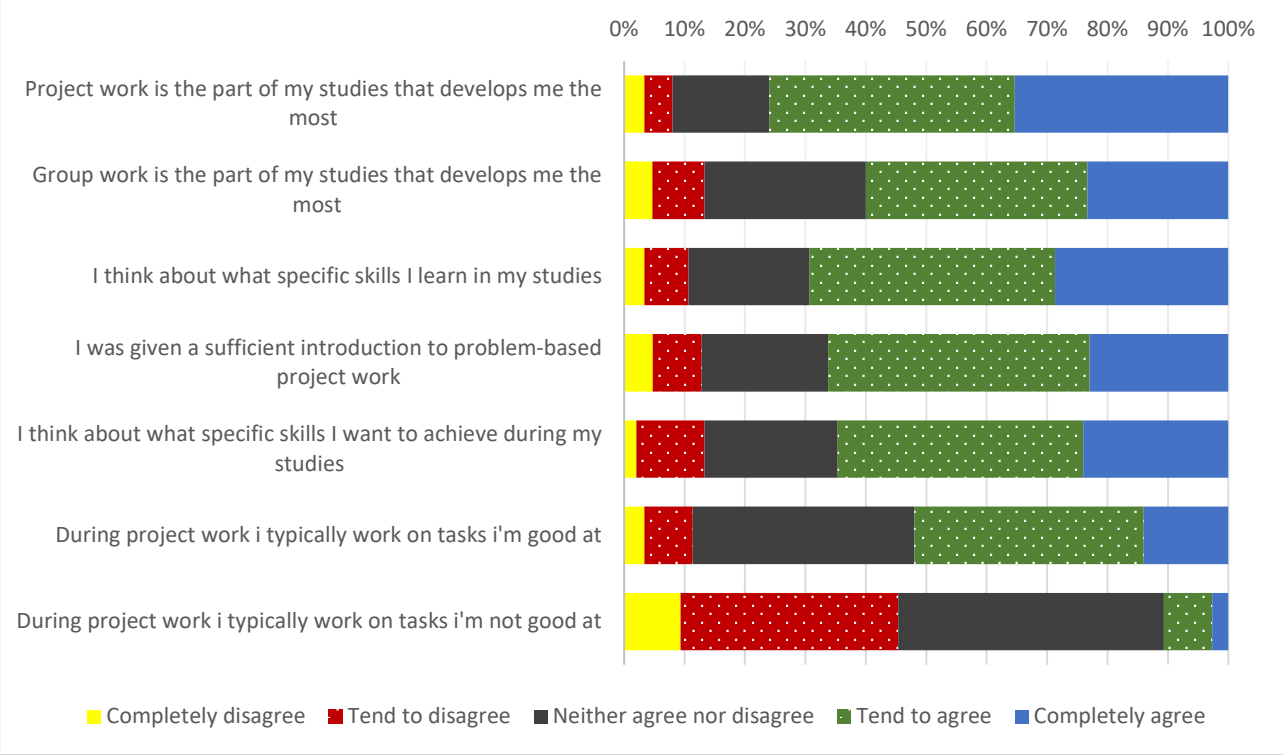

Figure 8.3: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* Health (N: 148-150)

HUM

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Project work is the part of my studies that develops me the most	11	28	72	130	114
Group work is the part of my studies that develops me the most	14	40	95	128	77
I think about what specific skills I learn in my studies	8	27	66	182	72
I was given a sufficient introduction to problem-based project work	16	39	77	151	70
I think about what specific skills I want to achieve during my studies	9	39	76	161	69
During project work i typically work on tasks i'm good at	1	20	153	140	41
During project work i typically work on tasks i'm not good at	33	129	159	28	6

Table 8.4: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* HUM (N: 353-355)

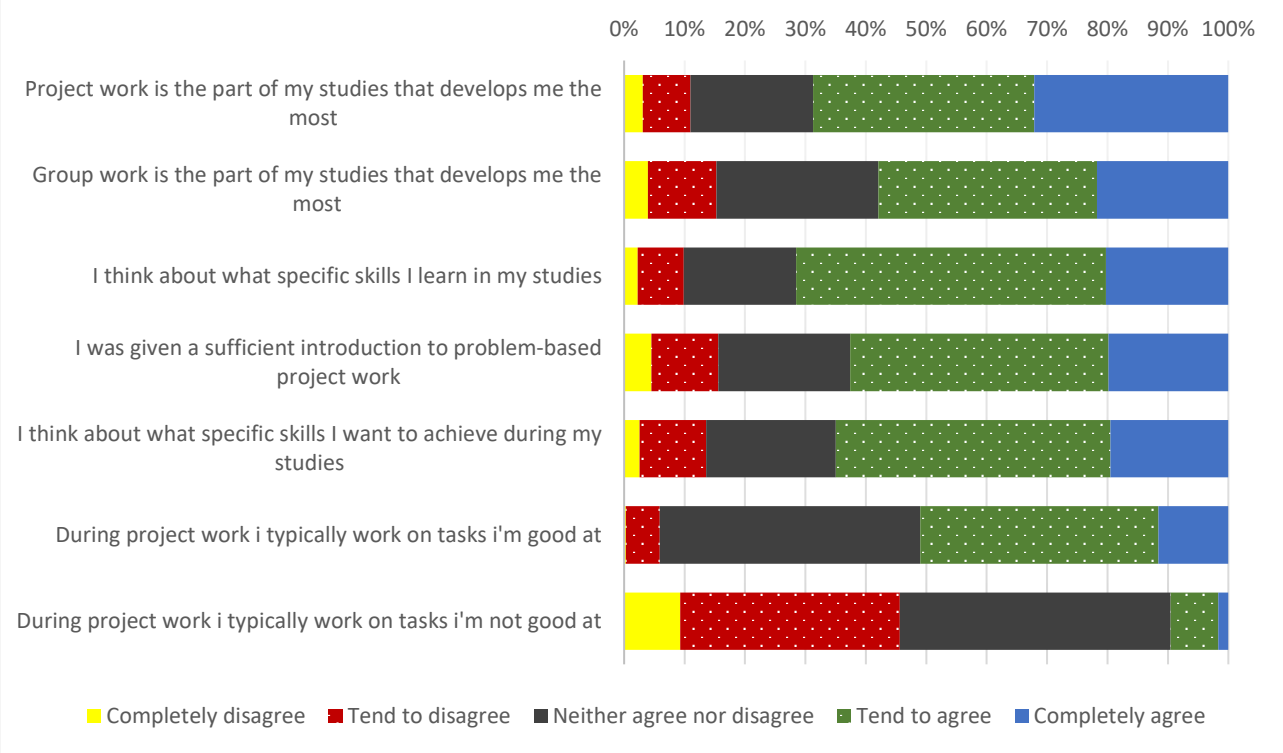

Figure 8.4: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* HUM (N: 353-355)

Social Sciences

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Project work is the part of my studies that develops me the most	22	37	108	214	215
Group work is the part of my studies that develops me the most	32	67	140	211	148
I think about what specific skills I learn in my studies	7	51	116	294	129
I was given a sufficient introduction to problem-based project work	23	64	119	260	132
I think about what specific skills I want to achieve during my studies	10	74	137	242	135
During project work i typically work on tasks i'm good at	8	40	262	227	62
During project work i typically work on tasks i'm not good at	49	201	285	59	6

