Ausbildungskommission swimsa
Commission de la Formation swimsa

National Comparative Survey 2022

swimsa

Overview

Preface

It is surprising that whenever Swiss medical students from different faculties talk about their medical education, they seem to notice that they make very different experiences throughout the course of their education, although they study the same subject. This often leads to rumours and clichés regarding the different Swiss medical faculties. More or less a year ago, the Medical Education Commission (Ausbildungskommission/Commission de la Formation (AK/CoFo)) of swimsa decided to try and get to the bottom of things: Are there significant differences between the Swiss medical faculties that have a relevant impact on student satisfaction with their medical education? This was the moment the National Comparative Survey was initiated.

Of course this project would not have been feasible for one student alone. Therefore, I would like to take a moment and thank all the people who have been part of this project: The members of the AK/CoFo 20/21 for their support in initiating this project and their many ideas on what aspects of medical education could have a relevant impact on students satisfaction. The members of the small working group working on this project, namely Clara Noble, Rakithan Murugesu and Manon Vandermensbrugghe, for their research on further relevant aspects of medical education, the discussions concerning the study design and their help with the formulation of the items for the questionnaire. The Vice-President for Medical Education of swimsa 20/21, Charlotte Kull, for her support of the project in general as well as for her contributions as a member of the small working group in particular. The members of the AK/CoFo 21/22 for the revision and the discussion of the final questionnaire, the distribution of the survey and their help with gathering as much input from the local students as possible for the interpretation of the results. And also a thank you to all further people who were involved in this project but not named explicitly. Without your outstanding commitment this project would not have been possible. Last but not least, I want to thank the nearly 1'200 medical students that gifted a little of their time to this project and filled out the survey.

We are hopeful that the results in this report will help to identify the strengths and weaknesses of the different Swiss medical faculties and will be used to further improve medical students satisfaction and medical education in Switzerland. And of course, the AK/CoFo and swimsa in general will continue to facilitate the exchange between the medical students of Switzerland and to support them during their education as best as we can.

Matias Jacomet
Vice-President for Medical Education of swimsa 21/22

Background

Swiss medical students complete their university education by passing the federal licensing exams[1]. The goal of the federal licensing exam is to ensure that students completing their studies have attained the necessary knowledge, skills and abilities, social competency and other behaviours that are needed to perform in a medical profession as well as fulfil the prerequisites to begin their further education (*ibid.*). The foundation for the content of the federal licensing exam for human medicine are the education objectives defined in the MedBG/LPMéd/LPMed as well as the learning catalogue "PROFILES" (Principle Relevant Objectives and Framework for Integrative Learning and Education in Switzerland)[2].

Although all medical students work towards the same learning objectives and take the same exam at the end of their university education, Swiss medical students from different faculties have noticed during multiple discussions that the path to this point can vary: While the medical faculties in the German part of Switzerland use an aptitude test (dt. "Eignungstest", fr. "Test d'aptitudes", it. "Test attitudinale") to select their future students, the faculties of Geneva and Lausanne perform their selection at the end of the first study year. Some faculties make a distinction between preclinical study years and clinical study years whereas students from other faculties have extensive patient-contact from the beginning of their medical education. With the introduction of the new study tracks in Lucerne and St.Gallen as well as the possibility to study medicine at the ETHZ & USI, multiple new courses of study with small(er) cohorts have been initiated during the past years. Some universities have additional clinical internships called "Block-Internships" (dt. "Blockpraktikum") implemented in their curriculum in addition to their practical year; additionally, the study year in which the practical year takes place, differs between certain universities. Some faculties show higher exam frequencies with multiple exams per semester, while other faculties have only one thematically overarching exam at the end of the semester. Also regarding the digital learning opportunities as well as the physical learning infrastructure, multiple differences between faculties were noticed by the students.

Observing all these differences between the medical faculties raises the question as to whether there might be significant differences between the Swiss medical faculties regarding student's satisfaction with different aspects of their medical education. Furtheron, the question whether there are some aspects of medical education that have a bigger impact on the general satisfaction of Swiss medical students with their medical education than others arises. As answers to these questions would allow to identify the different strengths and weaknesses of the different medical faculties and also indicate which aspects of medical education are likely to have the most impact on the student general satisfaction with their medical education, tackling these questions seems to be a fruitful step to improve students satisfaction with medical education in Switzerland.

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[1] Art. 14, MedBG, last retrieved under "https://www.fedlex.admin.ch/eli/cc/2007/537/de" (6.3.2022)
[2] Art. 3, Prüfungsverordnung MedBG, last retrieved under
"https://www.fedlex.admin.ch/eli/cc/2008/832/de" (6.3.2022)

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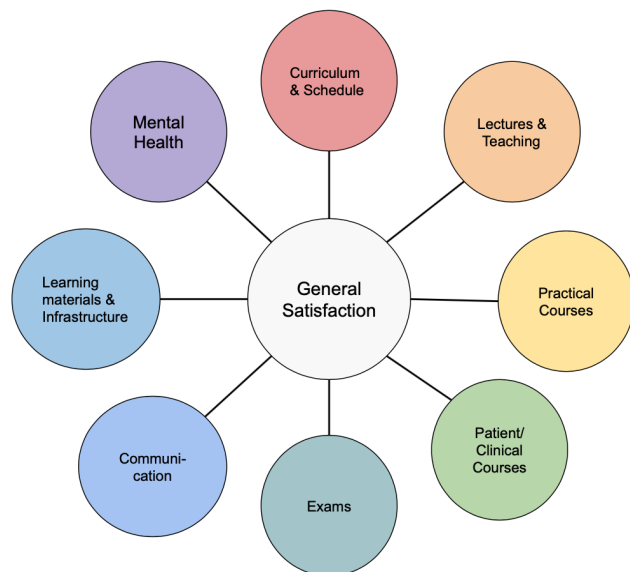3000 Bern
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Therefore, the following questions are tackled in this report:

1. Does student satisfaction with different aspects of medical education and the general students satisfaction with medical education correlate significantly?
2. How much variance of the general student's satisfaction with medical education do the selected aspects of medical education explain?
3. Are there significant differences between the Swiss medical faculties regarding student satisfaction with the selected aspects of medical education as well as regarding general students satisfaction with medical education?

Methodology

Questionnaire

On the 8th of November 2020 the national comparative survey was initiated by the Commission on Medical Education (Ausbildungskommission/ Commission de la Formation (AK/CoFo)) 20/21 of swimsa (Swiss Medical Students' Association). A small working group consisting of students from Basel, Bern, Lausanne, Lucerne and Geneva was formed and assigned to the project. Based on discussions with student delegates from all Swiss medical faculties, different aspects of medical education with potential impact on student satisfaction were collected by the small working group and categorised into eight variables: "Curriculum & Schedule", "Lectures & Teaching", "Practical Courses", "Patient/Clinical Courses", "Exams", "Communication", "Learning materials & Infrastructure" and "Mental Health". The small working group formulated a set of items for each variable and additionally added the demographic variables university, study year, age and gender as well as an item asking for student's general satisfaction with medical education to the survey. This draft of the survey was then presented to the AK/CoFo 21/22 for revision. The final national comparative survey (see attachment 1), containing a total of 37 items and a comment possibility was proposed to and unanimously accepted by the AK/CoFo 21/22 on the 9th of October 2021.

Data collection

The distribution of the survey started on Sunday, 12th of November and continued until Monday, 29th of November 2021. Distribution was carried out by the local associations and took place via the Whatsapp-Groups of each respective study year at each Swiss medical faculty. Answers were collected via a google form and stored on the swimsa drive.

Statistical analysis

To exclude participants who did not pay attention while filling out the survey, the item "Please check number two." was added towards the end of the questionnaire. All participants answering this item with another answer than two will be excluded from subsequent analysis as it is likely that they have not been paying attention to the questions while filling out the survey.

Furtheron, participants in the earlier study years might not be able to answer questions regarding satisfaction with practical and/or clinical courses or questions regarding oral and/or practical exams, as they did not encounter these in the course of their studies yet. Therefore, missing values were allowed for the variables "Practical Courses", "Patient/Clinical Courses" and "Exams". No other variables allowed missing values.

Taking this into account, simply excluding all participants with missing values would subsequently run the risk of systematically excluding lower study years and possibly lead to a non-representative sample. To avoid this bias, methods like simple mean imputation or predictive mean matching imputation will be considered to handle missing values[3]. Nevertheless, these need to be used with caution, as they are estimating answers for the participants.

Since there are different amounts of items per variable and no theoretical background to assume the importance of single items, the mean of all items assessing a variable will be calculated for each participant and used as this participants value for this variable for further analysis. The demographic variables age and study year are treated as data with a ratio scale level (age: 16 to 33; study year: 1 to 6). The items asking for the tutor:student-ratio at clinical courses, the clinical onset and the availability of podcasts were not included in any variable, as they are not explicitly asking about student satisfaction. Nevertheless, tables with the answers to these items will be reported for each university in the faculty-specific discussion-chapters.

To assess if and eventually which of the eight variables have a significant impact on general student satisfaction, a multiple linear regression will be conducted. The demographic variables age, study year and gender will also be included in the model. The effect size of eventual correlations between the independent variables and general satisfaction are estimated via the correlation coefficients. The quality and the effect size of the model will be assessed by calculating the R-squared adjusted value as well as via Cohen's f^2.

To answer whether or not there are any significant differences between the Swiss medical faculties regarding the eight variables or general student satisfaction, a Kruskal-Wallis test will be conducted for the eight variables and for general satisfaction to compare the Swiss medical faculties. In case of a significant result for the Kruskal-Wallis test, a Dunn-Bonferroni post-hoc test will be further conducted to do a pairwise comparison between all the Swiss medical faculties regarding the respective variable. Significance of the test indicates a difference between the two compared medical faculties for the contemplated variable. Please note, that these tests do not allow a direct comparison of the means between different groups (= faculties) but are able to test for significant differences in the central tendency of the different groups.

Further descriptive analysis (mean and standard deviation) for every item will be reported for each faculty and for Switzerland (represented by the whole sample) in the respective faculty-specific result-chapter. Differences between the mean of a Swiss medical faculty and the Swiss mean will **not** be further evaluated with statistical tests.

Test-results with p-values lower than 0.05 are considered significant. All analyses and graphs were computed using R version 4.1.2 and R-Studio version 1.1.456.

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[3] van Buuren, S. (2012). *Flexible Imputation of Missing Data*. Chapman & Hall/CRC Interdisciplinary Statistics.

Results

Medical student's satisfaction in Switzerland

Demographics
In total 1'176 students participated in the survey. 265 participants answered the question "Please check number two." with another answer then "2" and were therefore excluded from further evaluation. The remaining 911 participants showed the following demographic distributions:

Basel	Bern	ETHZ	Fribourg	Geneva	Lausanne	Lucerne-Track	Lugano	St.Gallen-Track	Zürich
91 (10%)	236 (25.9%)	9 (1%)	56 (6.2%)	91 (10%)	239 (26.2%)	30 (3.3%)	32 (3.5%)	10 (1.1%)	117 (12.8%)

Tabel 1: Students per university (in brackets the proportion to the whole sample size is shown)

1st study year	2nd study year	3rd study year	4th study year	5th study year	6th study year
153 (16.8%)	160 (17.6%)	173 (19%)	161 (17.7%)	136 (15%)	128 (14.1%)

Table 2: Study year (in brackets the proportion to the whole sample size is shown)

≤ 18	19	20	21	22	23	24	25	26	27 ≥
33 (3.6%)	79 (8.8%)	105 (11.5%)	134 (14.7%)	133 (14.6%)	137 (15%)	117 (12.8%)	89 (9.8%)	39 (4.3%)	45 (4.9%)

Table 3: Age (in brackets the proportion to the whole sample size is shown)

Female	Male	Non-binary	Prefer not to state
595 (65.3%)	295 (32.4%)	9 (1%)	12 (1.3%)

Table 4: Gender (in brackets the proportion to the whole sample size is shown)

Further on, the survey has not been distributed within the time window for data collection among the students of the ETHZ. Since it is likely that the small sample is biased (e.g. only people from one social circle) and possible effects of time (e.g. upcoming exams) would no longer be controlled if the time window for data collection would be prolonged for one faculty, the ETHZ was excluded from the comparison between the universities.

Relationship of general satisfaction and the eight selected variables
To check the relationship between general student satisfaction with their medical education and the eight selected variables assessed in the questionnaire, a multiple linear regression was conducted. The demographic variables age, study year and gender (with "Female" being the reference group) were also included in the regression.
Due to missing values, a total of 477 participants would be excluded by default from the regression during computation. A look at the amount of participants per study year with any missing values supported the assumption that especially students from the

lower years show missing values (1st year = 86%, 2nd year = 72%, 3rd year = 63%, 4th year = 34%, 5th year = 38%, 6th year = 21%) and would therefore be excluded systematically if all participants with missing values are simply excluded. Therefore the imputation-methods mentioned in the chapter Methodology are applied to handle the missing values. As statistically estimating values for participants with missing values might however be criticised for different reasons, the regression was conducted three times with different data-sets: 1) using a data-set that excluded all participants with missing values (= no imputation), 2) using a data-set where missing values were replaced by using simple mean imputation and 3) using a data-set where the missing values were estimated by using predictive mean matching imputation. The results for all three data-sets are reported and compared below.

Before calculating the model, the conditions for a multiple linear regression were checked. A graphical analysis suggested that homoscedasticity of the residuals might not be given. A Breusch-Pagan test was used to check for heteroscedasticity and led to a significant result for each of the three data-sets ($p = 0.027$; $p = 1.652e\text{-}05$; $p = 9.807e\text{-}06$), further indicating the heteroscedasticity of the data. Therefore, a heteroskedasticity-consistent covariance matrix was used to continue with the calculation of the regression-model. No other conditions of the multiple linear regression were not met.

The multiple linear regression led to following results:

	Relationship between general satisfaction and the eight variables					
	no imputation		simple mean imputation		predictive mean matching imputation	
	β-coeff.	p-value	β-coeff.	p-value	β-coeff.	p-value
Intercept	0.267	0.253	0.14	0.368	0.221	0.136
Study year	-0.017	0.5	-0.006	0.682	-0.006	0.672
Age	0.002	0.879	0.002	0.842	0.003	0.735
Male	-0.058	0.336	-0.063	0.126	-0.065	0.113
Non-binary	-0.118	0.814	0.072	0.754	0.047	0.837
Prefer not to state	-0.403	0.001	-0.328	p < 0.001	-0.399	p < 0.001
Curriculum & Schedule	0.372	p < 0.001	0.296	p < 0.001	0.294	p < 0.001
Lectures & Teaching	0.274	p < 0.001	0.296	p < 0.001	0.29	p < 0.001
Practical Courses	0.089	0.02	0.101	p < 0.001	0.114	p < 0.001
Patient/Clinical Courses	0.019	0.577	0.011	0.68	-0.007	0.774

Exams	0.071	0.153	0.092	0.015	0.079	0.01
Communication	0.014	0.677	0.035	0.166	0.031	0.22
Learning materials & infrastructure	0.088	0.015	0.075	0.003	0.077	0.002
Mental Health	0.104	0.002	0.155	$p < 0.001$	0.155	$p < 0.001$

Table 5: correlation-coefficients & p-values resulting from the multiple linear regression. A p-value < 0.05 is considered significant. Significance under 0.001 is not reported in detail and is indicated by p < 0.001. *Values are rounded on three decimal places.*

There were no differences between the three methods regarding whether the variables became significant or not, with exception of the variable "Exams", which showed no significance in the regression-model based on the data-set with no imputation. Aside from this difference between the three imputation-methods, all the variables except for "Patient/Clinical Courses" and "Communication" show a significant correlation with general satisfaction. The coefficients seem to slightly vary for some variables between the three models (especially for the variables "Curriculum & Schedule", "Practical Courses" and "Mental Health").

According to Cohen (1992) a correlation coefficient's effect size of r =.10 is considered small, a coefficient of r=.30 is considered medium and a coefficient of r=.50 is considered large[4]. Therefore the effect sizes of the variables "Gender - Prefer not to state", "Curriculum & Schedule" and "Lectures & Teaching" can be assumed to have medium effect sizes on general satisfaction, while the variables "Practical Courses", "Learning materials & Infrastructure" and "Mental Health" can be assumed to have small effect sizes on general satisfaction, independently of the imputation-method. The variable "Exams" seems to have a small effect size on general satisfaction in the models based on the data-set using single mean imputation as well as in the model based on the data-set using predictive mean matching imputation.

Model quality of the regression model
To assess the quality of the model obtained by the regression, R-squared-values were calculated for all three models. The following results were obtained:

no imputation	simple mean imputation	predictive mean matching imputation
multiple R^2 = 0.6149	multiple R^2 = 0.5875	multiple R^2 = 0.589
R^2_{adj} = 0.603	R^2_{adj} = 0.5815	R^2_{adj} = 0.583

Tabel 6: Multiple R-squared and R-squared adjusted for each of the imputation methods.