Table 8.5: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* Social Science (N: 596-600)

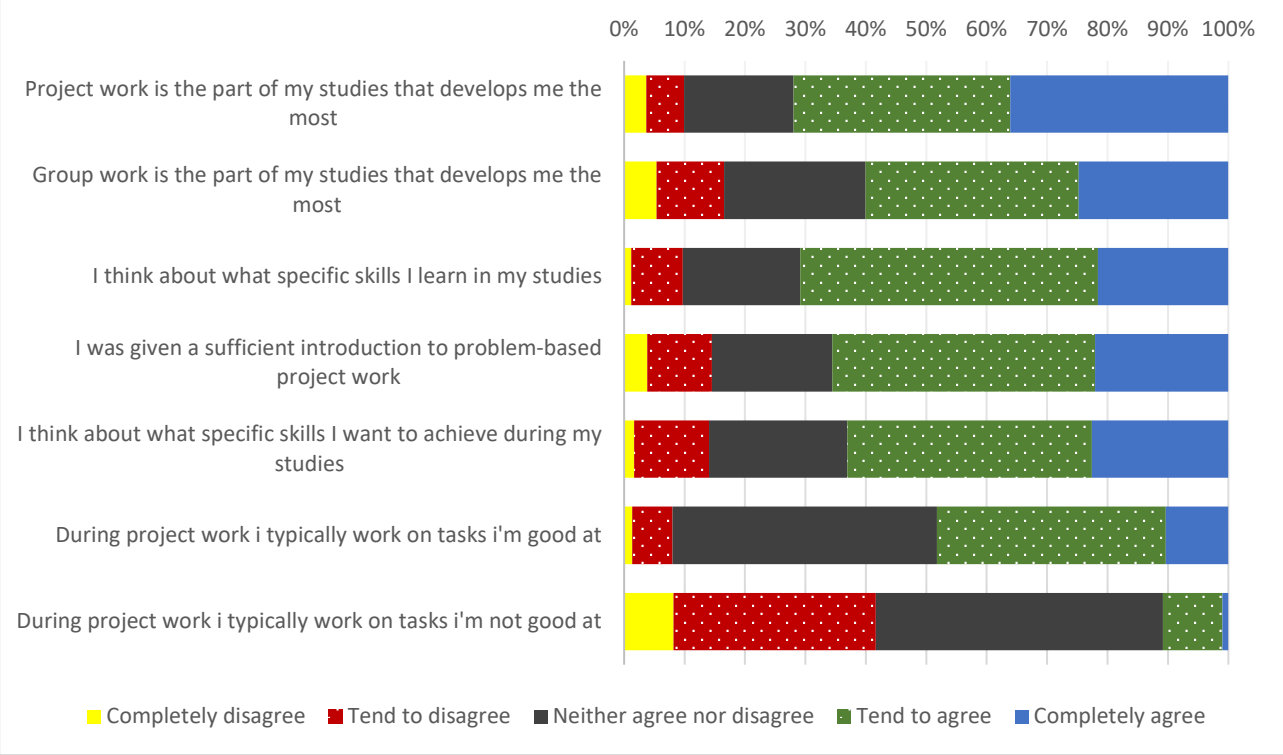

Figure 8.5: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* Social Science (N: 596-600)

TECH

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Project work is the part of my studies that develops me the most	10	26	72	154	148
Group work is the part of my studies that develops me the most	19	45	103	153	91
I think about what specific skills I learn in my studies	3	31	81	208	88
I was given a sufficient introduction to problem-based project work	13	37	95	182	84
I think about what specific skills I want to achieve during my studies	8	43	102	177	80
During project work i typically work on tasks i'm good at	4	20	161	180	45
During project work i typically work on tasks i'm not good at	35	150	184	37	4

Table 8.6: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* TECH (N: 410-411)

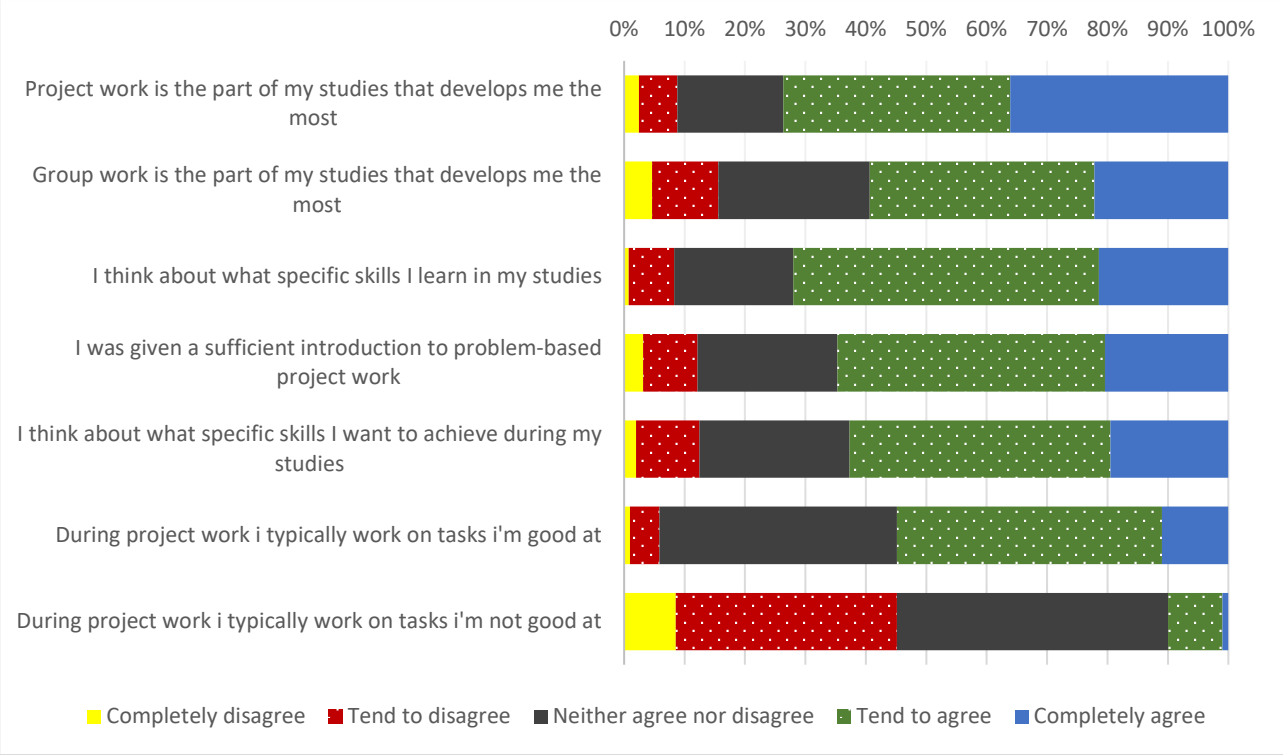

Figure 8.6: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* TECH (N: 410-411)

9. IT TOOLS

Digitalization is on the agenda for most universities and also at Aalborg University there are a lot of new initiatives for integrating digitalization into the curriculum. However, the students are already using a lot of tools and programs in their organization of the project processes. Therefore, we have several questions on students' use of IT tools. In this report, we only report one of the questions to reduce the amount of data presentation.