The independent variables explain approximately 60% of all variance of student general satisfaction in all three models. This results into a Cohen's f^2 = 1.518 for the model with no imputation, f^2 = 1.389 for model with simple mean imputation and a f^2 = 1.398 for the model with predictive mean matching imputation. As a f^2 = .02 a is considered a small, f^2 = .15 a medium and f^2 = .35 a large effect size according to Cohen (1992)[5], all

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[4] Cohen (1992)
[5] Cohen (1992)

three models suggest a large effect size of the independent variables of the model on general student's satisfaction.

Comparison of the variables between the universities

Due to the sample sizes for the different faculties being quite different and sometimes also quite small (e.g. for St.Gallen), the non-parametric Kruskal-Wallis test was chosen to check for differences between the universities regarding the different variables.

There were no differences between the three data sets with different imputation methods (no imputation, simple mean imputation, predictive mean matching imputation) for the results of the Kruskal-Wallis test. The p-values shown in Table 7 resulted from the calculations using the data-set with predictive mean matching imputation.

The Kruskal-Wallis test resulted in the following p-values for each variable:

	General Satis-faction	Curriculum & Schedule	Lectures & Teaching	Practical Courses	Patient/ Clinical Courses	Exams	Commu-nication	Learning Materials & Infrastructure	Mental Health
p-value	p < 0.001	p < 0.001	p < 0.001	p < 0.001	p < 0.001	p < 0.001	p < 0.001	p < 0.001	p < 0.001

Table 7: The p-values of the Kruskal-Wallis-tests. Significance under 0.001 is not reported in detail and is indicated by $p < 0.001$. *For all the eight variables and general satisfaction, at least one Swiss medical faculty differs significantly from the others.*

Since there seems to be a significant difference in at least one of the medical faculties for each respective variable, a Dunn-Bonferroni-post-hoc test was conducted to assess which medical faculties differ from each other.

There were a few differences in significance between the three imputation-methods: The difference regarding "Patient/Clinical Courses" between Fribourg and Lausanne became significant when using the data-set with predictive mean matching imputation in comparison to the results for the data set with no imputation. Similarly, the difference between Bern and Geneva as well as the difference between Bern and Lausanne regarding the variable "Exams" became significant when using the data-set with predictive mean matching imputation. Also regarding the results for the variable "Patient/Clinical Courses" when comparing the data-set using simple mean value imputation to the data-set using predictive mean matching imputation, the differences between Lugano and Bern as well as between Lugano and Fribourg become significant, whereas the difference between Lausanne and Fribourg was no longer significant. The values for the graphs and tables below resulted from the calculations using the data-set with predictive mean matching imputation.

The next graphs and tables show the mean and standard deviation as well as the p-adjusted values resulting from the Dunn-Bonferroni test for each university and variable (Red fields in the tables indicate a significant difference between the universities; p-values of $p < 0.001$ and $p \geq 1$ will not be reported into detail; In the figures, the standard deviation is sometimes depicted incorrectly as a horizontal line. The correct standard deviation for every faculty can be found in the figure-description).
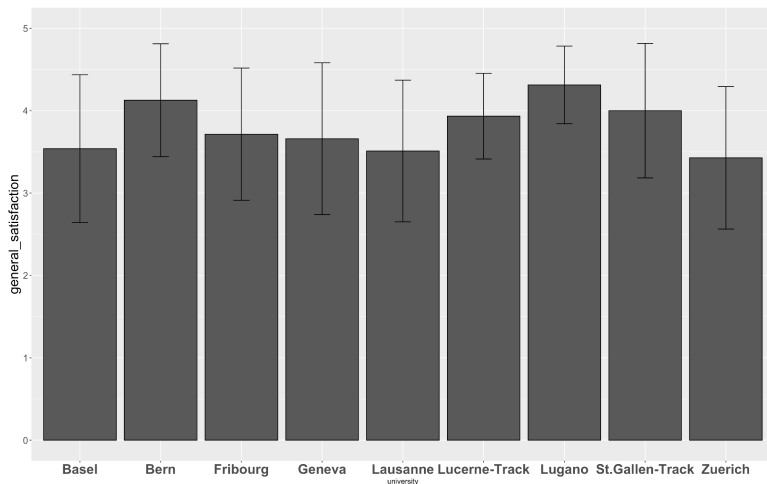
Figure 2: Mean value and standard deviation of **general satisfaction** for each faculty: Basel ($\overline{x}$ = 3.538, sd = 0.898), Bern ($\overline{x}$ = 4.127, sd = 0.6847470), Fribourg ($\overline{x}$ = 3.714, sd = 0.803), Geneva ($\overline{x}$ = 3.659, sd = 0.922), Lausanne ($\overline{x}$ = 3.51, sd = 0.859), Lucerne-Track ($\overline{x}$ = 3.933, sd = 0.521), Lugano ($\overline{x}$ = 4.313, sd = 0.471), St.Gallen ($\overline{x}$ = 4, sd = 0.816) and Zürich ($\overline{x}$ = 3.427, sd = 0.864).

Figure 3: Mean value and standard deviation of satisfaction with **Curriculum & Schedule** for each faculty: Basel ($\overline{x}$ = 3.407 , sd = 0.76), Bern ($\overline{x}$ = 3.727, sd = 0.619), Fribourg ($\overline{x}$ = 3.577, sd = 0.549), Geneva ($\overline{x}$ = 3.491, sd = 0.815), Lausanne ($\overline{x}$ = 3.259, sd = 0.725), Lucerne-Track ($\overline{x}$ = 3.6, sd = 0.634), Lugano ($\overline{x}$ = 4.198, sd = 0.514), St.Gallen ($\overline{x}$ = 3.633, sd = 0.793) and Zürich ($\overline{x}$ = 3.268, sd = 0.762).
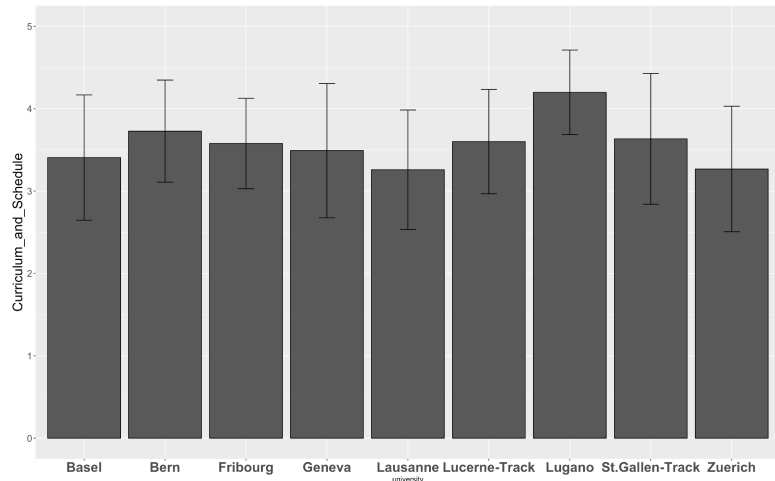
The following p-adjusted values resulted for the comparison of the faculties regarding the variable general satisfaction and the variable "Curriculum & Schedule".

		p-adjusted-values for comparison between universities regarding **General Satisfaction**								
		Basel	Bern	Fribourg	Geneva	Lausanne	Lucerne	Lugano	St.Gallen	Zürich
p-adjusted-values for comparison between universities regarding **Curriculum & Schedule**	Basel		p < 0.001	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p < 0.001	p ≥ 1	p ≥ 1
	Bern	0.005		0.03	p < 0.001	p < 0.001	p ≥ 1	p ≥ 1	p ≥ 1	p < 0.001
	Fribourg	p ≥ 1	p ≥ 1		p ≥ 1	p ≥ 1	p ≥ 1	0.033	p ≥ 1	p ≥ 1
	Geneva	p ≥ 1	0.137	p ≥ 1		p ≥ 1	p ≥ 1	0.005	p ≥ 1	p ≥ 1
	Lausanne	p ≥ 1	p < 0.001	0.223	0.571		p ≥ 1	p < 0.001	p ≥ 1	p ≥ 1
	Lucerne	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1		p ≥ 1	p ≥ 1	0.25
	Lugano	p < 0.001	0.022	0.002	p < 0.001	p < 0.001	0.011		p ≥ 1	p < 0.001
	St.Gallen	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	0.596		p ≥ 1

Zürich	p ≥ 1	p < 0.001	0.621	p ≥ 1	p ≥ 1	p ≥ 1	p < 0.001	p ≥ 1	

Table 8: The p-adjusted-values resulting from the Dunn-Bonferroni-post-hoc-test. A p-value < 0.05 is considered significant and marked red. Values are rounded on three decimal places. Significance indicates a difference between the faculties.
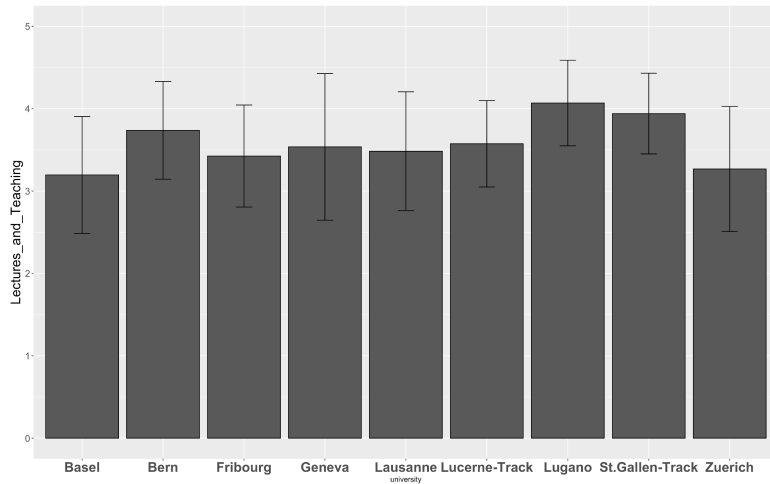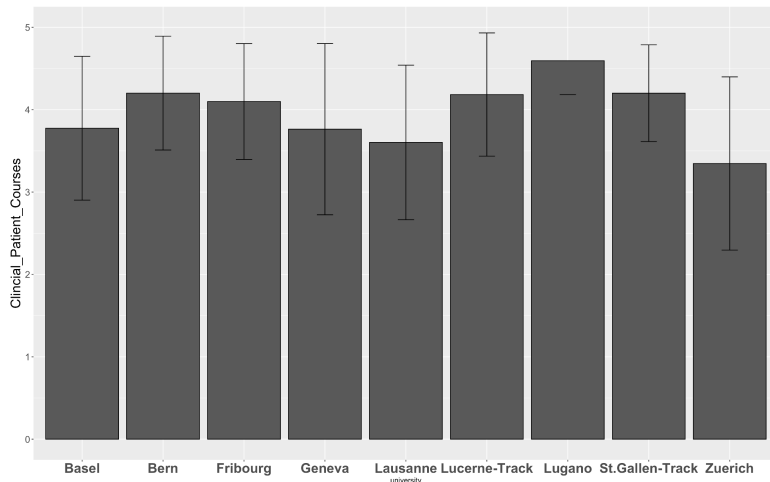

*Figure 4: Mean value and standard deviation of satisfaction with **Lectures & Teaching** for each faculty: Basel ($\bar{x}$ = 3.196, sd = 0.71), Bern ($\bar{x}$ = 3.736, sd = 0.592), Fribourg ($\bar{x}$ = 3.425, sd = 0.6197507), Geneva ($\bar{x}$ = 3.536, sd = 0.889), Lausanne ($\bar{x}$ = 3.484, sd = 0.721), Lucerne-Track ($\bar{x}$ = 3.573, sd = 0.525), Lugano ($\bar{x}$ = 4.069, sd = 0.52), St.Gallen ($\bar{x}$ = 3.94, sd = 0.49) and Zürich ($\bar{x}$ = 3.268, sd = 0.759).*

*Figure 5: Mean value and standard deviation of satisfaction with **Practical Courses** for each faculty: Basel ($\bar{x}$ = 3.344, sd = 0.913), Bern ($\bar{x}$ = 3.994, sd = 0.773), Fribourg ($\bar{x}$ = 3.673, sd = 0.852), Geneva ($\bar{x}$ = 3.535, sd = 1.066), Lausanne ($\bar{x}$ = 3.262, sd = 0.918), Lucerne-Track ($\bar{x}$ = 3.6, sd = 0.916), Lugano ($\bar{x}$ = 4.458, sd = 0.585), St.Gallen ($\bar{x}$ = 4.033, sd = 0.637) and Zürich ($\bar{x}$ = 3.16, sd = 0.975).*
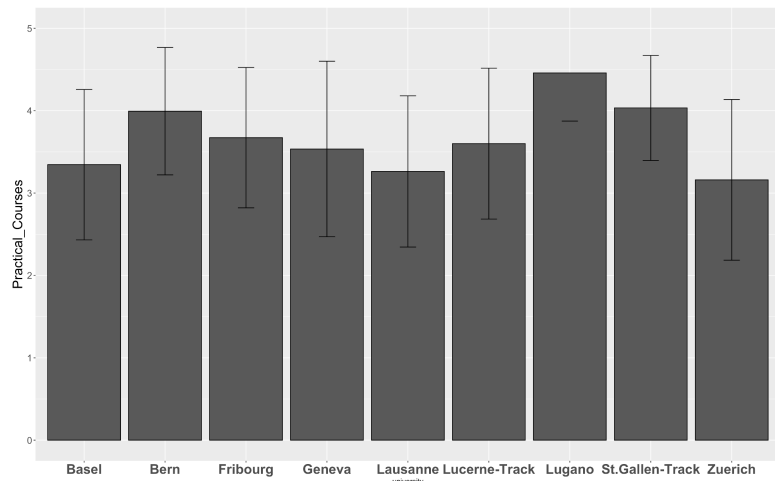
The following p-adjusted values resulted for the comparison of the faculties regarding the variable "Lectures & Teaching" and the variable "Practical Courses".

		p-adjusted-values for comparison between universities regarding **Lectures & Teaching**								
		Basel	Bern	Fribourg	Geneva	Lausanne	Lucerne	Lugano	St.Gallen	Zürich
p-adjusted-values for comparison between universities regarding **Practical Courses**	Basel		p < 0.001	p ≥ 1	0.036	0.063	p ≥ 1	p < 0.001	p ≥ 1	p ≥ 1
	Bern	p < 0.001		0.047	p ≥ 1	0.002	p ≥ 1	0.501	p ≥ 1	p < 0.001
	Fribourg	p ≥ 1	0.719		p ≥ 1	p ≥ 1	p ≥ 1	p < 0.001	p ≥ 1	p ≥ 1
	Geneva	p ≥ 1	0.009	p ≥ 1		p ≥ 1	p ≥ 1	0.012	p ≥ 1	0.237
	Lausanne	p ≥ 1	p < 0.001	0.154	0.31		p ≥ 1	p < 0.001	p ≥ 1	0.506
	Lucerne	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1		0.088	p ≥ 1	p ≥ 1

Lugano	p < 0.001	0.271	0.003	p < 0.001	p < 0.001	0.008		p ≥ 1	p < 0.001
St.Gallen	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	0.621	p ≥ 1	p ≥ 1		0.205
Zürich	p ≥ 1	p < 0.001	0.093	0.194	p ≥ 1	p ≥ 1	p < 0.001	0.404	

Table 9: The p-adjusted-values resulting from the Dunn-Bonferroni-post-hoc-test. A p-value < 0.05 is considered significant and marked red. Values are rounded on three decimal places. Significance indicates a difference between the faculties.
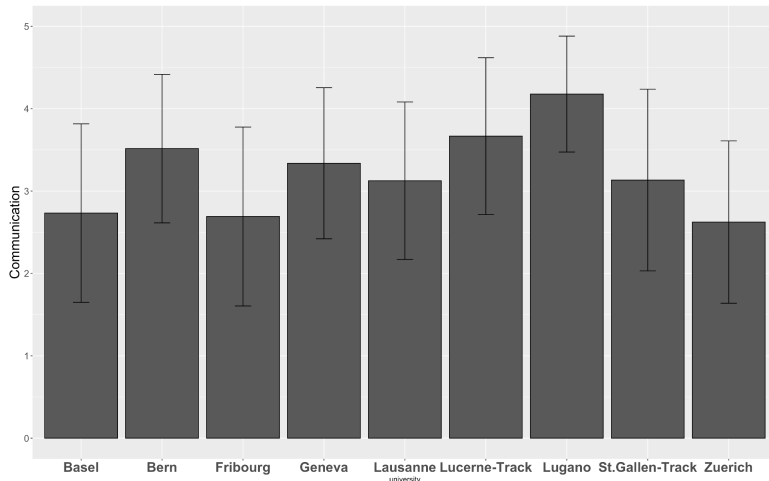