Of the respondents' answers about IT tools it seems like in general that there is a degree of self-taught leaning because the students in a high level between 50% - 60% find themselves agreeing or completely agreeing on gaining relevant digital skills in their project work, what is possible because the university also provides sufficiently relevant IT tools to use. The degree of self-taught learning must in that extend be high because it for an amount of almost 70% of the students' opinion, is that the university does not decide which tools they have to use and not in a very high level give a sufficient introduction to use them.

The respondents were asked: Here are a few final questions related to study-related IT tools. Please indicate to what extent you agree or disagree with each statement.

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Through project work, I gain digital skills relevant to my future work	96	260	451	676	416
The university provides sufficiently relevant IT tools for project work	126	284	519	667	305
The university indicates, to a sufficient extent, which project-relevant IT tool I can use	261	506	548	458	127
I was given a sufficient introduction to study-relevant IT tools	266	593	534	413	92

Table 9.1: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* All respondents (N: 1898 – 1901)

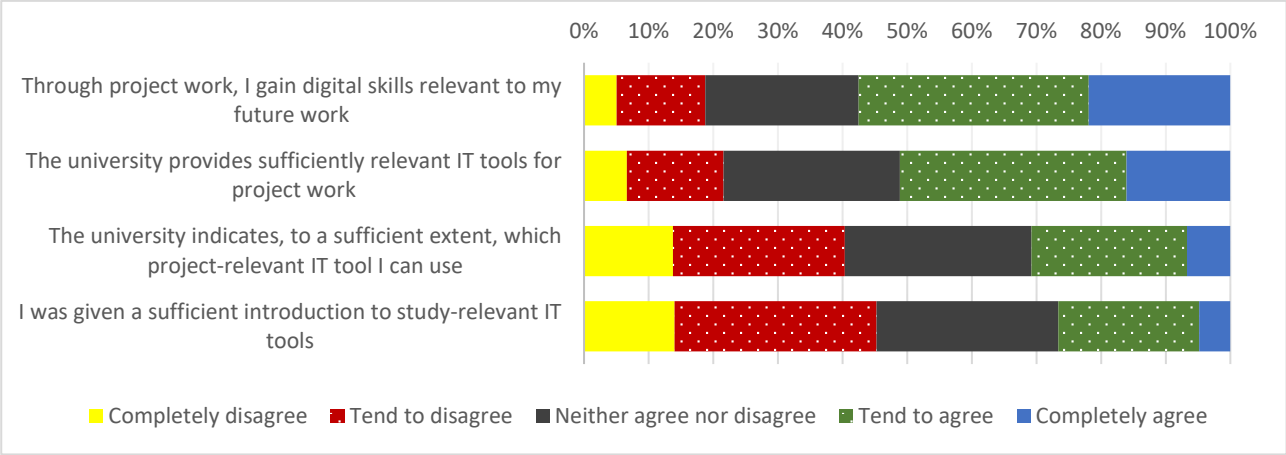

Figure 9.1: Answer to question: *Please indicate to what extent you agree or disagree with each statement.*
All respondents (N: 1898 – 1901)

Engineering

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Through project work, I gain digital skills relevant to my future work	24	34	79	129	66
The university provides sufficiently relevant IT tools for project work	15	43	85	136	53
The university indicates, to a sufficient extent, which project-relevant IT tool I can use	45	80	93	87	27
I was given a sufficient introduction to study-relevant IT tools	44	101	100	71	16

Table 9.2: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* ENG (N: 332)

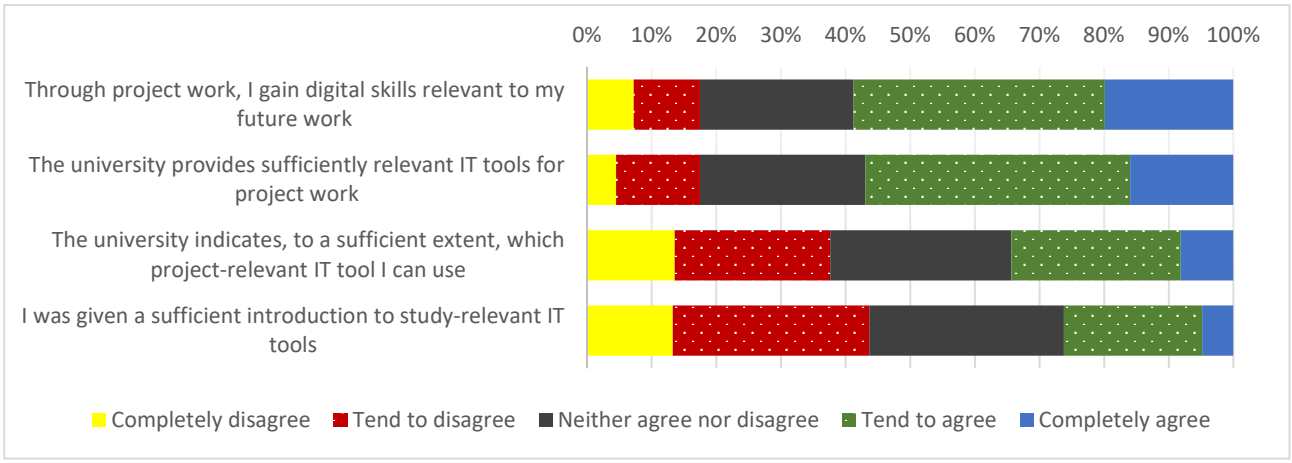

Figure 9.2: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* ENG (N: 332)

Health

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Through project work, I gain digital skills relevant to my future work	5	22	42	50	39
The university provides sufficiently relevant IT tools for project work	11	29	40	52	26
The university indicates, to a sufficient extent, which project-relevant IT tool I can use	19	38	52	35	14
I was given a sufficient introduction to study-relevant IT tools	15	51	46	38	8

Table 9.3: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* Health (N: 158)

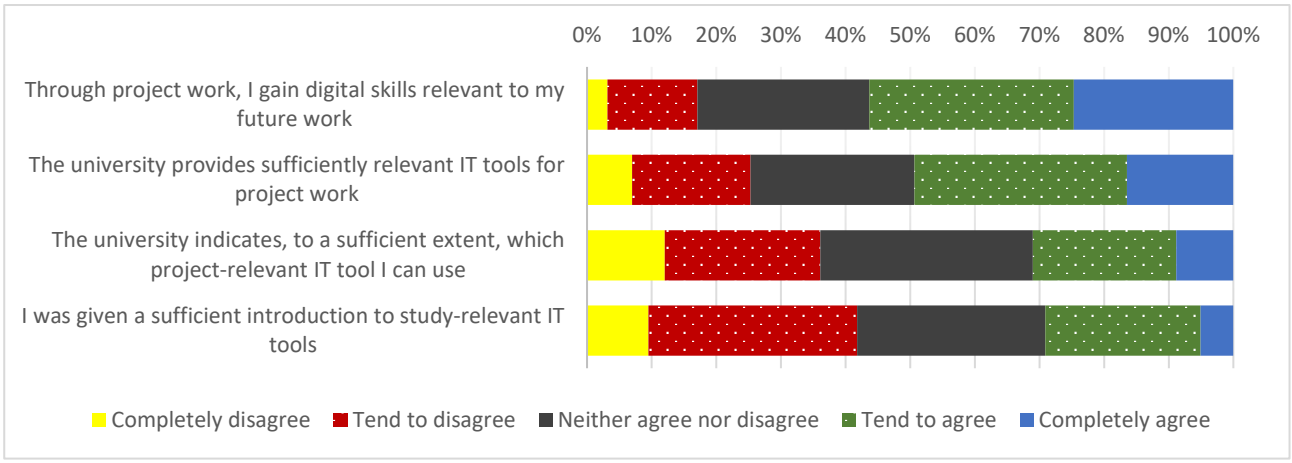

Figure 9.3: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* Health (N: 158)