*Figure 6: Mean value and standard deviation of satisfaction with **Patient/Clinical Courses** for each faculty: Basel ($\bar{x}$ = 3.775, sd = 0.873), Bern ($\bar{x}$ = 4.201, sd = 0.691), Fribourg ($\bar{x}$ = 4.098, sd = 0.703), Geneva ($\bar{x}$ = 3.764, sd = 1.039), Lausanne ($\bar{x}$ = 3.603, sd = 0.938), Lucerne-Track ($\bar{x}$ = 4.183, sd = 0.748), Lugano ($\bar{x}$ = 4.594, sd = 0.41), St.Gallen ($\bar{x}$ = 4.2, sd = 0.587) and Zürich ($\bar{x}$ = 3.346, sd = 1.051).*

*Figure 7: Mean value and standard deviation of satisfaction with **Exams** for each faculty: Basel ($\bar{x}$ = 2.976, sd = 0.823), Bern ($\bar{x}$ = 3.205, sd = 0.752), Fribourg ($\bar{x}$ = 3.133, sd = 0.676), Geneva ($\bar{x}$ = 2.884, sd = 0.766), Lausanne ($\bar{x}$ = 2.938, sd = 0.74), Lucerne-Track ($\bar{x}$ = 3.295, sd = 0.674), Lugano ($\bar{x}$ = 3.545, sd = 0.662), St.Gallen ($\bar{x}$ = 3.229, sd = 0.427) and Zürich ($\bar{x}$ = 3.072, sd = 0.746).*
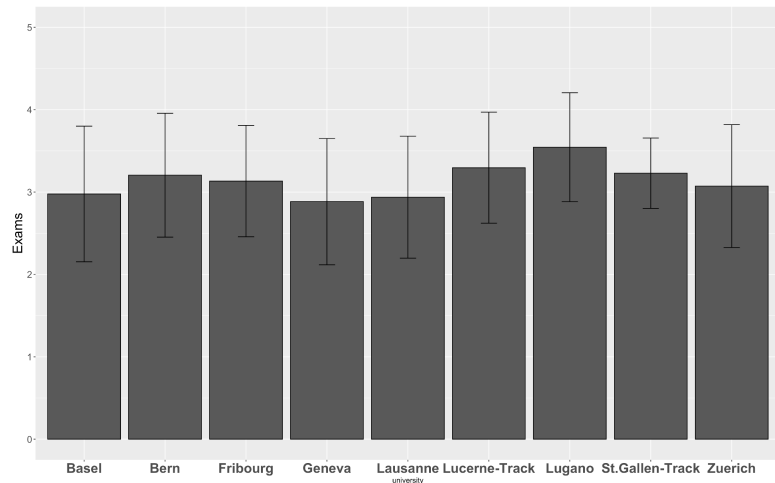
The following p-adjusted values resulted in the comparison of the faculties regarding the variable "Patient/Clinical Courses" and the variable "Exams".

		p-adjusted-values for comparison between universities regarding **Patient/Clinical Courses**								
		Basel	Bern	Fribourg	Geneva	Lausanne	Lucerne	Lugano	St.Gallen	Zürich
p-adjusted-values for comparison between universities regarding **Exams**	Basel		0.002	p ≥ 1	p ≥ 1	p ≥ 1	0.899	p < 0.001	p ≥ 1	0.404
	Bern	0.792		p ≥ 1	0.019	p < 0.001	p ≥ 1	0.256	p ≥ 1	p < 0.001
	Fribourg	p ≥ 1	p ≥ 1		p ≥ 1	0.022	p ≥ 1	0.116	p ≥ 1	p < 0.001
	Geneva	p ≥ 1	0.029	p ≥ 1		p ≥ 1	p ≥ 1	p < 0.001	p ≥ 1	0.093

	Lausanne	Lucerne	Lugano	St.Gallen	Zürich

|									
Lausanne	p ≥ 1	0.003	p ≥ 1	p ≥ 1		0.033	p < 0.001	p ≥ 1	p ≥ 1
Lucerne	p ≥ 1	p ≥ 1	p ≥ 1	0.431	0.522		p ≥ 1	p ≥ 1	0.001
Lugano	0.02	p ≥ 1	p ≥ 1	0.002	0.001	p ≥ 1		p ≥ 1	p < 0.001
St.Gallen	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1		0.6
Zürich	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	0.142	p ≥ 1	

Table 10: The p-adjusted-values resulting from the Dunn-Bonferroni-post-hoc-test. A p-value < 0.05 is considered significant and marked red. Values are rounded on three decimal places. Significance indicates a difference between the faculties.

*Figure 8: Mean value and standard deviation of satisfaction with **Communication** for each faculty: Basel ($\bar{x}$ = 2.733, sd = 1.083), Bern ($\bar{x}$ = 3.516, sd = 0.9014), Fribourg ($\bar{x}$ = 2.69, sd = 1.086), Geneva ($\bar{x}$ = 3.337, sd = 0.917), Lausanne ($\bar{x}$ = 3.126, sd = 0.956), Lucerne-Track ($\bar{x}$ = 3.667, sd = 0.951), Lugano ($\bar{x}$ = 4.177, sd = 0.703), St.Gallen ($\bar{x}$ = 3.133, sd = 1.102) and Zürich ($\bar{x}$ = 2.624, sd = 0.985).*

*Figure 9: Mean value and standard deviation of satisfaction with **Learning materials & Infrastructure** for each faculty: Basel ($\bar{x}$ = 3.513, sd = 0.806), Bern ($\bar{x}$ = 4.48, sd = 0.538), Fribourg ($\bar{x}$ = 2.917, sd = 0.839), Geneva ($\bar{x}$ = 3.546, sd = 0.972), Lausanne ($\bar{x}$ = 3.331, sd = 0.929), Lucerne-Track ($\bar{x}$ = 4.311, sd = 0.625), Lugano ($\bar{x}$ = 4.031, sd = 0.715), St.Gallen ($\bar{x}$ = 3.967, sd = 0.576) and Zürich ($\bar{x}$ = 3.903, sd = 0.756).*
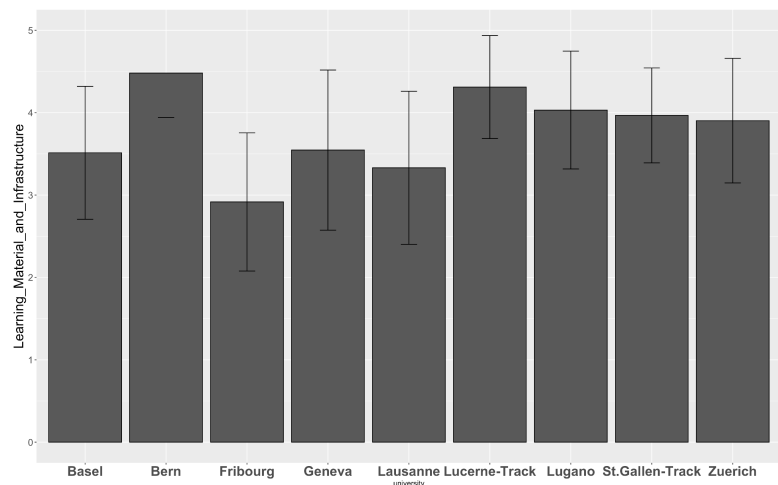
The following p-adjusted values resulted in the comparison of the faculties regarding the variable "Communication" and the variable "Learning materials & Infrastructure".

		p-adjusted-values for comparison between universities regarding **Communication**								
		Basel	Bern	Fribourg	Geneva	Lausanne	Lucerne	Lugano	St.Gallen	Zürich
p-adjusted-values for comparison	Basel		p < 0.001	p ≥ 1	0.013	0.341	0.002	p < 0.001	p ≥ 1	p ≥ 1
	Bern	p < 0.001		p < 0.001	p ≥ 1	p < 0.001	p ≥ 1	0.031	p ≥ 1	p < 0.001

between universities regarding **Learning materials & Infrastructure**		Basel	Bern	Fribourg	Geneva	Lausanne	Lucerne	Lugano	St.Gallen	Zürich
	Fribourg	0.063	p < 0.001		0.032	0.589	0.003	p < 0.001	p ≥ 1	p ≥ 1
	Geneva	p ≥ 1	p < 0.001	0.006		p ≥ 1	p ≥ 1	0.002	p ≥ 1	p < 0.001
	Lausanne	p ≥ 1	p < 0.001	0.296	p ≥ 1		0.26	p < 0.001	p ≥ 1	0.003
	Lucerne	p < 0.001	p ≥ 1	p < 0.001	0.003	p < 0.001		p ≥ 1	p ≥ 1	p < 0.001
	Lugano	0.203	0.092	p < 0.001	0.896	0.006	p ≥ 1		0.156	p < 0.001
	St.Gallen	p ≥ 1	p ≥ 1	0.14	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1		p ≥ 1
	Zürich	0.066	p < 0.001	p < 0.001	0.682	p < 0.001	0.694	p ≥ 1	p ≥ 1	

Table 11: The p-adjusted-values resulting from the Dunn-Bonferroni-post-hoc-test. A p-value < 0.05 is considered significant and marked red. Values are rounded on three decimal places. Significance indicates a difference between the faculties.

*Figure 10: Mean value and standard deviation of satisfaction with **Mental Health** for each faculty: Basel ($\bar{x}$ = 2.994505, sd = 1.0041428), Bern ($\bar{x}$ = 3.288136, sd = 0.9495952), Fribourg ($\bar{x}$ = 2.919643, sd = 1.0125431), Geneva ($\bar{x}$ = 2.895604, sd = 1.0737175), Lausanne ($\bar{x}$ = 2.968619, sd = 1.1208765), Lucerne-Track ($\bar{x}$ = 3.516667, sd = 0.8457126), Lugano ($\bar{x}$ = 3.625000, sd = 0.6956083), St.Gallen ($\bar{x}$ = 3.200000, sd = 1.2516656) and Zürich ($\bar{x}$ = 3.094017, sd = 0.9868349).*
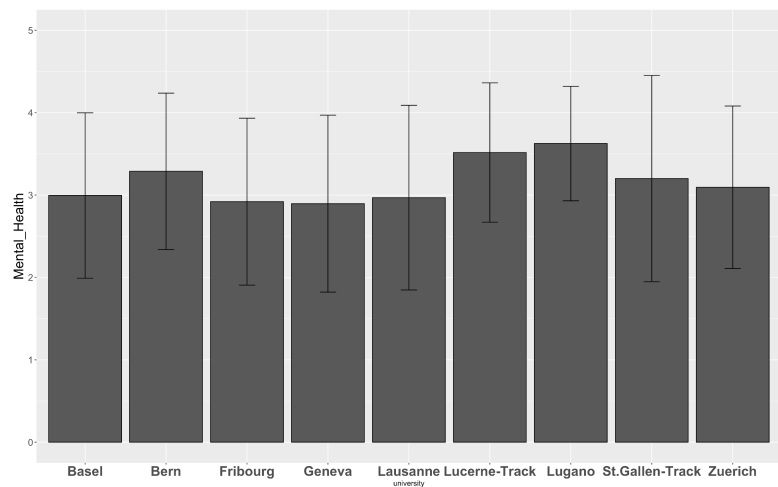
The following p-adjusted values resulted in the comparison of the faculties regarding the variable "Mental Health".

		p-adjusted-values for comparison between universities regarding **Mental Health**								
		Basel	Bern	Fribourg	Geneva	Lausanne	Lucerne	Lugano	St.Gallen	Zürich
	Basel		p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1	0.821	0.099	p ≥ 1	p ≥ 1
	Bern			0.668	0.13	0.043	p ≥ 1	p ≥ 1	p ≥ 1	p ≥ 1
	Fribourg				p ≥ 1	p ≥ 1	0.412	0.051	p ≥ 1	p ≥ 1
	Geneva					p ≥ 1	0.212	0.018	p ≥ 1	p ≥ 1
	Lausanne						0.276	0.019	p ≥ 1	p ≥ 1
	Lucerne							p ≥ 1	p ≥ 1	p ≥ 1
	Lugano								p ≥ 1	0.35
	St.Gallen									p ≥ 1
	Zürich									

Table 12: The p-adjusted-values resulting from the Dunn-Bonferroni-post-hoc-test. A p-value < 0.05 is considered significant and marked red. Values are rounded on three decimal places. Significance indicates a difference between the faculties.

The significant differences between the Swiss medical faculties will be discussed for each faculty separately in the next chapter. Additionally, a statistically not evaluated comparison between the Swiss means and the means of each respective medical faculty for each item of the questionnaire is reported as well.

Student's satisfaction at the Swiss medical faculties

Basel:

Results
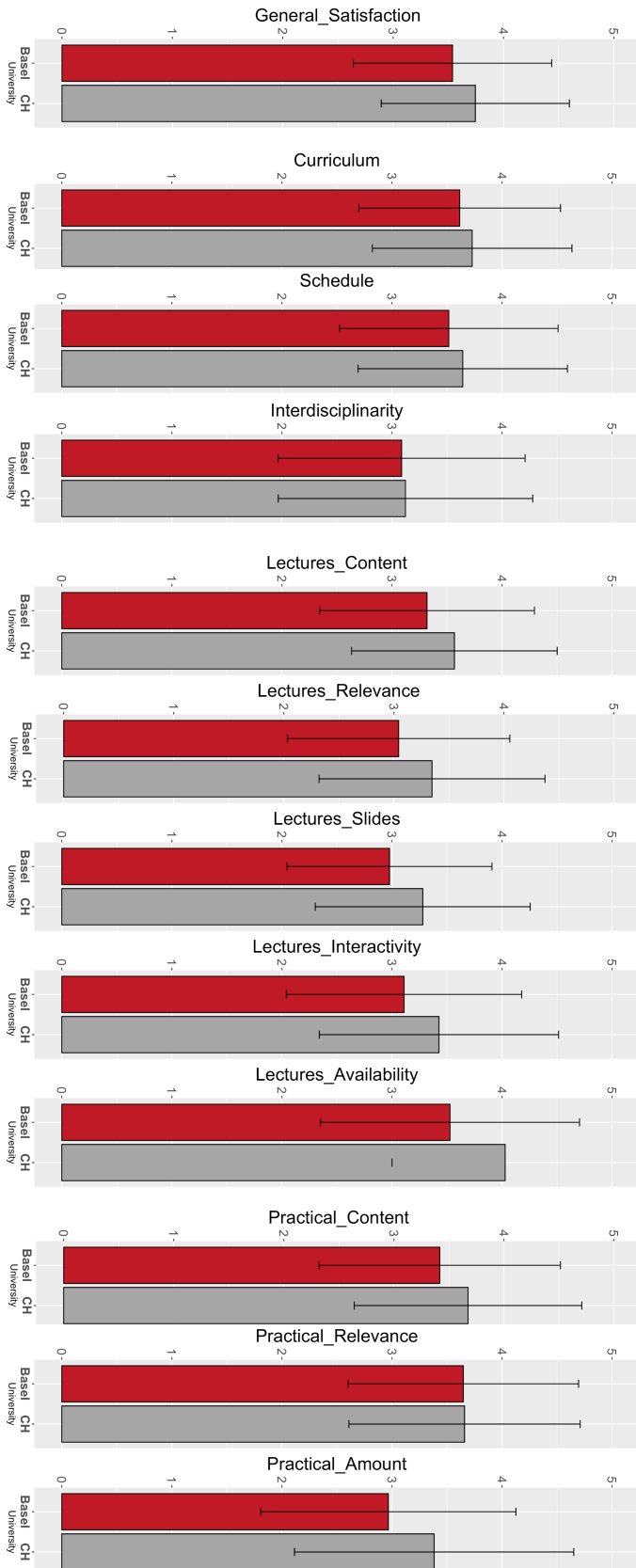
General Satisfaction:
The mean general satisfaction is slightly lower in Basel ($\bar{x}$ = 3,538, sd = 0.898) in comparison to the Swiss mean ($\bar{x}$ = 3.745, sd = 0.852)

Curriculum & Schedule:
Mean student satisfaction with their curriculum ($\bar{x}$ = 3.615, sd = 0.9161), their schedule ($\bar{x}$ = 3.516, sd = 0.993) and interdisciplinarity ($\bar{x}$ = 3.088, sd = 1.122) is lower in Basel in comparison to the Swiss mean ($\bar{x}$ = 3.729, sd = 0.907; $\bar{x}$ = 3.643, sd = 0.951; $\bar{x}$ = 3.123, sd = 1.156).

Lectures & Teaching:
Mean student satisfaction with the content ($\bar{x}$ = 3.319, sd = 0.976), the relevance ($\bar{x}$ = 3.044, sd = 1.01), the slides ($\bar{x}$ = 2.978, sd = 0.931) and the interactivity ($\bar{x}$ = 3.11, sd = 1.07) of the lectures in Basel are all lower in comparison to the Swiss mean ($\bar{x}$ = 3.568, sd = 0.934; $\bar{x}$ = 3.347, sd = 1.026; $\bar{x}$ = 3.28, sd = 0.976; $\bar{x}$ = 3.43, sd = 1.087). Mean student satisfaction with the availability of the lecturers in Basel ($\bar{x}$ = 3.527, sd = 1.177) is also lower than the Swiss mean ($\bar{x}$ = 4.029, sd = 1.028).

Practical Courses:
Mean student satisfaction with the content ($\bar{x}$ = 3.418, sd = 1.096), the relevance ($\bar{x}$ = 3.648, sd = 1.047) and the amount ($\bar{x}$ = 2.967, sd = 1.159) of practical courses in Basel are all lower in comparison to the Swiss mean ($\bar{x}$ = 3.674, sd = 1.034; $\bar{x}$ = 3.66, sd = 1.051; $\bar{x}$ = 3.383, sd = 1.269).

Clinical_Ratio_Satisfaction

	Tutor : Student ratio in clinical courses		
Ratio	1:1 to 1:5	1:6 - 1:10	Over 1:11
Amount	62	18	5

	Perception of the onset-point of clinical/patient courses				
Perception	Far too early	A little too early	Exactly right	A little too late	Far too late
Amount	1	3	69	16	2
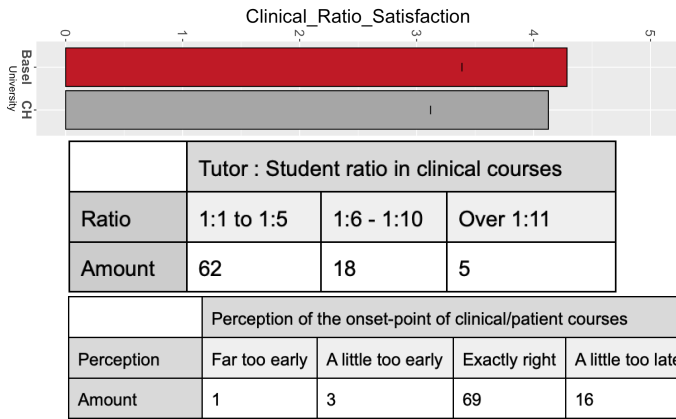
Clinical_Feedback

Patient/Clinical Courses:
Mean student satisfaction with the tutor:student-ratio in Basel ($\bar{x}$ = 4.286, sd = 0.898) is higher in comparison to the Swiss mean ($\bar{x}$ = 4.126, sd = 1.007). Mean student satisfaction with the feedback during clinical courses in Basel ($\bar{x}$ = 3.263, sd = 1.114) is lower in comparison to the Swiss mean ($\bar{x}$ = 3.586, sd = 1.108).

Written_Exams_Overlap

Written_Exams_Feedback

Oral_Exams_Overlap

Oral_Exams_Feedback

Practical_Exams_Overlap

Practical_Exams_Feedback

Exams_Frequency
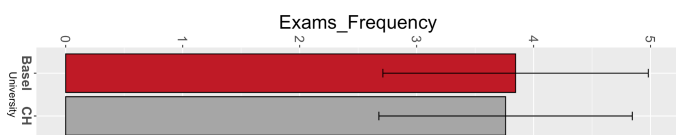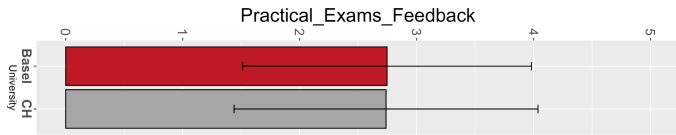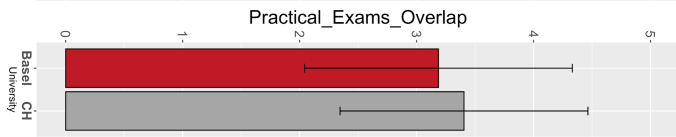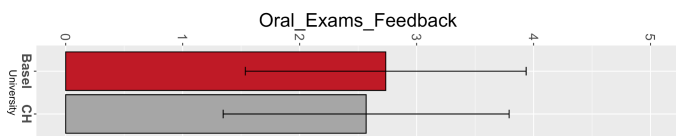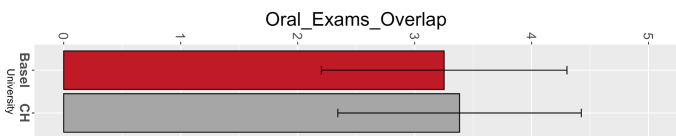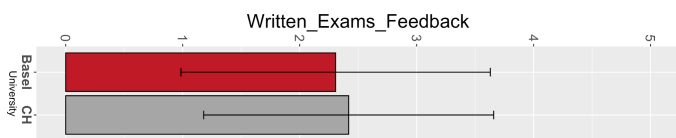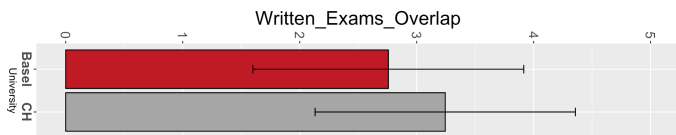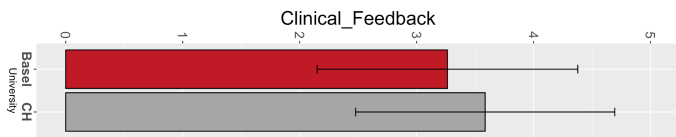
Exams:
Mean student satisfaction with the overlap of exam and learning content ($\bar{x}$ = 2.758, sd = 1.158) as well as with the feedback on the performance at the written exams ($\bar{x}$ = 2.308, sd = 1.322) in Basel is lower than the Swiss mean ($\bar{x}$ = 3.245, sd = 1.113; $\bar{x}$ = 2.419, sd = 1.239).

Mean student satisfaction with the overlap of exam and learning content of the oral exams in Basel ($\bar{x}$ = 3.253, sd = 1.05) is also lower than the Swiss mean ($\bar{x}$ = 3.384, sd = 1.04). However regarding feedback on the performance at the oral exams, the mean in Basel ($\bar{x}$ = 2.736, sd = 1.2) is higher than the Swiss mean ($\bar{x}$ = 2.569, sd = 1.222).

Similarly, mean student satisfaction with the overlap of exam and learning content of the practical exams in Basel ($\bar{x}$ = 3.189, sd = 1.144) is again lower than the Swiss mean ($\bar{x}$ = 3.405, sd = 1.06), while mean student satisfaction with the feedback on the performance at the oral exams is higher in Basel ($\bar{x}$ = 2.747, sd = 1.235) than the Swiss mean ($\bar{x}$ = 2.739, sd = 1.299). Last but not least, mean student satisfaction with the exam frequency in Basel ($\bar{x}$ = 3.846, sd = 1.135) is higher than the Swiss mean ($\bar{x}$ = 3.761, sd = 1.083).

Information_Flow

Information_Approachability

Information_Implementation
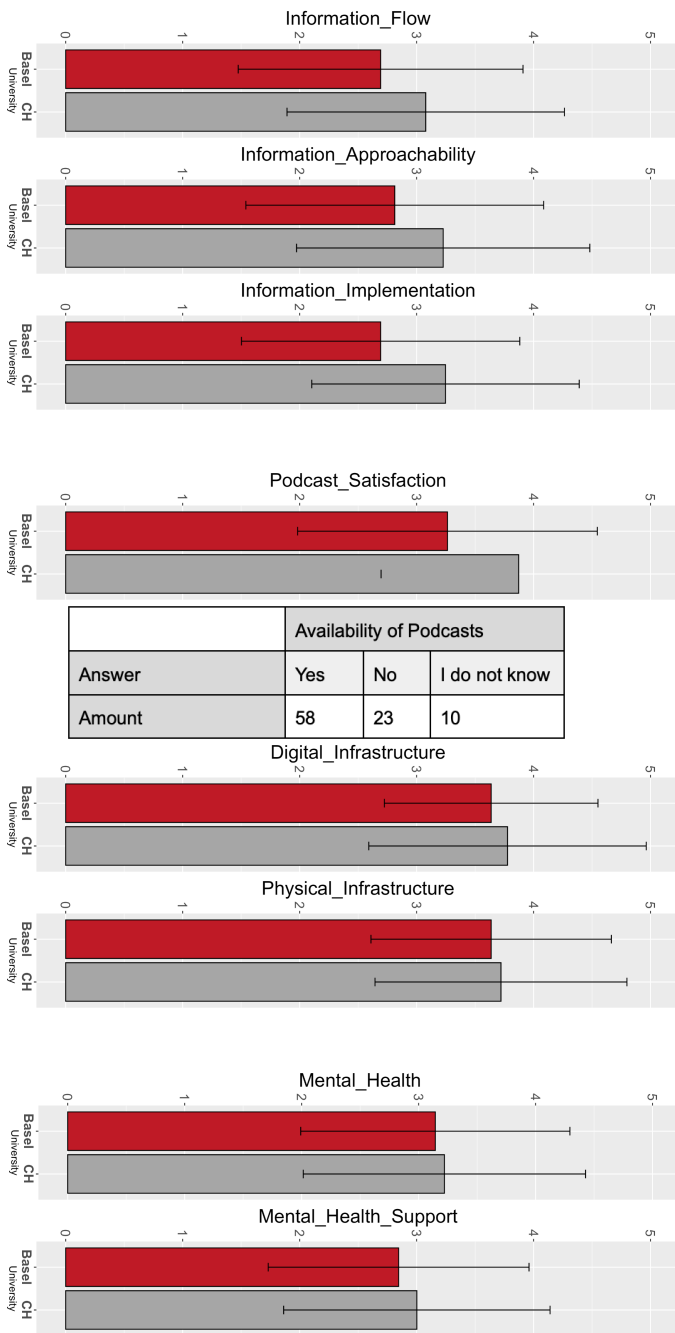
Communication:

Mean student satisfaction with the flow of information ($\bar{x}$ = 2.692, sd = 1.217), approachability of the faculty ($\bar{x}$ = 2.813, sd = 1.273) as well as the implementation of student feedback ($\bar{x}$ = 2.692, sd = 1.19) in Basel is lower than the Swiss mean ($\bar{x}$ = 3.078, sd = 1.186; $\bar{x}$ = 3.227, sd = 1.254; $\bar{x}$ = 3.247, sd = 1.143).

Podcast_Satisfaction

	Availability of Podcasts		
Answer	Yes	No	I do not know
Amount	58	23	10

Digital_Infrastructure

Physical_Infrastructure

Infrastructure:

Mean student satisfaction with podcasts ($\bar{x}$ = 3.264, sd = 1.28), the digital infrastructure ($\bar{x}$ = 3.637, sd = 0.913) and the physical infrastructure ($\bar{x}$ = 3.637, sd = 1.028) in Basel are all lower in comparison to the Swiss mean ($\bar{x}$ = 3.873, sd = 1.176; $\bar{x}$ = 3.777, sd = 1.186; $\bar{x}$ 3.721, sd = 1.077).

Mental_Health

Mental_Health_Support

Mental Health:

Mean student satisfaction with their mental health ($\bar{x}$ = 3.143, sd = 1.151) and the mental health support ($\bar{x}$ = 2.846, sd = 1.115) in Basel are both lower in comparison to the Swiss mean ($\bar{x}$ = 3.221, sd = 1.207; $\bar{x}$ = 3.002, sd = 1.139).

Discussion

Following differences between Basel and the other faculties have become significant:

Variable	significantly different in comparison to Basel; higher mean than Basel	significantly different in comparison to Basel; lower mean than Basel
General Satisfaction	Bern, Lugano	-
Curriculum & Schedule	Bern, Lugano	-

Lectures & Teaching	Bern, Geneva, Lugano	-
Practical Courses	Bern, Lugano	-
Clinical Courses	Bern, Lugano	-
Exams	Lugano	-
Communication	Bern, Geneva, Lucerne, Lugano	-
Learning Materials & Infrastructure	Bern, Lucerne	-
Mental Health	-	-

Prominent (but not statistically evaluated) differences for single items of the questionnaire between the Swiss mean and the mean of Basel have been discussed more into detail with students of FaMBa (Fachschaft Medizin Basel):

A reason for the slightly lower satisfaction with the schedule in Basel might be the order of the lectures in certain thematic blocks, as the information from the later lectures/courses sometimes builds the foundation to understand earlier lectures/courses. In general, the amount of mandatory courses and the amount of independent learning time seems to be fine from the students' perspective.

Satisfaction with the lectures seems to be lower in all five items evaluating this variable. The lower satisfaction regarding the slides might be due to them only being available if the lecturer agrees on sharing them, and therefore not all slides being available to the students. Also the lower satisfaction regarding the content of the lecture might be due to a perceived missing overlap between lecture content and the exam content. This would also be in line with the dissatisfaction expressed in the item regarding the overlap between lectures/courses and written exams. Regarding the interactivity of the lectures, students sometimes seem to not participate in the lecture, even if the lecturer is actively animating the students to participate. The lower satisfaction with the interactivity of the lectures might indicate a need to look for ways/tools to lower the students' threshold to participate.

The slightly lower satisfaction with the amount of practical courses might be a result from the situation during the time of survey-distribution, as the amount of certain practical courses had been reduced due to the covid-19-pandemic.

Regarding the higher satisfaction with the tutor:student-ratio at the clinical courses, the low ratio (mostly 1:5 or lower) is likely to be the reason. Also the majority of the participants indicated that the onset of the clinical courses is "exactly right". However, the lower satisfaction with the feedback during the clinical courses might be caused by the rare feedback during clinical courses in general. Often students only receive feedback on their performance if they actively ask for it.

Regarding the exams, a possible reason for the lower satisfaction with the overlap between lectures/courses and the written exams has already been discussed above. The dissatisfaction with the feedback might indicate the need to receive a more differentiated feedback regarding the students' performance in exams. Further, there seems to be no oral exams in Basel and the answers regarding the oral exams might refer to the practical exams. A plausible interpretation of the values of these items would therefore be unlikely.

The satisfaction with communication seems to be lower than the Swiss mean for all items. From the students perspective information is sometimes shared on a rather short notice and sometimes via student representatives, which can lack an "official" character. Further, students have expressed to often only be informed about the results of different processes that affect them and their education and students would wish to be included in such processes earlier on. According to students from FaMBa, both students and the deanery are aware of the communication situation and are working to improve it.

Regarding the lower satisfaction with the availability of podcasts, this is likely due to the fact that students often only know if a podcast will be available or not after the lecture, as this depends on the approval of the respective lecturer. However, students express their satisfaction with podcasts being available in general and also with the quality of the podcasts. The slightly lower satisfaction with infrastructure might be caused by different things, for example attestation-cards not being available digitally or too short opening-hours for the skills-lab during the weeks before the practical exams.

The satisfaction with mental health might be impacted by the pandemic situation. However there does not seem to be any significant difference between Basel and any of the other Swiss medical faculties regarding this variable.

Bern:

Results
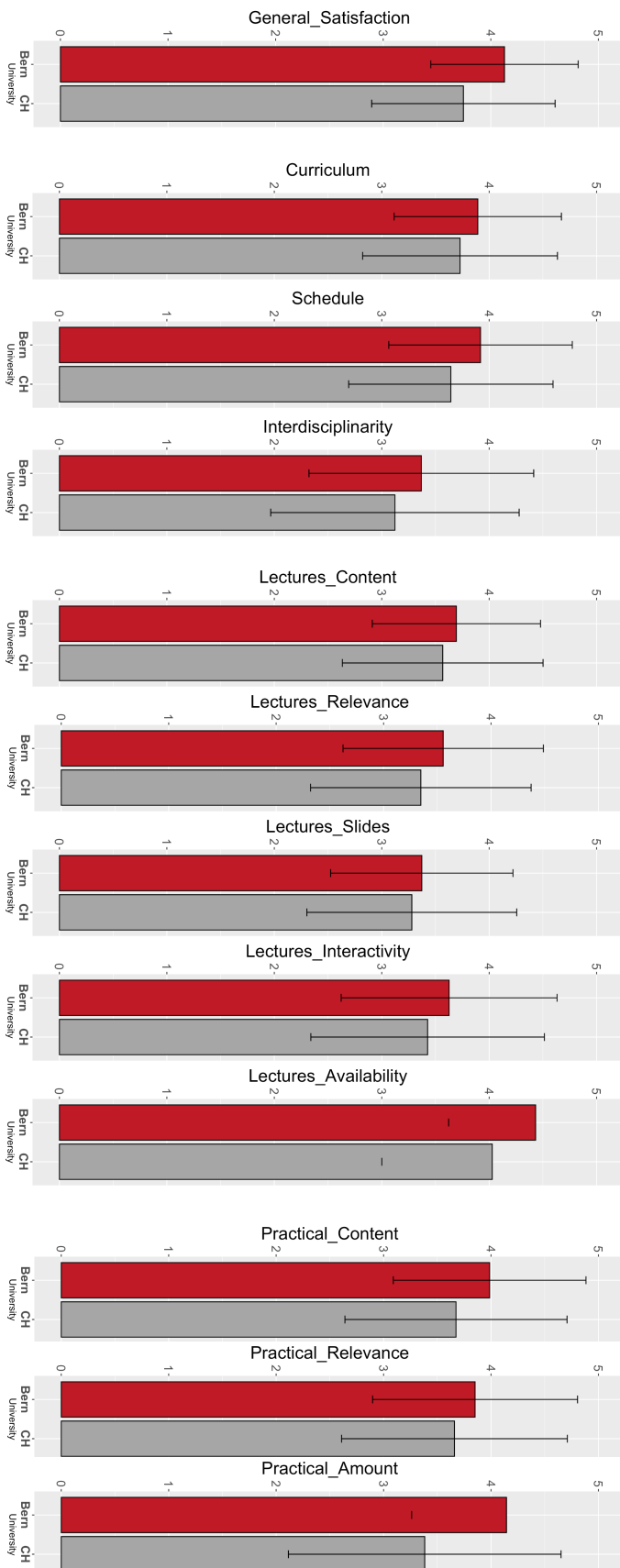
General Satisfaction:
The mean general satisfaction is higher in Bern ($\bar{x}$ = 4.127, sd = 0.685) in comparison to the Swiss mean ($\bar{x}$ = 3.745, sd = 0.852)

Curriculum & Schedule:
Mean student satisfaction with their curriculum ($\bar{x}$ = 3.894, sd = 0.778), their schedule ($\bar{x}$ = 3.919, sd = 0.854) and interdisciplinarity ($\bar{x}$ = 3.369, sd = 1.046) is higher in Bern in comparison to the Swiss mean ($\bar{x}$ = 3.729, sd = 0.907; $\bar{x}$ = 3.643, sd = 0.951; $\bar{x}$ = 3.123, sd = 1.156).