HUM

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Through project work, I gain digital skills relevant to my future work	15	55	81	130	83
The university provides sufficiently relevant IT tools for project work	31	50	98	131	55
The university indicates, to a sufficient extent, which project-relevant IT tool I can use	50	104	109	84	18
I was given a sufficient introduction to study-relevant IT tools	45	117	106	85	12

Table 9.4: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* HUM (N: 364-365)

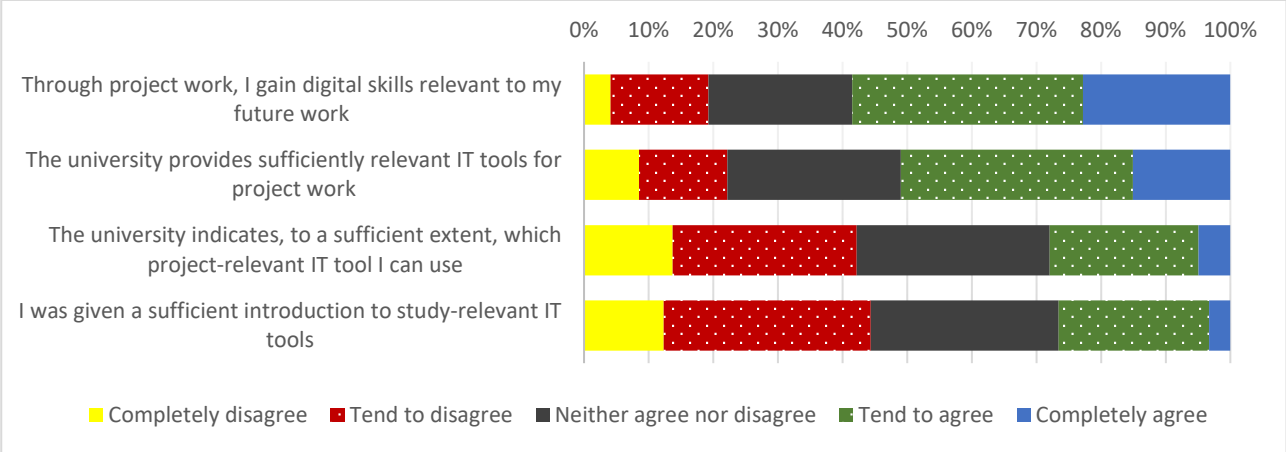

Figure 9.4: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* HUM (N: 364-365)

Social Sciences

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Through project work, I gain digital skills relevant to my future work	38	94	141	216	130
The university provides sufficiently relevant IT tools for project work	44	104	172	204	96
The university indicates, to a sufficient extent, which project-relevant IT tool I can use	96	178	174	133	40
I was given a sufficient introduction to study-relevant IT tools	99	194	173	116	35

Table 9.5: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* Social Science (N: 617-620)

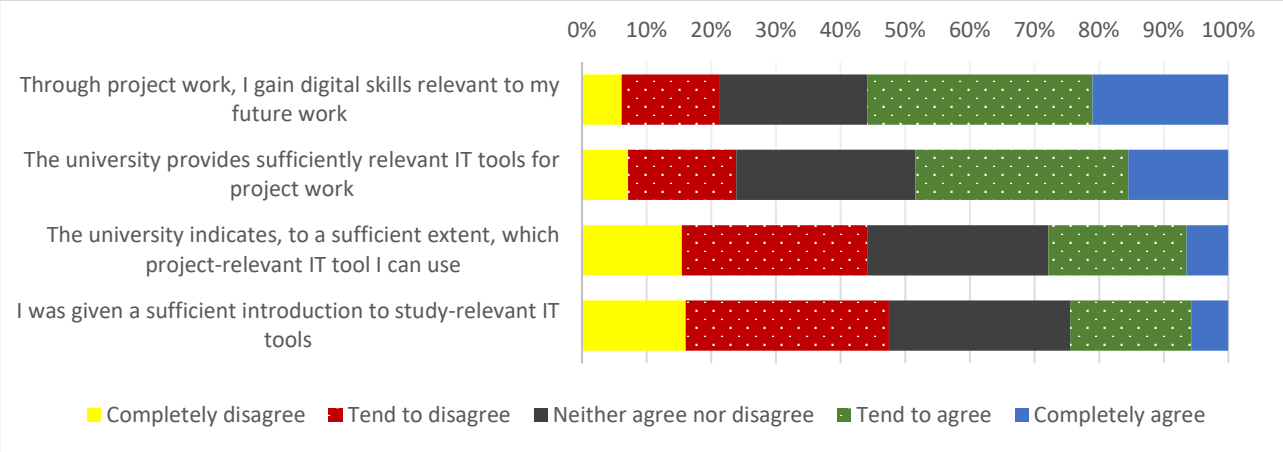

Figure 9.5: Answer to question: *Please indicate to what extent you agree or disagree with each statement.* Social Science (N: 617-620)

TECH

	Completely disagree	Tend to disagree	Neither agree nor disagree	Tend to agree	Completely agree
Through project work, I gain digital skills relevant to my future work	14	55	107	149	97
The university provides sufficiently relevant IT tools for project work	25	58	124	140	75
The university indicates, to a sufficient extent, which project-relevant IT tool I can use	51	105	119	117	28
I was given a sufficient introduction to study-relevant IT tools	63	129	108	101	21

Table 9.6: Answer to question: *Please indicate to what extent you agree or disagree with each statement.*
TECH (N: 420-422)

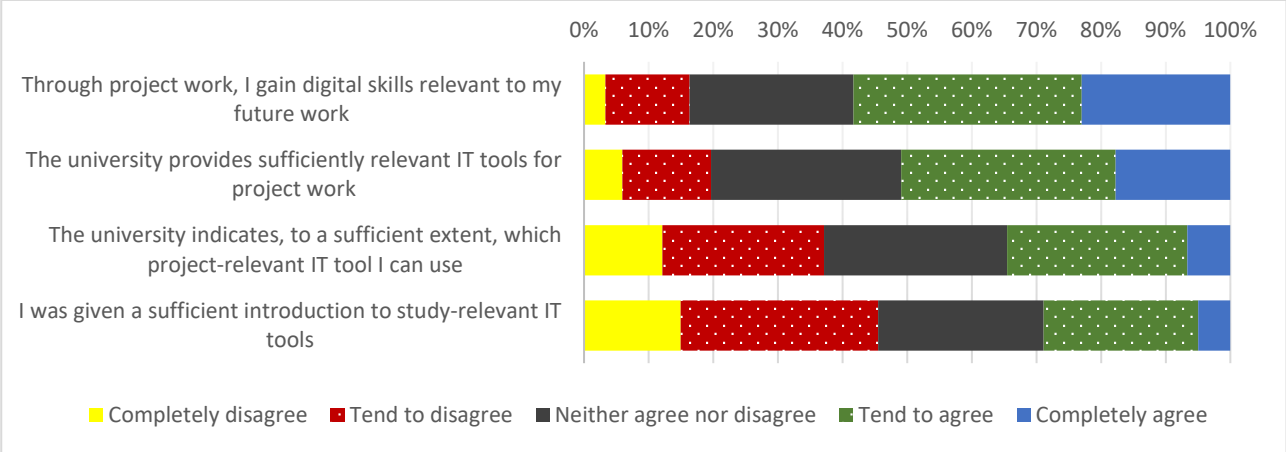

Figure 9.6: Answer to question: *Please indicate to what extent you agree or disagree with each statement.*
TECH (N: 420-422)

10. PHYSICAL STUDY ENVIRONMENT

Since the establishment of Aalborg University, physical space in terms of group rooms have been provided for the students. During the years, the idea of a group room has changed from a physical room to a study place which can be physical or virtual and which also not necessary is a private space for the project groups, but it is an opportunity to find seats and tables where ever these are available. In this survey we were interested to see how students use different types of space.

Having a private group room or not is almost even among the respondents with only a small majority on 54,6% telling they do not have a private group room. In the interpretation of this question there is a risk that the students have misunderstood the question and answered yes we have a private group room if they have the possibility to book one for a day. Nonetheless the next question about exact where the students meet when they work on their project shows that the majority meet in their private group room. The results also tell that for most of the students, it is very rare to meet at the library or have the meetings virtually which around 70% never or rarely does. The respondents were asked: Please indicate whether you and your project group have access to a private group room and Where do you meet with your project group? Please indicate how often you meet the given places?

	No, we do not have a private group room	**Yes, we have a private group room**
Please indicate whether you and your project group have access to a private group room	936 (54,6%)	779 (45,4%)

Table 10.1 : Answer to the question: *Please indicate whether you and your project group have access to a private group room*? All respondents (N: 1715)

	Never	Rarely	Sometimes	Often	Always
In our private group room	29	19	37	146	542
At the university in reserved meeting rooms or common areas	515	311	331	336	183
At a group members home	560	392	273	298	152
Virtually (e.g. Skype, Adobe Connect or Google Hangout)	822	398	261	140	29
At a library	938	290	204	169	58

Table 10.2: Answer to the question: *Please indicate how often you meet the given places?* All respondents (N: 773 – 1676)

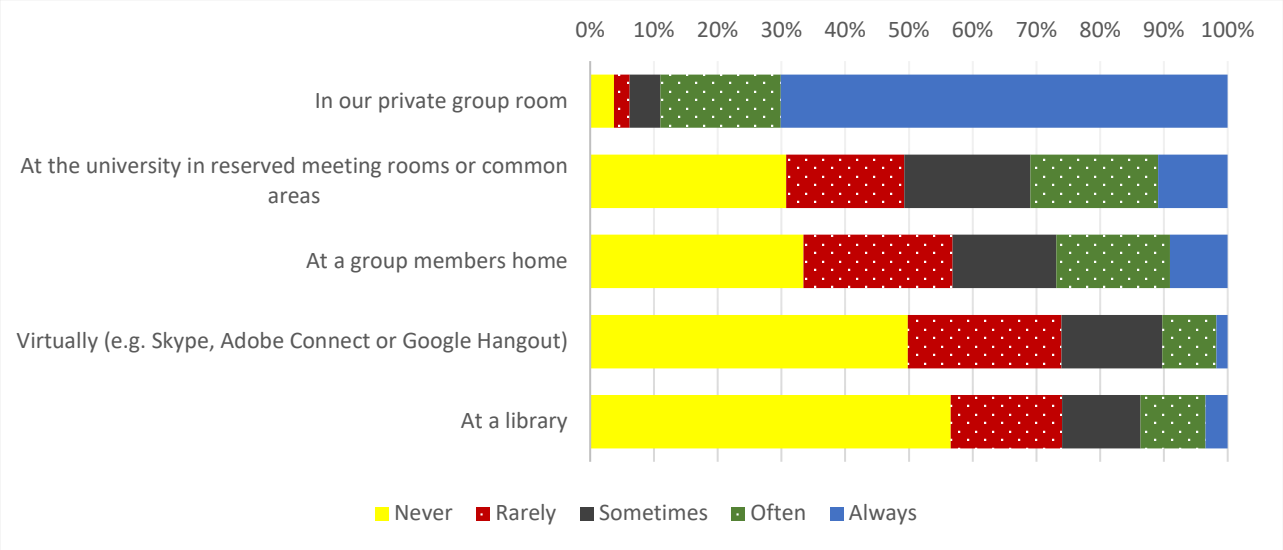

Figure 10.1: Answer to the question: *Please indicate how often you meet the given places?* All respondents (N: 773 – 1676)

Engineering

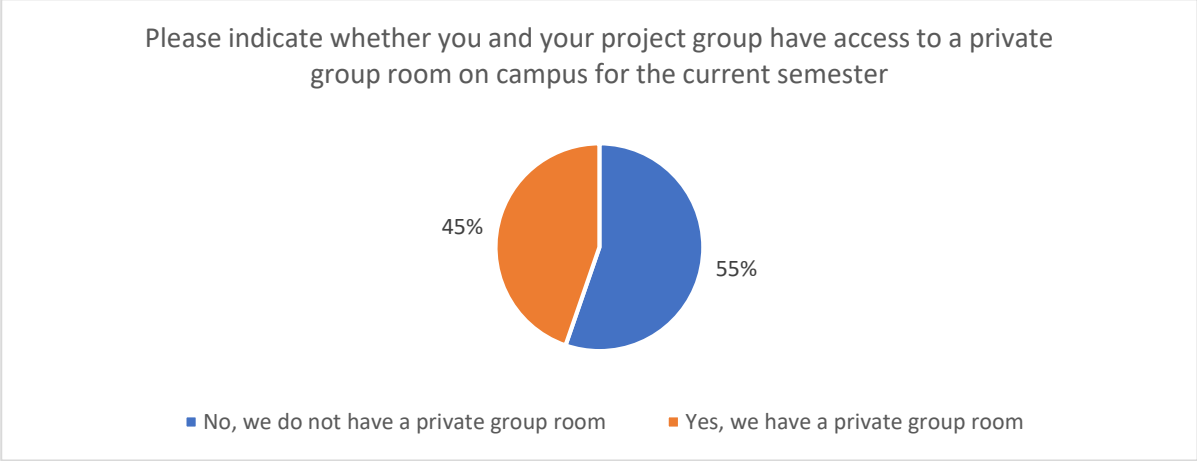

Figure 10.2: Answer to the question: *Please indicate whether you and your project group have access to a private group room*? ENG (N: 293)

	Never	Rarely	Sometimes	Often	Always
In our private group room	4	4	10	22	90
At the university in reserved meeting rooms or common areas	84	53	52	64	33
At a library	169	46	35	20	14
At a group members home	101	79	39	50	20
Virtually (e.g. Skype, Adobe Connect or Google Hangout)	158	53	37	26	7