Lectures & Teaching:
Mean student satisfaction with the content ($\bar{x}$ = 3.695, sd = 0.783), the relevance ($\bar{x}$ = 3.555, sd = 0.932), the slides ($\bar{x}$ = 3.373, sd = 0.848) and the interactivity ($\bar{x}$ = 3.627, sd = 1.005) of the lectures in Bern are all higher in comparison to the Swiss mean ($\bar{x}$ = 3.568, sd = 0.934; $\bar{x}$ = 3.347, sd = 1.026; $\bar{x}$ = 3.28, sd = 0.976; $\bar{x}$ = 3.43, sd = 1.087). Mean student satisfaction with the availability of the lecturers in Bern ($\bar{x}$ = 4.432, sd = 0.809) is also higher than the Swiss mean ($\bar{x}$ = 4.029, sd = 1.028).

Practical Courses:
Mean student satisfaction with the content ($\bar{x}$ = 3.987, sd = 0.897), the relevance ($\bar{x}$ = 3.852, sd = 0.954) and the amount ($\bar{x}$ = 4.144, sd = 0.883) of practical courses in Bern are all higher in comparison to the Swiss mean ($\bar{x}$ = 3.674, sd = 1.034; $\bar{x}$ = 3.66, sd = 1.051; $\bar{x}$ = 3.383, sd = 1.269).

Clinical_Ratio_Satisfaction
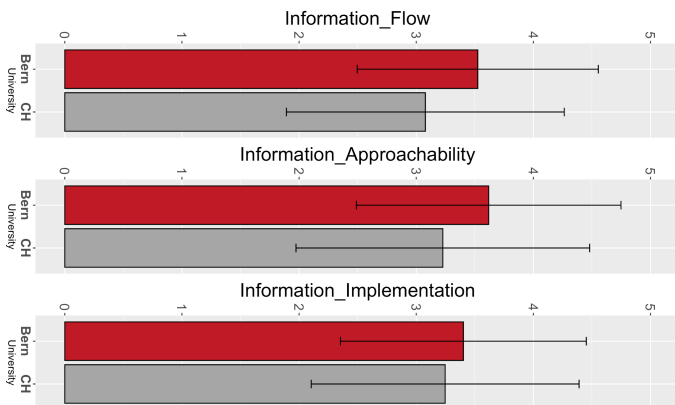

Patient/Clinical Courses:

Mean student satisfaction with the tutor:student-ratio in Bern ($\bar{x}$ = 4.517, sd = 0.655) is higher in comparison to the Swiss mean ($\bar{x}$ = 4.126, sd = 1.007). Mean student satisfaction with the feedback during clinical courses in Bern ($\bar{x}$ = 3.886, sd = 0.967) is also higher in comparison to the Swiss mean ($\bar{x}$ = 3.586, sd = 1.108).
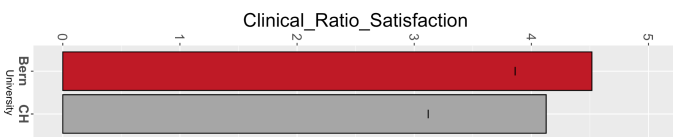
	Tutor : Student(s) ratio in clinical courses		
Ratio	1:1 to 1:5	1:6 - 1:10	Over 1:11
Amount	66	102	29

	Perception of the onset-point of clinical/patient courses				
Perception	Far too early	A little too early	Exactly right	A little too late	Far too late
Amount	4	4	211	16	1

Clinical_Feedback
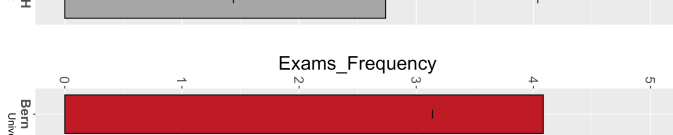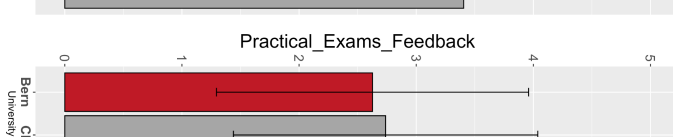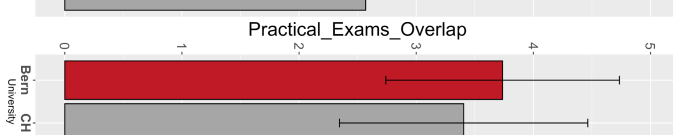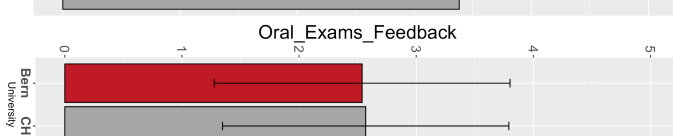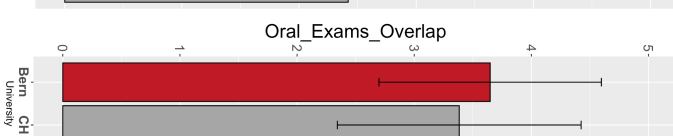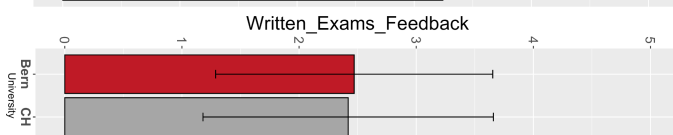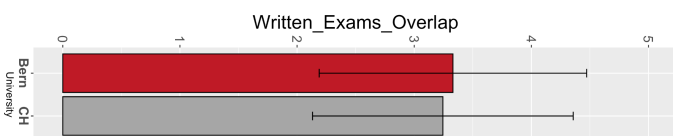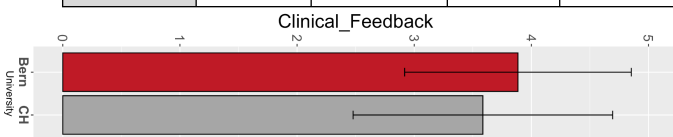
Exams:

Mean student satisfaction with the overlap of exam and learning content ($\bar{x}$ = 3.331, sd = 1.142) as well as with the feedback on the performance at the written exams ($\bar{x}$ = 2.47, sd = 1.183) in Bern is higher than the Swiss mean ($\bar{x}$ = 3.245, sd = 1.113; $\bar{x}$ = 2.419, sd = 1.239).

Mean student satisfaction with the overlap of exam and learning content of the oral exams in Bern ($\bar{x}$ = 3.648, sd = 0.949) is also higher than the Swiss mean ($\bar{x}$ = 3.384, sd = 1.04). However regarding feedback on the performance at the oral exams, the mean in Bern ($\bar{x}$ = 2.538, sd = 1.263) is lower than the Swiss mean ($\bar{x}$ = 2.569, sd = 1.222).

Similarly, mean student satisfaction with the overlap of exam and learning content of the practical exams in Bern ($\bar{x}$ = 3.737, sd = 0.997) is again higher than the Swiss mean ($\bar{x}$ = 3.405, sd = 1.06), while mean student satisfaction with the feedback on the performance at the oral exams is lower in Bern ($\bar{x}$ = 2.627, sd = 1.332) than the Swiss mean ($\bar{x}$ = 2.739, sd = 1.299). Last but not least, mean student satisfaction with the exam frequency in Bern ($\bar{x}$ = 4.085, sd = 0.946) is higher than the Swiss mean ($\bar{x}$ = 3.761, sd = 1.083).

Written_Exams_Overlap

Written_Exams_Feedback

Oral_Exams_Overlap

Oral_Exams_Feedback

Practical_Exams_Overlap

Practical_Exams_Feedback

Exams_Frequency

Information_Flow

Information_Approachability

Information_Implementation

Podcast_Satisfaction

	Availability of Podcasts		
Answer	Yes	No	I do not know
Amount	236	0	0

Digital_Infrastructure

Physical_Infrastructure
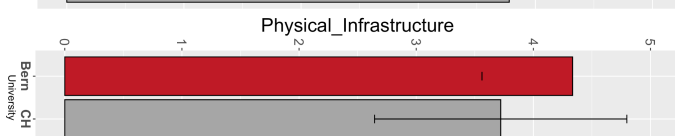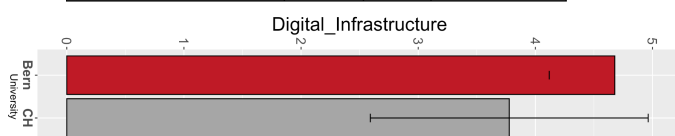

Mental_Health

Mental_Health_Support

Communication:
Mean student satisfaction with the flow of information ($\bar{x}$ = 3.525, sd = 1.029), approachability of the faculty ($\bar{x}$ = 3.619, sd = 1.129) as well as the implementation of student feedback ($\bar{x}$ = 3.403, sd = 1.049) in Bern is higher than the Swiss mean ($\bar{x}$ = 3.078, sd = 1.186; $\bar{x}$ = 3.227, sd = 1.254; $\bar{x}$ = 3.247, sd = 1.143).
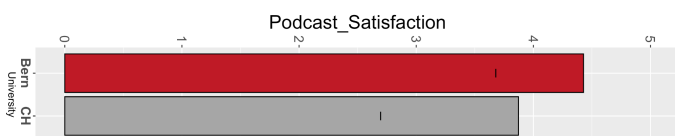
Infrastructure:
Mean student satisfaction with podcasts ($\bar{x}$ = 4.428, sd = 0.749), the digital infrastructure ($\bar{x}$ = 4.678, sd = 0.559) and the physical infrastructure ($\bar{x}$ = 4.335, sd = 0.773) in Bern are all higher in comparison to the Swiss mean ($\bar{x}$ = 3.873, sd = 1.176; $\bar{x}$ = 3.777, sd = 1.186; $\bar{x}$ = 3.721, sd = 1.077).

Mental Health:
Mean student satisfaction with their mental health ($\bar{x}$ = 3.513, sd = 1.128) and the mental health support ($\bar{x}$ = 3.064, sd = 1.096) in Bern are both higher in comparison to the Swiss mean ($\bar{x}$ = 3.221, sd = 1.207; $\bar{x}$ = 3.002, sd = 1.139).
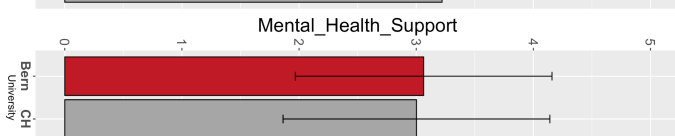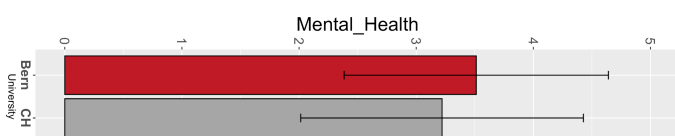
Discussion

Following differences between Bern and the other faculties have become significant:

Variable	significantly different in comparison to Bern; higher mean than Bern	significantly different in comparison to Bern; lower mean than Bern
General Satisfaction	-	Basel, Fribourg, Geneva, Lausanne, Zürich
Curriculum & Schedule	Lugano	Basel, Lausanne, Zürich

Lectures & Teaching	-	Basel, Fribourg, Lausanne, Zürich
Practical Courses	-	Basel, Geneva, Lausanne, Zürich
Clinical Courses	-	Basel, Geneva, Lausanne, Zürich
Exams	-	Geneva, Lausanne
Communication	Lugano	Basel, Fribourg, Lausanne, Zürich
Learning Materials & Infrastructure	-	Basel, Fribourg, Geneva, Lausanne, Zürich
Mental Health	-	Lausanne

Prominent (but not statistically evaluated) differences for single items of the questionnaire between the Swiss mean and the mean of Bern have been discussed more into detail with students of FSMB (Fachschaft Medizin der Universität Bern):

Student satisfaction with different aspects of medical education in Bern seems to be higher than in many other Swiss medical faculties.

According to different students from the local association, the higher satisfaction with Curriculum & Schedule in Bern might be due to the fewer hours of lectures during the week, which allows students more time to study for themselves. Also interdisciplinarity is actively encouraged at different points of their education (e.g. during general-practitioner internships).

The higher satisfaction with the lectures might be due to the "spiral approach" (dt. "Spiralcurriculum") in Bern, where topics from earlier lectures are repeated and deepened in the subsequent semesters. Further, from the students' perspective the lower amount of lecture-hours leads to a prioritisation of the relevant information. There are still some lectures with high amounts of slides and of different quality, but all in all the situation seems to improve.

The higher satisfaction with the practical courses might be due to early dissection courses (1st year), the amount of practical courses which additionally are connecting well to the prior theoretical lectures or due to new implementations of practical skills in the curriculum (sonography courses, BLS, suture courses).

Regarding the clinical courses, the higher satisfaction might be due to hands-on experiences from the first study year, weekly patient contact as well as due to having "block-practicals" in addition to the practical year.

Regarding satisfaction with the exams Bern seems to be similar to the other Swiss medical faculties. However, the satisfaction with feedback on the oral and practical exams seems to be slightly lower. This is probably due to feedback only being available for the written exams, and this feedback focuses mainly on the achieved points and percentiles. The exam frequency of one or two exams per semester seems to be satisfying.

The satisfaction with communication in Bern is significantly different than for many other Swiss medical faculties. Also, Bern mostly has a higher mean than the other Swiss medical faculties regarding communication. Different students from the local

association express that they feel included in the different processes going on regarding their education, as they get a lot of updates on lectures & courses, as well as reminders for different deadlines etc. There is also an evaluation form for direct feedback and also the feedback via the local association usually works.

Regarding the infrastructure, there are multiple reasons for the higher student satisfaction in Bern: Podcasts are available (even podcasts from earlier years are still available); good instruction videos on clinical examinations as well as a broad variety of blended learning options are available; there are self-test-questions available for every thematic block; students have access to different other online resources such as thieme, amboss, complete anatomy etc. Regarding the physical infrastructure, a possible improvement could probably be achieved by improving the amount of charging stations in the lecture halls.

The satisfaction with mental health in Bern does seem to be slightly higher than the Swiss mean. However, the variable "Mental Health" does not differ significantly from most other Swiss medical faculties.

Fribourg:

Results
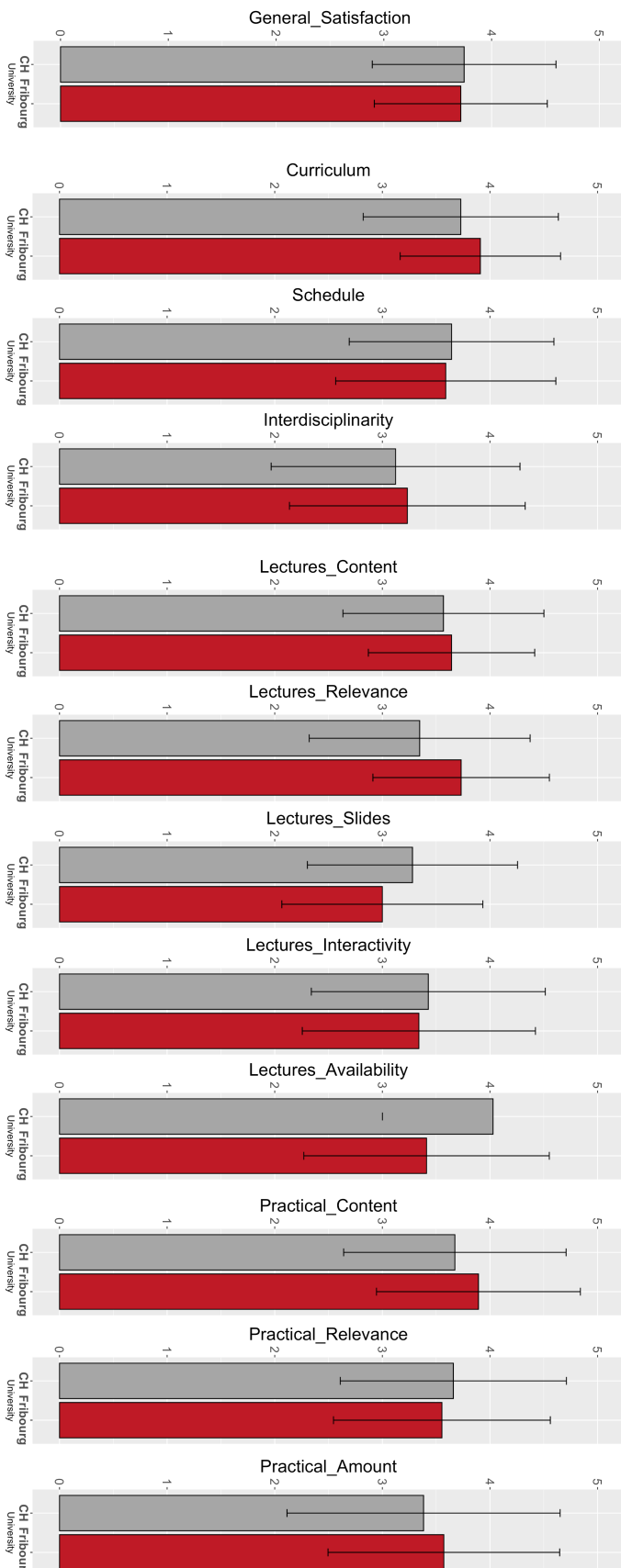
General Satisfaction:
The mean general satisfaction is slightly lower in Fribourg ($\bar{x}$ = 3.714, sd = 0.803) in comparison to the Swiss mean ($\bar{x}$ = 3.745, sd = 0.8522)

Curriculum & Schedule:
Mean student satisfaction with the curriculum ($\bar{x}$ = 3.911, sd = 0.745) and interdisciplinarity ($\bar{x}$ = 3.232, sd = 1.095) is higher in Fribourg in comparison to the Swiss mean ($\bar{x}$ = 3.729, sd = 0.907; $\bar{x}$ = 3.123, sd = 1.156). Mean student satisfaction with their schedule ($\bar{x}$ = 3.589, sd = 1.023) is however lower in Fribourg in comparison to the Swiss mean ($\bar{x}$ = 3.643, sd = 0.951).

Lectures & Teaching:
Mean student satisfaction with the content ($\bar{x}$ = 3.643, sd = 0.773) and the relevance ($\bar{x}$ = 3.732, sd = 0.82) of the lectures are higher in Fribourg in comparison to the Swiss mean ($\bar{x}$ = 3.568, sd = 0.934; $\bar{x}$ = 3.347, sd = 1.026). Mean student satisfaction with the slides ($\bar{x}$ = 3, sd = 0.934) and the interactivity ($\bar{x}$ = 3.339, sd = 1.083) of the lectures are lower in Fribourg in comparison to the Swiss mean ($\bar{x}$ = 3.28, sd = 0.976; $\bar{x}$ = 3.43, sd = 1.087). Mean student satisfaction with the availability of the lecturers in Fribourg ($\bar{x}$ = 3.411, sd = 1.141) is also lower than the Swiss mean ($\bar{x}$ = 4.029, sd = 1.028).

Practical Courses:
Mean student satisfaction with the content ($\bar{x}$ = 3.893, sd = 0.947) and the amount ($\bar{x}$ = 3.571, sd = 1.076) of practical courses in Fribourg are higher in comparison to the Swiss mean ($\bar{x}$ = 3.674, sd = 1.034; $\bar{x}$ = 3.383, sd = 1.269). Mean student satisfaction with the relevance ($\bar{x}$ = 3.554, sd = 1.008) of practical courses is lower in Fribourg than the Swiss mean ($\bar{x}$ = 3.66, sd = 1.051).
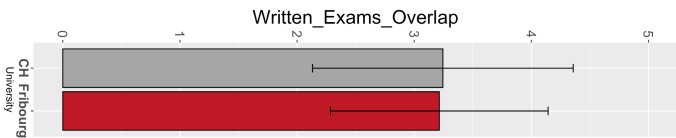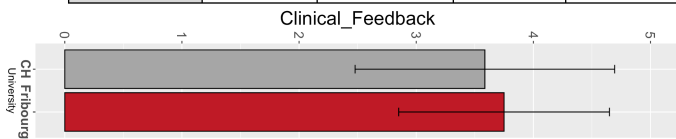
Clinical_Ratio_Satisfaction

CH Fribourg University
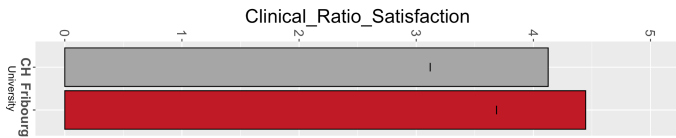
	Tutor : Student(s) ratio in clinical courses		
Ratio	1:1 to 1:5	1:6 - 1:10	Over 1:11
Amount	4	31	8

	Perception of the onset-point of clinical/patient courses				
Perception	Far too early	A little too early	Exactly right	A little too late	Far too late
Amount	1	2	34	18	1

Clinical_Feedback

CH Fribourg University

Patient/Clinical Courses:
Mean student satisfaction with the tutor:student-ratio in Fribourg ($\bar{x}$ = 4.446, sd = 0.761) is higher in comparison to the Swiss mean ($\bar{x}$ = 4.126, sd = 1.007). Mean student satisfaction with the feedback during clinical courses in Fribourg ($\bar{x}$ = 3.75, sd = 0.899) is also higher in comparison to the Swiss mean ($\bar{x}$ = 3.586, sd = 1.108).

Written_Exams_Overlap

CH Fribourg University

Written_Exams_Feedback

CH Fribourg University

Oral_Exams_Overlap

CH Fribourg University

Oral_Exams_Feedback

CH Fribourg University

Practical_Exams_Overlap

CH Fribourg University

Practical_Exams_Feedback

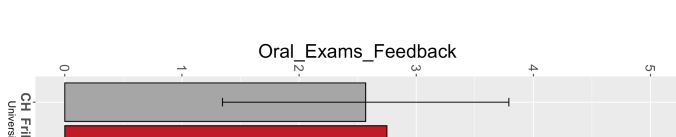CH Fribourg University
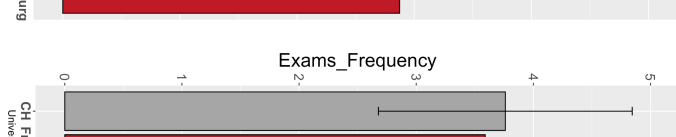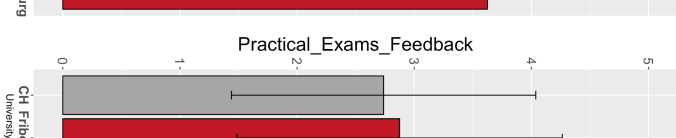
Exams_Frequency

CH Fribourg University

Exams:
Mean student satisfaction with the overlap of exam and learning content ($\bar{x}$ = 3.214, sd = 0.929) as well as with the feedback on the performance at the written exams ($\bar{x}$ = 2.393, sd = 1.107) in Fribourg is lower than the Swiss mean ($\bar{x}$ = 3.245, sd = 1.113; $\bar{x}$ = 2.419, sd = 1.239).
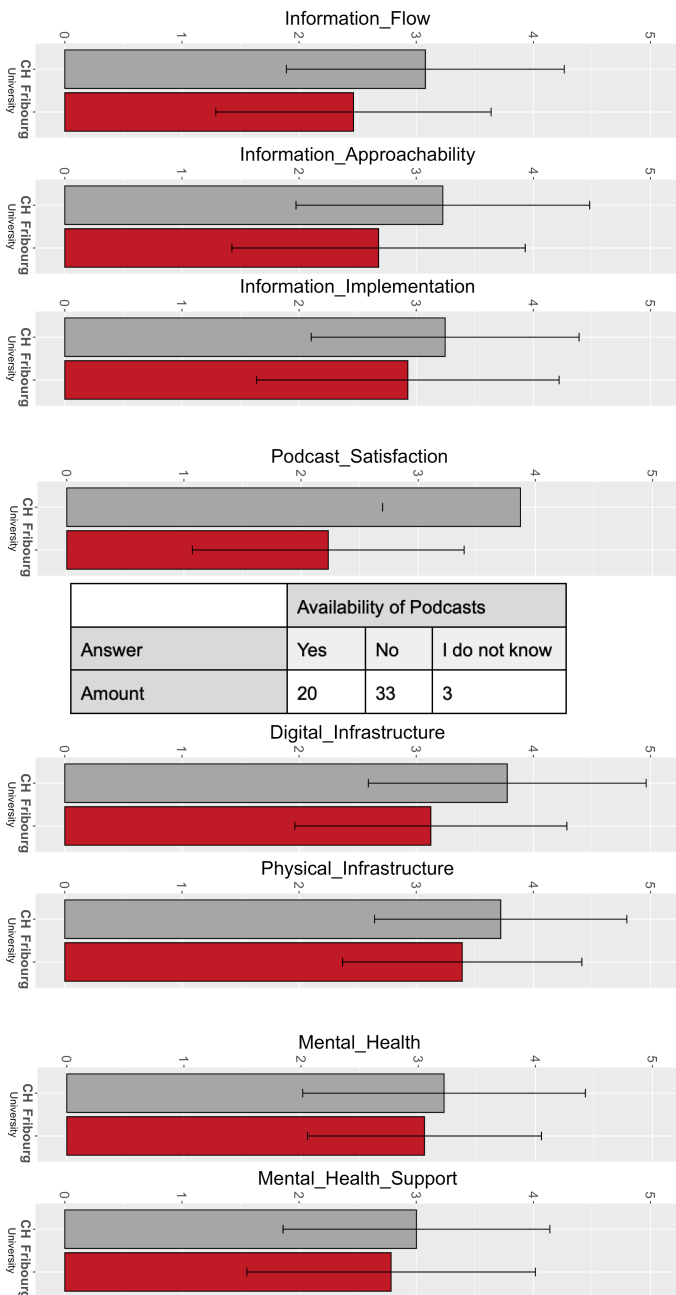Mean student satisfaction with the overlap of exam and learning content of the oral exams in Fribourg ($\bar{x}$ = 3.482, sd = 1.095) is higher than the Swiss mean ($\bar{x}$ = 3.384, sd = 1.04). Mean student satisfaction with the feedback on the performance at the oral exams in Fribourg ($\bar{x}$ = 2.75, sd = 1.21) is also higher than the Swiss mean ($\bar{x}$ = 2.569, sd = 1.222).
Mean student satisfaction with the overlap of exam and learning content of the practical exams in Fribourg ($\bar{x}$ = 3.625, sd = 0.926) is higher than the Swiss mean ($\bar{x}$ = 3.405, sd = 1.06), similar to the mean student satisfaction with the feedback on the performance at the oral exams ($\bar{x}$ = 2.875, sd = 1.389) which is also higher than the Swiss mean ($\bar{x}$ = 2.739, sd = 1.299). Last but not least, mean student satisfaction with the exam frequency in Fribourg ($\bar{x}$ = 3.589, sd = 1.092) is lower than the Swiss mean ($\bar{x}$ = 3.761, sd = 1.083).
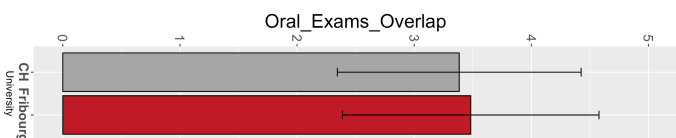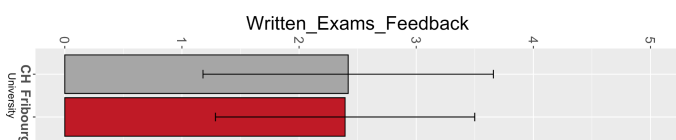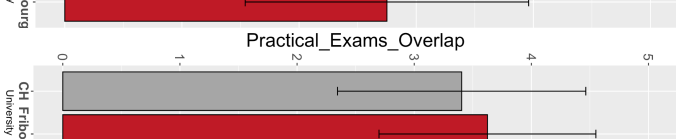
Information_Flow

Information_Approachability

Information_Implementation

Communication:
Mean student satisfaction with the flow of information ($\bar{x}$ = 2.464, sd = 1.175), approachability of the faculty ($\bar{x}$ = 2.679, sd = 1.252) as well as the implementation of student feedback ($\bar{x}$ = 2.929, sd = 1.291) in Fribourg is lower than the Swiss mean ($\bar{x}$ = 3.078, sd = 1.186; $\bar{x}$ = 3.227, sd = 1.254; $\bar{x}$ = 3.247, sd = 1.143).

Podcast_Satisfaction

	Availability of Podcasts		
Answer	Yes	No	I do not know
Amount	20	33	3

Digital_Infrastructure

Physical_Infrastructure

Infrastructure:
Mean student satisfaction with podcasts ($\bar{x}$ = 2.232, sd = 1.16), the digital infrastructure ($\bar{x}$ = 3.125, sd = 1.161) and the physical infrastructure ($\bar{x}$ = 3.393, sd = 1.021) in Fribourg are all lower in comparison to the Swiss mean ($\bar{x}$ = 3.873, sd = 1.176; $\bar{x}$ = 3.777, sd = 1.186; $\bar{x}$ 3.721, sd = 1.077).

Mental_Health

Mental_Health_Support

Mental Health:
Mean student satisfaction with their mental health ($\bar{x}$ = 3.054, sd = 0.999) and the mental health support ($\bar{x}$ = 2.786, sd = 1.232) in Fribourg are both lower in comparison to the Swiss mean ($\bar{x}$ = 3.221, sd = 1.207; $\bar{x}$ = 3.002, sd = 1.139).

Discussion

Following differences between Fribourg and the other faculties have become significant:

Variable	significantly different in comparison to Fribourg; higher mean than Fribourg	significantly different in comparison to Fribourg; lower mean than Fribourg
General Satisfaction	Bern, Lugano	-
Curriculum & Schedule	Lugano	-
Lectures & Teaching	Bern, Lugano	-

Practical Courses	Lugano	-
Clinical Courses	-	Lausanne, Zürich
Exams	-	-
Communication	Bern, Geneva, Lucerne, Lugano	-
Learning Materials & Infrastructure	Bern, Geneva, Lucerne, Lugano, Zürich	-
Mental Health	-	-

Prominent (but not statistically evaluated) differences for single items of the questionnaire between the Swiss mean and the mean of Fribourg have been discussed more into detail with students of FaMed (Fachschaft Medizin der Universität Fribourg):

Satisfaction with the practical as well as with the patient/clinical courses in Fribourg seem to be higher than the Swiss mean for most items. The mean satisfaction with patient/clinical courses in Fribourg is significantly different from mean satisfaction for this variable in Lausanne and Zürich. Fribourg shows a higher mean satisfaction than these two faculties. This is likely due to the small groups during the clinical courses and the good tutor:student-ratio.

The satisfaction with the exams does not seem to be significantly different from any other Swiss medical faculty.