Table 10.3: Answer to the question: *Please indicate how often you meet the given places?* ENG (N: 130 – 289)

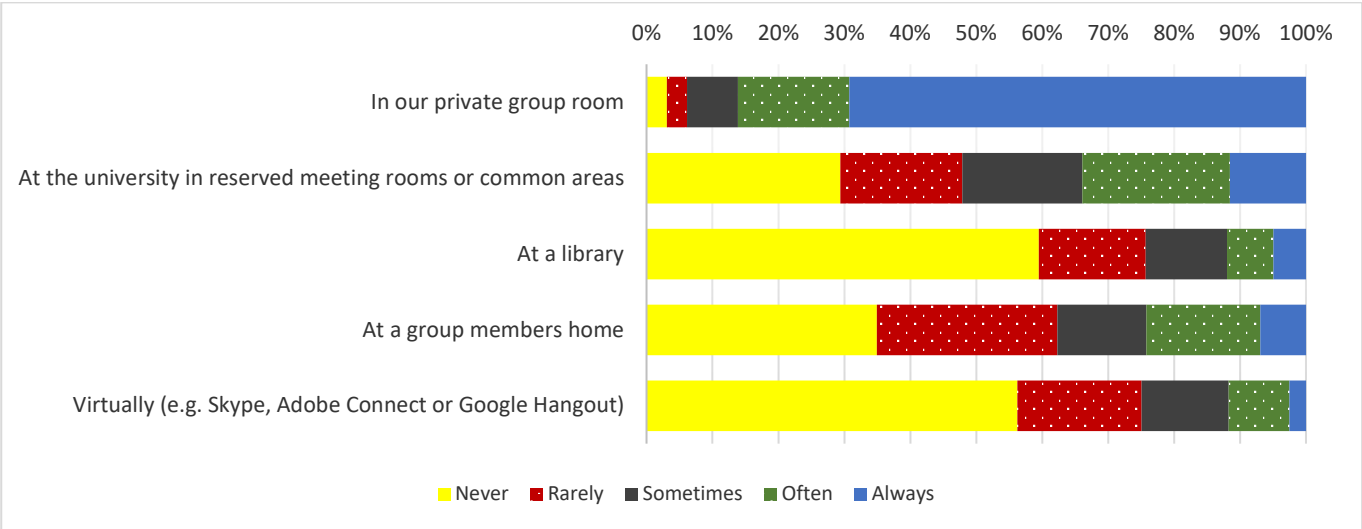

Figure 10.3: Answer to the question: *Please indicate how often you meet the given places?* ENG (N: 130 – 289)

Health

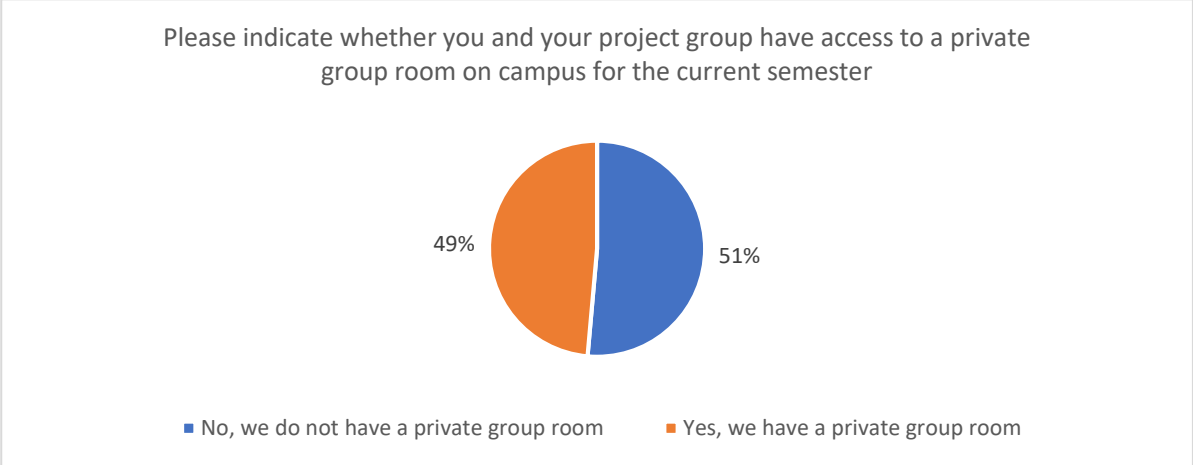

Figure 10.4: Answer to the question: *Please indicate whether you and your project group have access to a private group room*? Health (N: 142)

	Never	Rarely	Sometimes	Often	Always
In our private group room	3	2	4	13	45
At the university in reserved meeting rooms or common areas	50	19	26	22	20
At a library	80	14	23	16	2
At a group members home	47	29	23	19	18
Virtually (e.g. Skype, Adobe Connect or Google Hangout)	65	32	20	13	4

Table 10.4: Answer to the question: *Please indicate how often you meet the given places?* Health (N: 67 – 137)

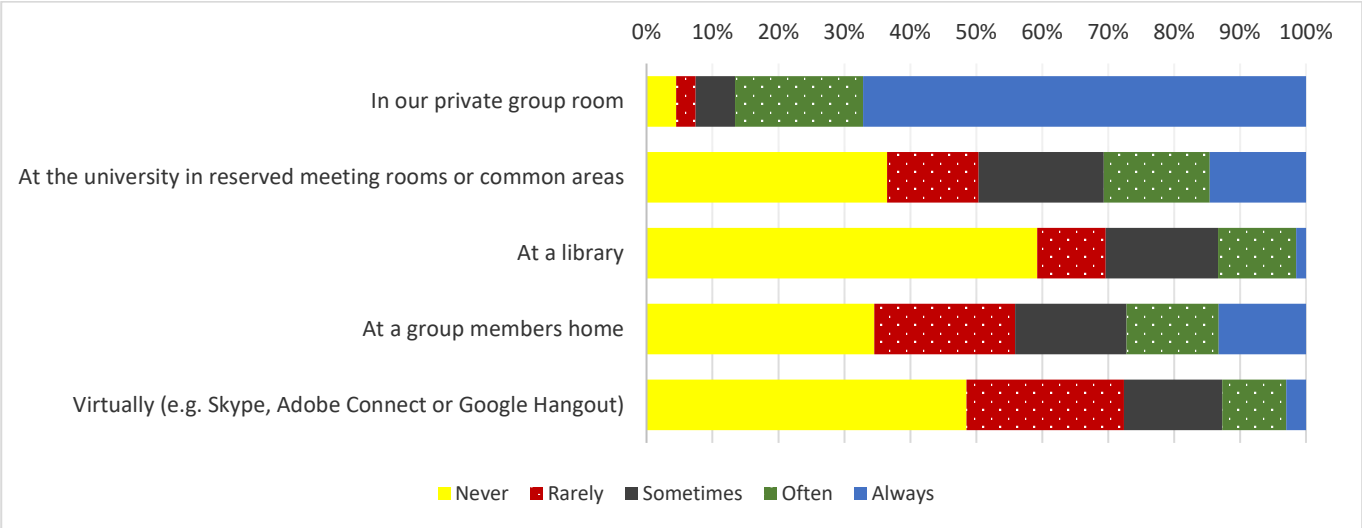

Figure 10.5: Answer to the question: *Please indicate how often you meet the given places?* Health (N: 67 – 137)