Regarding the satisfaction with communication, there are different Swiss medical faculties that are significantly different from Fribourg. Fribourg shows a lower mean satisfaction than the significantly different faculties. According to students of the local association this might be due to information regarding the exams (date of the exam, online vs. in person) being communicated on a rather short notice.
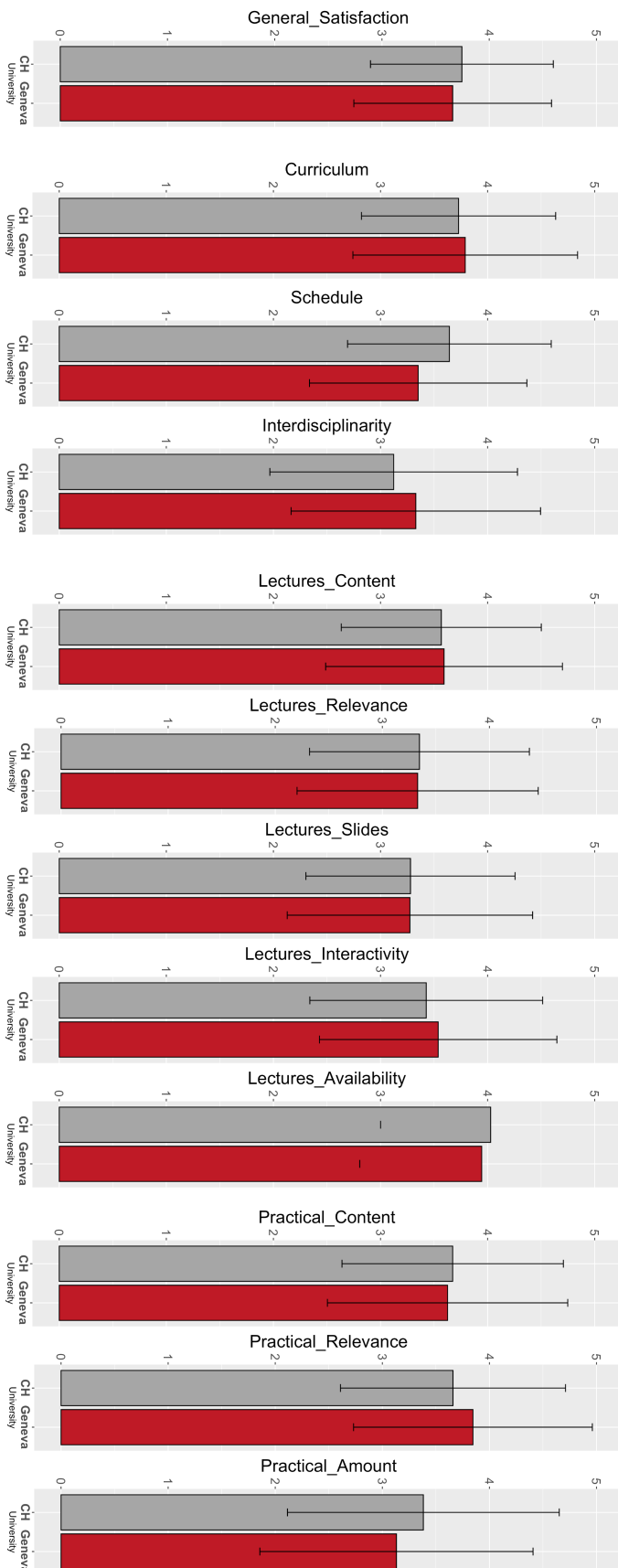
The mean students satisfaction with learning materials & infrastructure in Fribourg is the lowest in Switzerland and there are significant differences between Fribourg and multiple other Swiss medical faculties. It is likely that the reason for this difference is the missing availability of podcasts. Additionally, there have been some difficulties with the exam software at short notice in the past, which might also explain the lower satisfaction with the digital infrastructure.

Mental health in Fribourg does not seem to be significantly different from any other Swiss medical faculty.

General_Satisfaction

Curriculum

Schedule

Interdisciplinarity

Lectures_Content

Lectures_Relevance

Lectures_Slides

Lectures_Interactivity

Lectures_Availability

Practical_Content

Practical_Relevance

Practical_Amount

General Satisfaction:
The mean general satisfaction is slightly lower in Geneva ($\bar{x}$ = 3.659, sd = 0.922) in comparison to the Swiss mean ($\bar{x}$ = 3.745, sd = 0.8522)

Curriculum & Schedule:
Mean student satisfaction with their curriculum ($\bar{x}$ = 3.791, sd = 1.049) and interdisciplinarity ($\bar{x}$ = 3.33, sd = 1.165) is higher in Geneva in comparison to the Swiss mean ($\bar{x}$ = 3.729, sd = 0.907; $\bar{x}$ = 3.123, sd = 1.156). Mean student satisfaction with their schedule ($\bar{x}$ = 3.352, sd = 1.015) is however lower than the Swiss mean ($\bar{x}$ = 3.643, sd = 0.951).

Lectures & Teaching:
Mean student satisfaction with the content ($\bar{x}$ = 3.593, sd = 1.105) and the interactivity ($\bar{x}$ = 3.538, sd = 1.109) of the lectures in Geneva are higher in comparison to the Swiss mean ($\bar{x}$ = 3.568, sd = 0.934; $\bar{x}$ = 3.43, sd = 1.087). Mean student satisfaction with the relevance ($\bar{x}$ = 3.33, sd = 1.126) and the slides ($\bar{x}$ = 3.275, sd = 1.146) in Geneva is slightly lower than the Swiss mean ($\bar{x}$ = 3.347, sd = 1.026; $\bar{x}$ = 3.28, sd = 0.976). Mean student satisfaction with the availability of the lecturers in Geneva ($\bar{x}$ = 3.945, sd = 1.139) is also lower than the Swiss mean ($\bar{x}$ = 4.029, sd = 1.028).

Practical Courses:
Mean student satisfaction with the content ($\bar{x}$ = 3.626, sd = 1.122) and the amount ($\bar{x}$ = 3.132, sd = 1.275) of practical courses in Geneva are lower in comparison to the Swiss mean ($\bar{x}$ = 3.674, sd = 1.034; $\bar{x}$ = 3.383, sd = 1.269). Mean student satisfaction with the relevance ($\bar{x}$ = 3.846, sd = 1.115) however is higher than the Swiss mean ($\bar{x}$ = 3.66, sd = 1.051).

Clinical_Ratio_Satisfaction

CH Geneva University
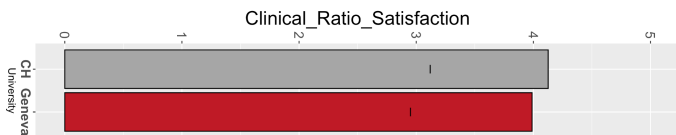
	Tutor : Student(s) ratio in clinical courses		
Ratio	1:1 to 1:5	1:6 - 1:10	Over 1:11
Amount	6	25	32

	Perception of the onset-point of clinical/patient courses				
Perception	Far too early	A little too early	Exactly right	A little too late	Far too late
Amount	0	0	56	29	6

Clinical_Feedback

CH Geneva University

Written_Exams_Overlap

CH Geneva University

Written_Exams_Feedback

CH Geneva University

Oral_Exams_Overlap

CH Geneva University

Oral_Exams_Feedback

CH Geneva University

Practical_Exams_Overlap

CH Geneva University

Practical_Exams_Feedback

CH Geneva University

Exams_Frequency

CH Geneva University

Patient/Clinical Courses:

Mean student satisfaction with the tutor:student-ratio in Geneva ($\bar{x}$ = 3.989, sd = 1.038) is lower in comparison to the Swiss mean ($\bar{x}$ = 4.126, sd = 1.007). Mean student satisfaction with the feedback during clinical courses in Geneva ($\bar{x}$ = 3.538, sd = 1.241) is also lower in comparison to the Swiss mean ($\bar{x}$ = 3.586, sd = 1.108).
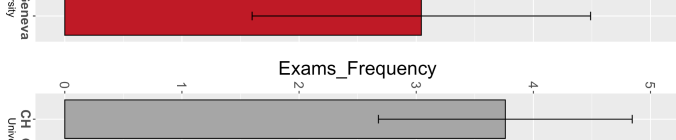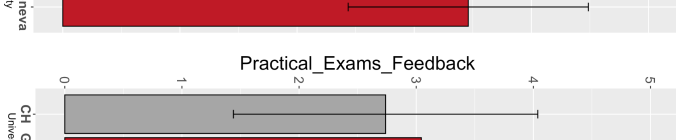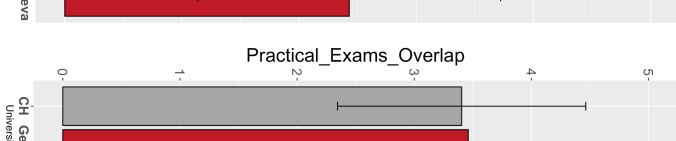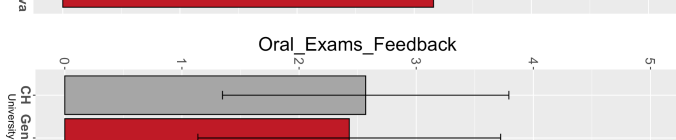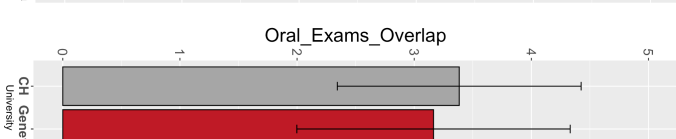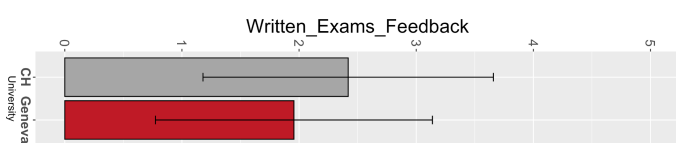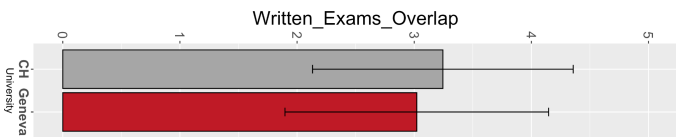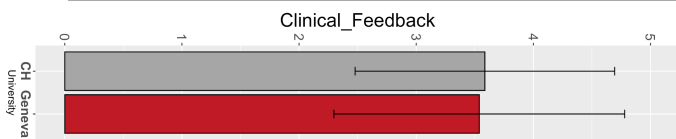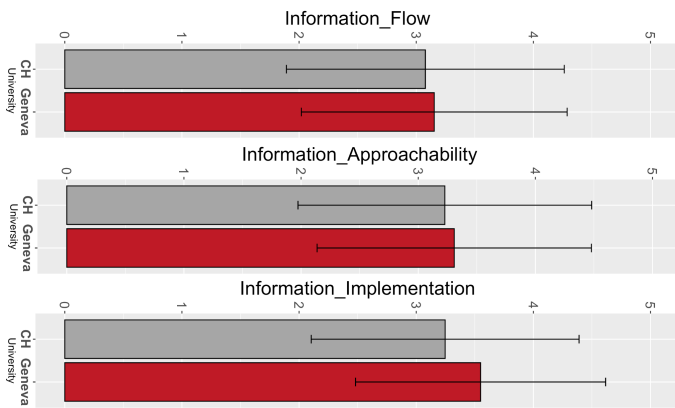
Exams:

Mean student satisfaction with the overlap of exam and learning content ($\bar{x}$ = 3.022, sd = 1.125) as well as with the feedback on the performance at the written exams ($\bar{x}$ = 1.956, sd = 1.182) in Geneva is lower than the Swiss mean ($\bar{x}$ = 3.245, sd = 1.113; $\bar{x}$ = 2.419, sd = 1.239).

Mean student satisfaction with the overlap of exam and learning content of the oral exams in Geneva ($\bar{x}$ = 3.165, sd = 1.167) as well as with the feedback on the performance at the oral exams ($\bar{x}$ = 2.429, sd = 1.292) is also lower than the Swiss mean ($\bar{x}$ = 3.384, sd = 1.04; $\bar{x}$ = 2.569, sd = 1.222).
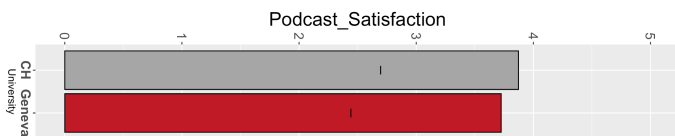
Mean student satisfaction with the overlap of exam and learning content of the practical exams ($\bar{x}$ = 3.462, sd = 1.025) and with the feedback on the performance at the practical exams ($\bar{x}$ = 3.044, sd = 1.445) are both higher in Geneva than the Swiss mean ($\bar{x}$ = 3.405, sd = 1.06), ($\bar{x}$ = 2.739, sd = 1.299).

Last but not least, mean student satisfaction with the exam frequency in Geneva ($\bar{x}$ = 3.11, sd = 1.269) is lower than the Swiss mean ($\bar{x}$ = 3.761, sd = 1.083).

Information_Flow

Information_Approachability

Information_Implementation

Podcast_Satisfaction

	Availability of Podcasts		
Answer	Yes	No	I do not know
Amount	62	16	13

Digital_Infrastructure

Physical_Infrastructure
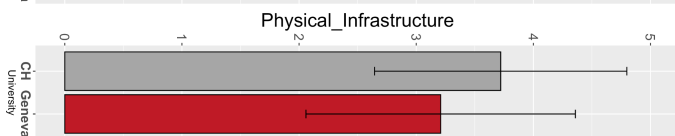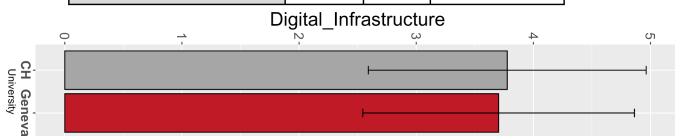

Mental_Health

Mental_Health_Support

Communication:
Mean student satisfaction with the flow of information ($\bar{x}$ = 3.154, sd = 1.135), approachability of the faculty ($\bar{x}$ = 3.308, sd = 1.171) as well as the implementation of student feedback ($\bar{x}$ = 3.549, sd = 1.067) in Geneva is higher than the Swiss mean ($\bar{x}$ = 3.078, sd = 1.186; $\bar{x}$ = 3.227, sd = 1.254; $\bar{x}$ = 3.247, sd = 1.143).

Infrastructure:
Mean student satisfaction with podcasts ($\bar{x}$ = 3.725, sd = 1.283), the digital infrastructure ($\bar{x}$ = 3.703, sd = 1.159) and the physical infrastructure ($\bar{x}$ = 3.209, sd = 1.15) in Geneva are all lower in comparison to the Swiss mean ($\bar{x}$ = 3.873, sd = 1.176; $\bar{x}$ = 3.777, sd = 1.186; $\bar{x}$ 3.721, sd = 1.077).

Mental Health:
Mean student satisfaction with their mental health ($\bar{x}$ = 2.857, sd = 1.279) and the mental health support ($\bar{x}$ = 2.934, sd = 1.124) in Geneva are both lower in comparison to the Swiss mean ($\bar{x}$ = 3.221, sd = 1.207; $\bar{x}$ = 3.002, sd = 1.139).

Discussion

Following differences between Geneva and the other faculties have become significant:

Variable	significantly different in comparison to Geneva; higher mean than Geneva	significantly different in comparison to Geneva; lower mean than Geneva
General Satisfaction	Bern, Lugano	-
Curriculum & Schedule	Lugano	-
Lectures & Teaching	Lugano	Basel

Practical Courses	Bern, Lugano	-
Clinical Courses	Bern, Lugano	-
Exams	Bern, Lugano	-
Communication	Lugano	Basel, Fribourg, Zürich
Learning Materials & Infrastructure	Bern, Lucerne	Fribourg
Mental Health	Lugano	-

Prominent (but not statistically evaluated) differences for single items of the questionnaire between the Swiss mean and the mean of Geneva have been discussed more into detail with students of AEMG (Association des Etudiants en Médecine de Genève):

One reason for the lower satisfaction with the schedule in Geneva might be the irregular schedule, especially in 2nd and 3rd year of the bachelor, which makes it hard to schedule any other regular events or appointments during the week. Additionally, the schedule for master-students is perceived to be very full with mandatory courses and does not allow a lot of time to study on their own.

The higher satisfaction with the interactivity of the lectures is likely to be due to the high amount of problem-based learning (fr. "apprentissage par problèmes") which is conducted in small groups with a lot of interaction between teacher and students.

The differences in satisfaction with the relevance (higher) and the amount (lower) of practical courses are surprising, as students did not express any (dis-)satisfaction with practical courses in the past. One possible reason for the higher satisfaction with the relevance of practical courses might be that the courses are directly included in the respective thematic block.

Regarding satisfaction with exams, multiple differences were noticed: The mean satisfaction with the feedback on the written exams of Geneva is the lowest mean of all Swiss medical faculties. One reason might be that there is very little feedback on the written exams in general. Further, the depiction of the students' performance in relation to their cohort on the Gauss-scale gives the students a possibility for competitive comparison, but no possibility to identify the study-topics that are in need of further studying and improvement. Especially for weaker students, this can be potentially discouraging. However, satisfaction with feedback on practical exams is higher than the Swiss mean. This might be due to the extensive, standardised oral feedback after every station of the practical exams. Last but not least, lower students satisfaction with exam frequency in Geneva might be due to the high frequency of exams especially in the 2nd and 3rd year of the bachelor.

Regarding satisfaction with communication, the higher mean satisfaction with implementation of student input in Geneva stands out. In line with this result, the local student association emphasised the good connection to the deanery and their attentiveness to the students' concerns.