HUM

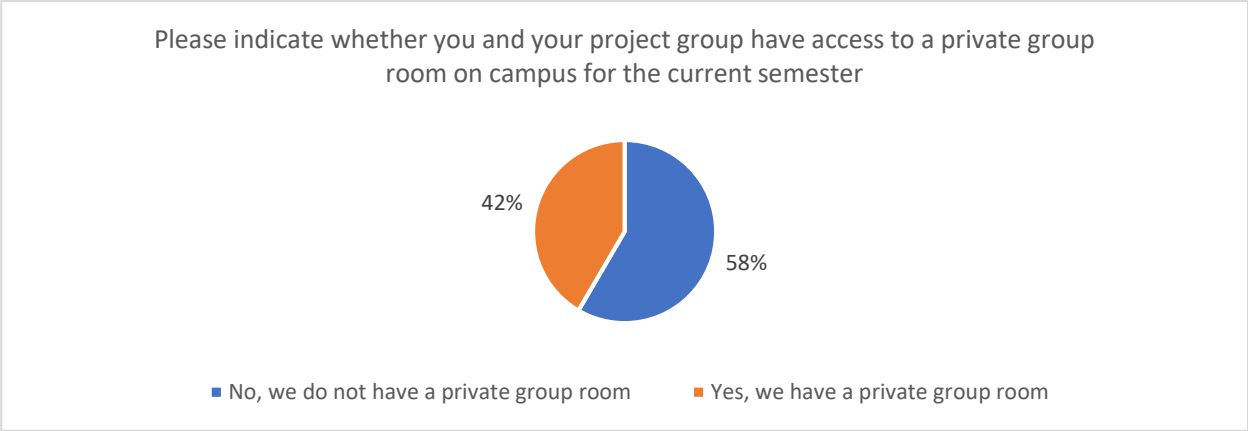

Figure 10.6: Answer to the question: *Please indicate whether you and your project group have access to a private group room*? HUM (N: 332)

	Never	Rarely	Sometimes	Often	Always
In our private group room	9	3	2	26	97
At the university in reserved meeting rooms or common areas	78	71	68	76	32
At a library	169	60	43	31	14
At a group members home	95	75	64	59	27
Virtually (e.g. Skype, Adobe Connect or Google Hangout)	145	94	50	25	6

Table 10.5: Answer to the question: *Please indicate how often you meet the given places?* HUM (N: 137 – 320)

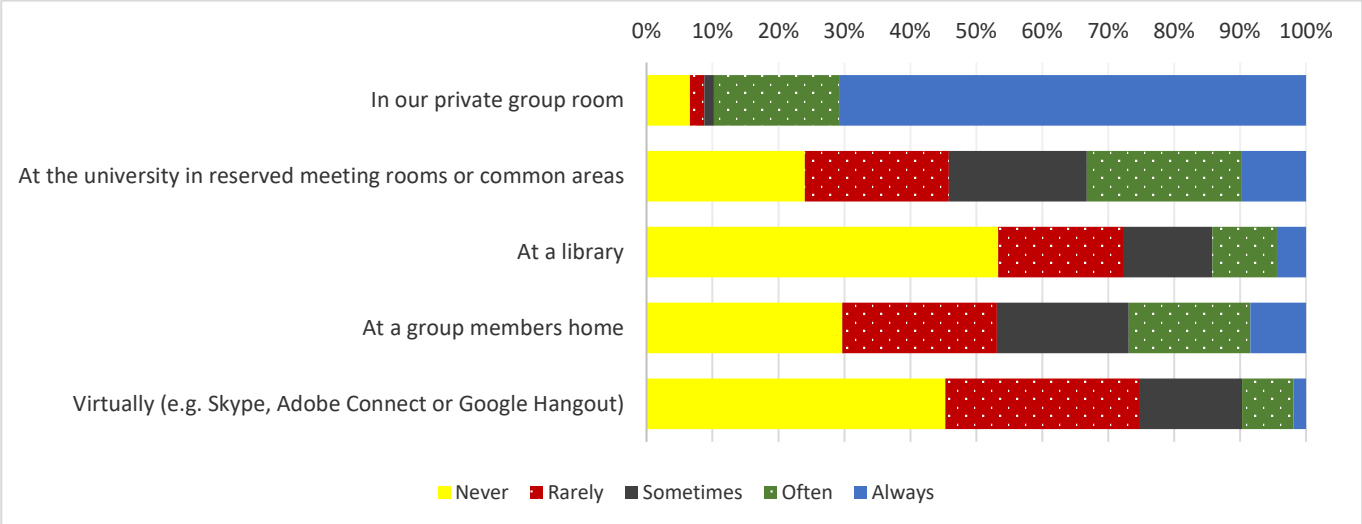

Figure 10.7: Answer to the question: *Please indicate how often you meet the given places?* HUM (N: 137 – 320)

(N: 137 –320)

Social Sciences

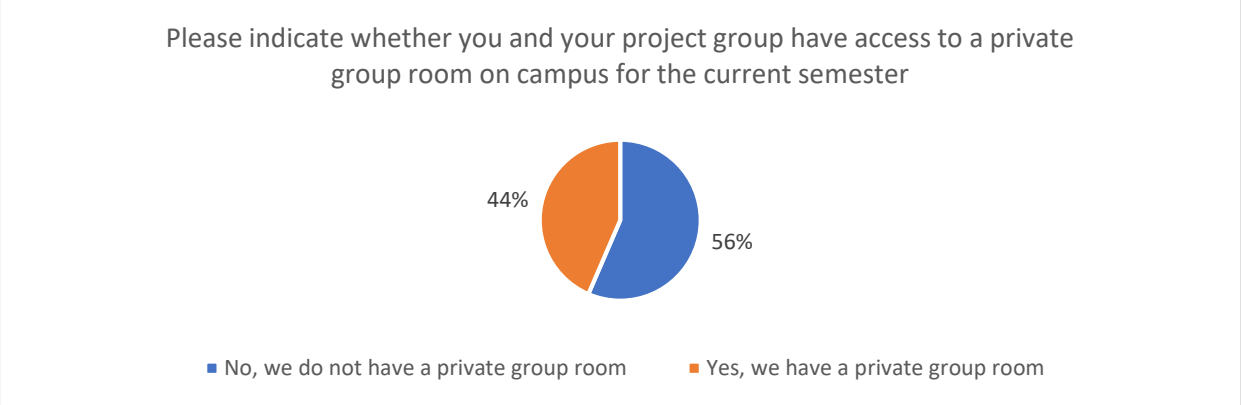

Figure 10.8: Answer to the question: *Please indicate whether you and your project group have access to a private group room*? Social Science (N: 563)

	Never	Rarely	Sometimes	Often	Always
In our private group room	9	5	12	44	174
At the university in reserved meeting rooms or common areas	179	98	105	99	68
At a library	294	112	56	67	18
At a group members home	188	116	85	109	53
Virtually (e.g. Skype, Adobe Connect or Google Hangout)	276	129	84	44	6

Table 10.6 : Answer to the question: *Please indicate how often you meet the given places?* Social Science (N: 244 –551)

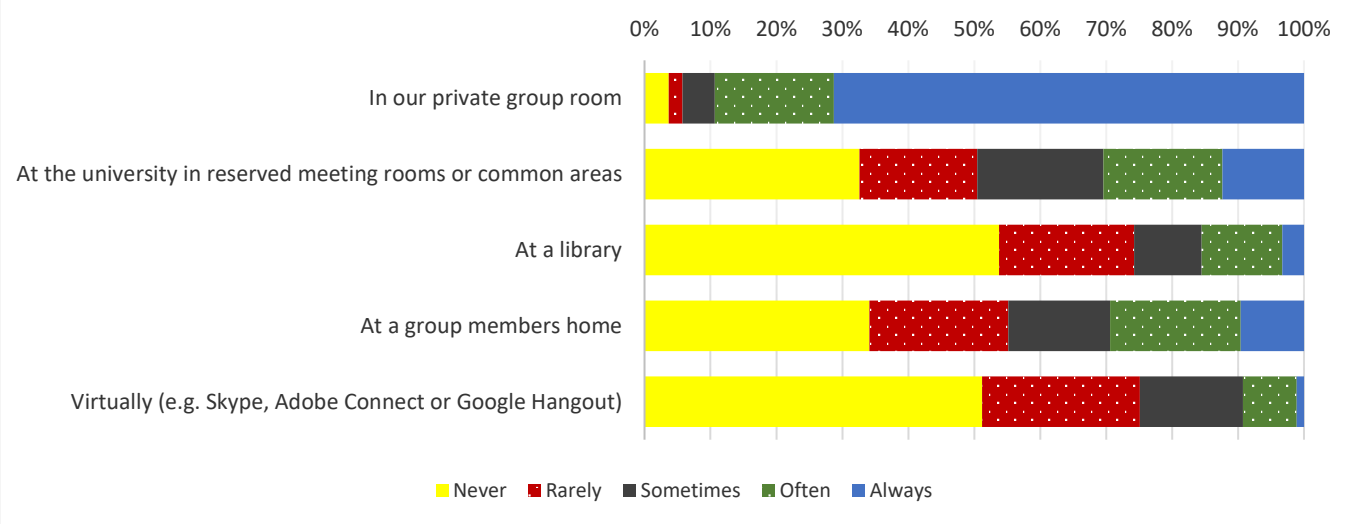

Figure 10.9: Answer to the question: *Please indicate how often you meet the given places?* Social Science (N: 244 –551)

TECH

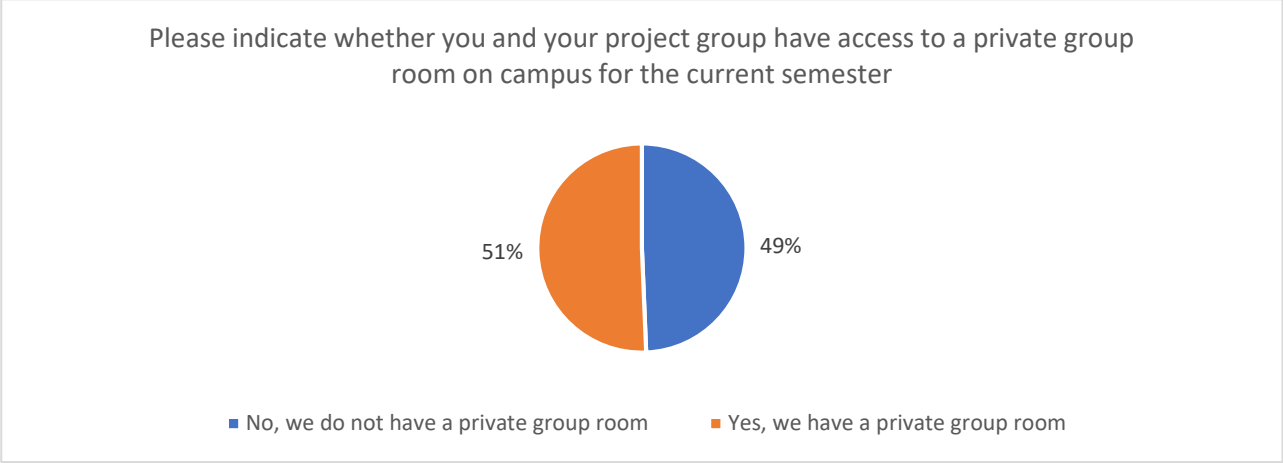

Figure 10.10: Answer to the question: *Please indicate whether you and your project group have access to a private group room*? TECH (N: 381)

	Never	Rarely	Sometimes	Often	Always
In our private group room	4	5	9	39	135
At the university in reserved meeting rooms or common areas	124	70	79	72	30
At a library	223	58	46	35	10
At a group members home	128	92	60	61	34
Virtually (e.g. Skype, Adobe Connect or Google Hangout)	177	90	67	32	6

Table 10.7: Answer to the question: *Please indicate how often you meet the given places?* TECH (N: 192 – 375)

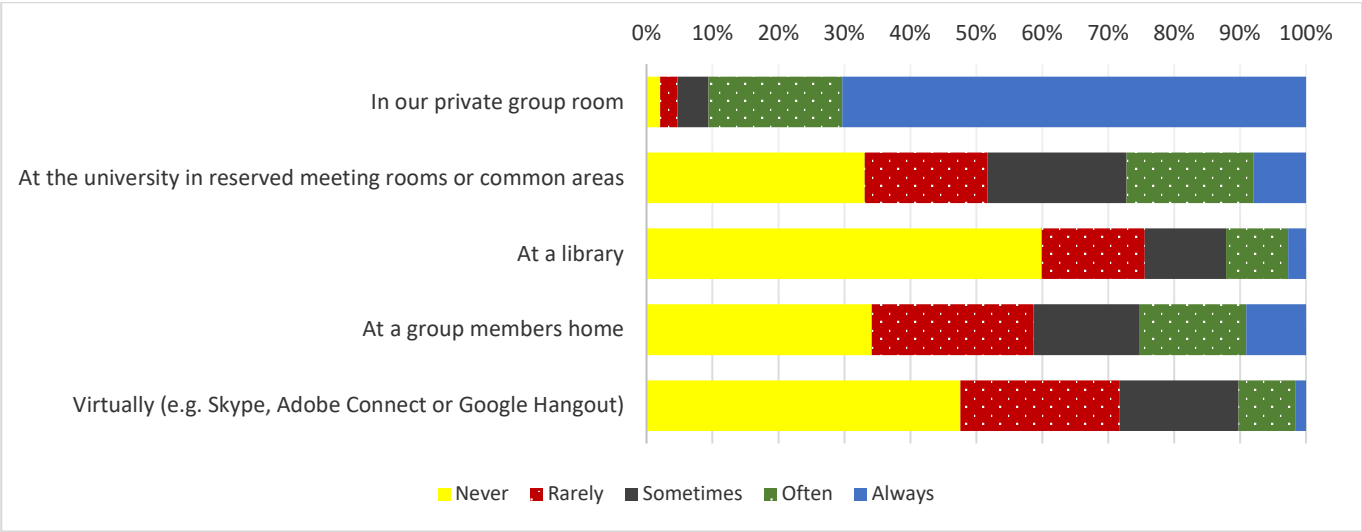

Figure 10.11: Answer to the question: *Please indicate how often you meet the given places?* TECH (N: 192 – 375)

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