Regarding learning materials and infrastructure, there are some students who indicate that they do not have access to podcasts. However, according to AEMG podcasts are available to all students and this result might be caused by the fact that students from Geneva use the term "mediaserver" instead of "podcast" to refer to the recordings of

lectures. Further, the lower satisfaction with physical infrastructure might be due to missing charging stations in some libraries, missing eating opportunities and shorter opening times for libraries on the weekends or possibly a general lack of microwaves on the campus.

Last but not least, medical students indicate lower satisfaction with mental health in Geneva. Since many students from Geneva have been preparing for exams during the distribution of the survey, this might be caused by the timing of the survey-distribution. Nevertheless, since especially the first years of medical studies in Geneva are perceived as more challenging by the students, other interpretations should also be considered.

Lausanne:

Results
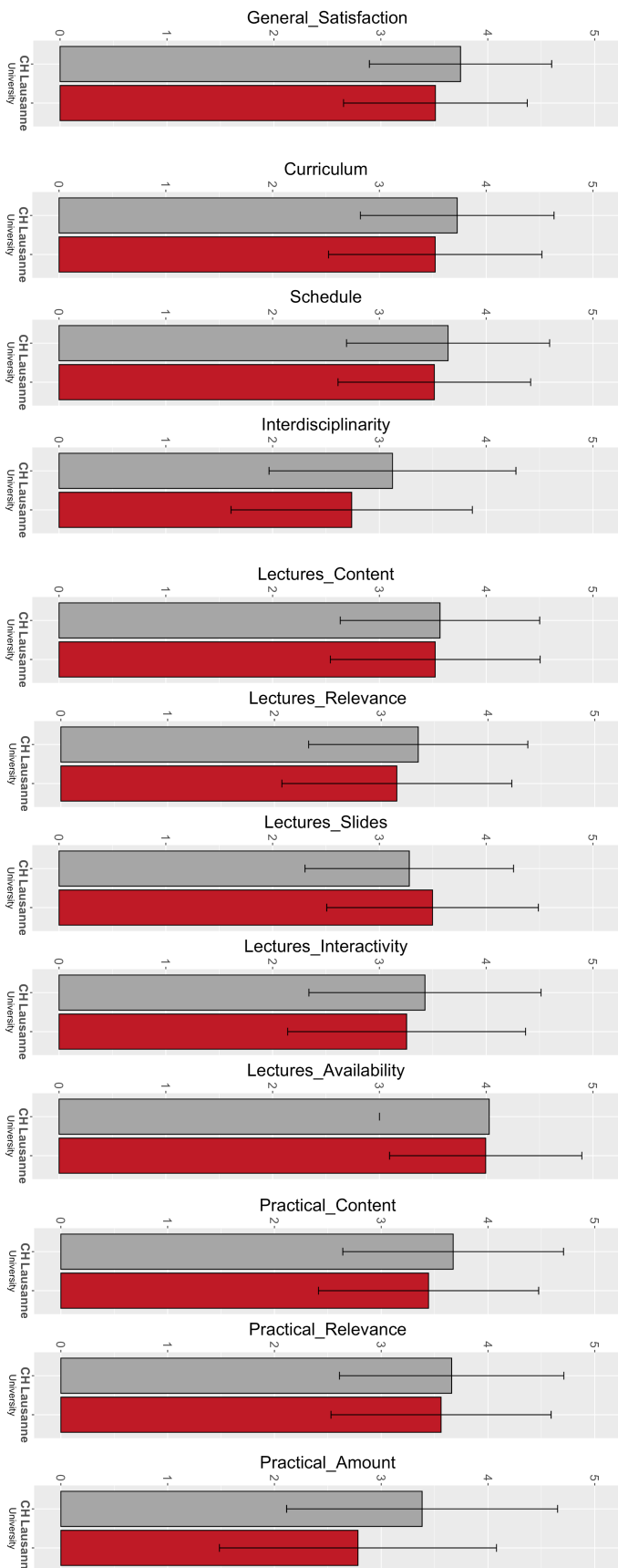
General Satisfaction:
The mean general satisfaction is lower in Lausanne ($\overline{x}$ = 3.51, sd = 0.859) in comparison to the Swiss mean ($\overline{x}$ = 3.745, sd = 0.8522)

Curriculum & Schedule:
Mean student satisfaction with their curriculum ($\overline{x}$ = 3.523, sd = 0.999), their schedule ($\overline{x}$ = 3.515, sd = 0.902) and interdisciplinarity ($\overline{x}$ = 2.741, sd = 1.13) are all lower in Lausanne in comparison to the Swiss mean ($\overline{x}$ = 3.729, sd = 0.907; $\overline{x}$ = 3.643, sd = 0.951; $\overline{x}$ = 3.123, sd = 1.156).

Lectures & Teaching:
Mean student satisfaction with the content ($\overline{x}$ = 3.523, sd = 0.982), the relevance ($\overline{x}$ = 3.146, sd = 1.077) and the interactivity ($\overline{x}$ = 3.255, sd = 1.114) of the lectures are all lower in Lausanne in comparison to the Swiss mean ($\overline{x}$ = 3.568, sd = 0.934; $\overline{x}$ = 3.347, sd = 1.026; $\overline{x}$ = 3.43, sd = 1.087). Mean student satisfaction with the slides ($\overline{x}$ = 3.498, sd = 0.991) are higher in Lausanne in comparison to the Swiss mean ($\overline{x}$ = 3.28, sd = 0.976). Mean student satisfaction with the availability of the lecturers in Lausanne ($\overline{x}$ = 3.996, sd = 0.901) is also lower than the Swiss mean ($\overline{x}$ = 4.029, sd = 1.028).

Practical Courses:
Mean student satisfaction with the content ($\overline{x}$ = 3.444, sd = 1.031), the relevance ($\overline{x}$ = 3.561, sd = 1.031) and the amount ($\overline{x}$ = 2.782, sd = 1.298) of practical courses in Lausanne are all lower in comparison to the Swiss mean ($\overline{x}$ = 3.674, sd = 1.034; $\overline{x}$ = 3.66, sd = 1.051; $\overline{x}$ = 3.383, sd = 1.269).

Clinical_Ratio_Satisfaction

CH Lausanne University
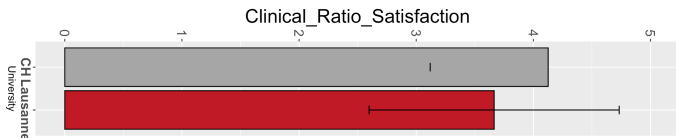
	Tutor : Student(s) ratio in clinical courses		
Ratio	1:1 to 1:5	1:6 - 1:10	Over 1:11
Amount	48	57	53

	Perception of the onset-point of clinical/patient courses				
Perception	Far too early	A little too early	Exactly right	A little too late	Far too late
Amount	2	11	91	96	39

Clinical_Feedback

CH Lausanne University

Patient/Clinical Courses:

Mean student satisfaction with the tutor:student-ratio in Lausanne ($\bar{x}$ = 3.665, sd = 1.068) is lower in comparison to the Swiss mean ($\bar{x}$ = 4.126, sd = 1.007). Mean student satisfaction with the feedback during clinical courses in Lausanne ($\bar{x}$ = 3.54, sd = 1.118) is also slightly lower in comparison to the Swiss mean ($\bar{x}$ = 3.586, sd = 1.108).

Written_Exams_Overlap

CH Lausanne University

Written_Exams_Feedback

CH Lausanne University

Oral_Exams_Overlap

CH Lausanne University

Oral_Exams_Feedback

CH Lausanne University

Practical_Exams_Overlap

CH Lausanne University

Practical_Exams_Feedback

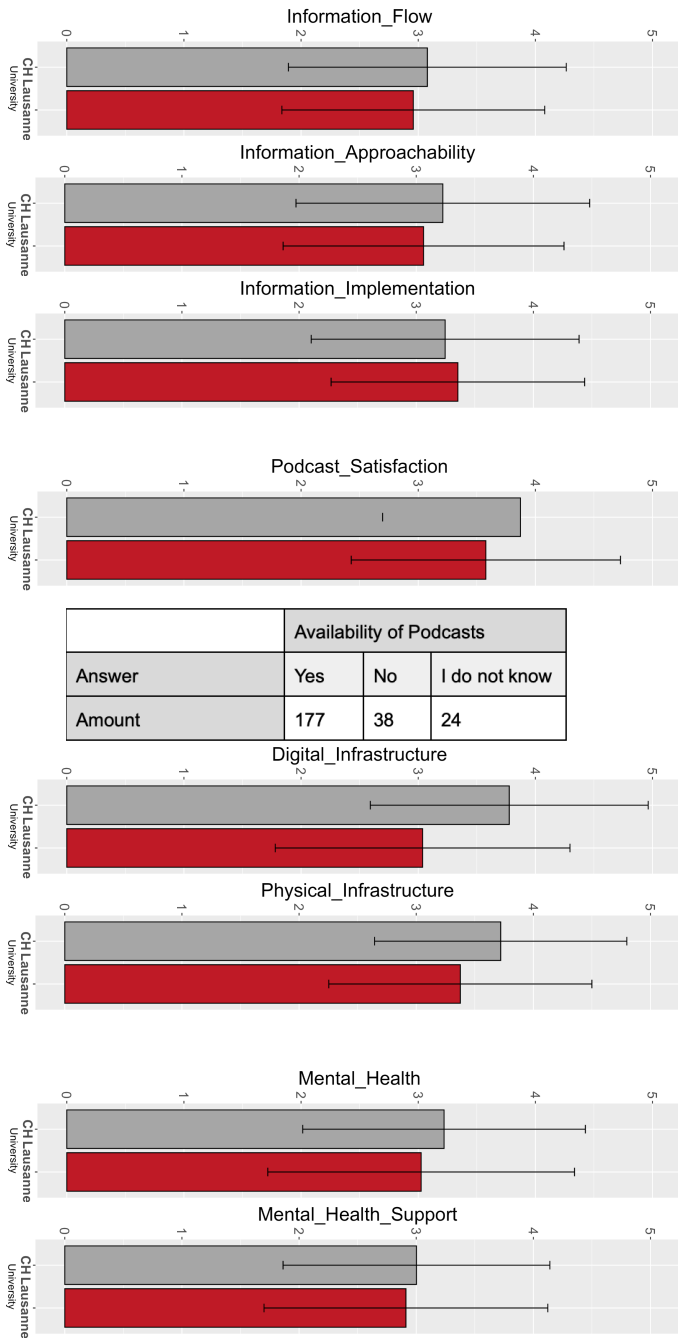CH Lausanne University

Exams_Frequency

CH Lausanne University
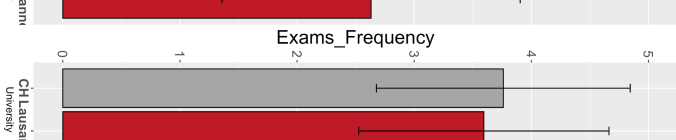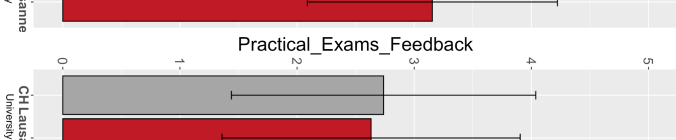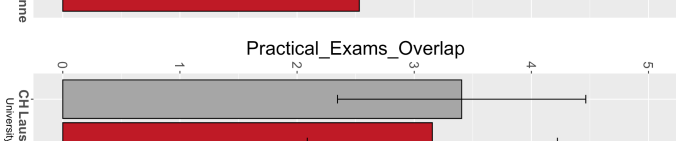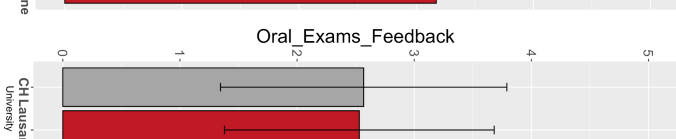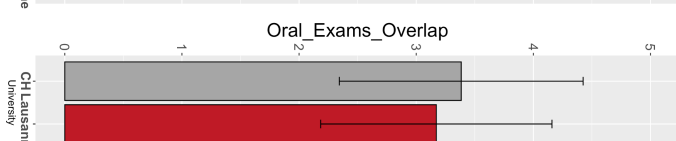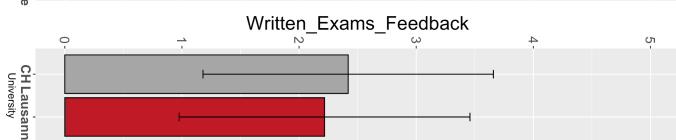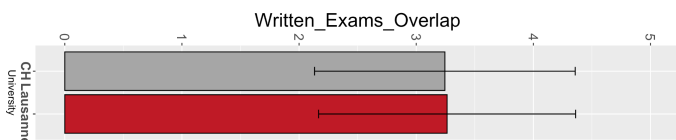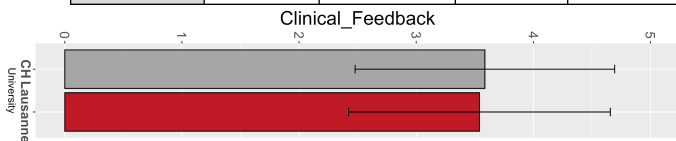
Exams:

Mean student satisfaction with the overlap of exam and learning content ($\bar{x}$ = 3.264, sd = 1.097) at the written exams is slightly higher than the Swiss mean ($\bar{x}$ = 3.245, sd = 1.113). Regarding the satisfaction with feedback on the performance at the written exams ($\bar{x}$ = 2.218, sd = 1.241), the mean of Lausanne is lower than the Swiss mean ($\bar{x}$ = 2.419, sd = 1.239).

Mean student satisfaction with the overlap of exam and learning content ($\bar{x}$ = 3.172, sd = 0.987) as well as with the feedback on the performance at the oral exams ($\bar{x}$ = 2.531, sd = 1.151) in Lausanne are lower than the Swiss mean ($\bar{x}$ = 3.384, sd = 1.04; $\bar{x}$ = 2.569, sd = 1.222).

Similarly, mean student satisfaction with the overlap of exam and learning content of the practical exams ($\bar{x}$ = 3.155, sd = 1.068) and with the feedback on the performance at the practical exams ($\bar{x}$ = 2.632, sd = 1.273) are both lower in Lausanne in comparison to the Swiss means ($\bar{x}$ = 3.405, sd = 1.06; $\bar{x}$ = 2.739, sd = 1.299). Last but not least, mean student satisfaction with the exam frequency in Lausanne ($\bar{x}$ = 3.594, sd = 1.068) is lower than the Swiss mean ($\bar{x}$ = 3.761, sd = 1.083).

Information_Flow

Information_Approachability

Information_Implementation

Communication:
Mean student satisfaction with the flow of information ($\bar{x}$ = 2.958, sd = 1.122) and the approachability of the faculty ($\bar{x}$ = 3.063, sd = 1.199) in Lausanne is lower than the Swiss mean ($\bar{x}$ = 3.078, sd = 1.186; $\bar{x}$ = 3.227, sd = 1.254). Mean student satisfaction with the implementation of student feedback ($\bar{x}$ = 3.356, sd = 1.082) in Lausanne is higher than the Swiss mean ($\bar{x}$ = 3.247, sd = 1.143).

Podcast_Satisfaction

	Availability of Podcasts		
Answer	Yes	No	I do not know
Amount	177	38	24

Digital_Infrastructure

Physical_Infrastructure

Infrastructure:
Mean student satisfaction with podcasts ($\bar{x}$ = 3.577, sd = 1.149), the digital infrastructure ($\bar{x}$ = 3.038, sd = 1.258) and the physical infrastructure ($\bar{x}$ = 3.377, sd = 1.123) in Lausanne are all lower in comparison to the Swiss mean ($\bar{x}$ = 3.873, sd = 1.176; $\bar{x}$ = 3.777, sd = 1.186; $\bar{x}$ = 3.721, sd = 1.077).

Mental_Health

Mental_Health_Support

Mental Health:
Mean student satisfaction with their mental health ($\bar{x}$ = 3.025, sd = 1.309) and the mental health support ($\bar{x}$ = 2.912, sd = 1.211) in Lausanne are both lower in comparison to the Swiss mean ($\bar{x}$ = 3.221, sd = 1.207; $\bar{x}$ = 3.002, sd = 1.139).

Discussion

Following differences between Lausanne and the other faculties have become significant:

Variable	significantly different in comparison to Lausanne; higher mean than Lausanne	significantly different in comparison to Lausanne; lower mean than Lausanne
General Satisfaction	Bern, Lugano	-
Curriculum & Schedule	Bern, Lugano	-

Lectures & Teaching	Bern, Lugano	-
Practical Courses	Bern, Lugano	-
Clinical Courses	Bern, Fribourg, Lucerne, Lugano	-
Exams	Bern, Lugano	-
Communication	Bern, Lugano	-
Learning Materials & Infrastructure	Bern, Lucerne, Lugano, Zürich	-
Mental Health	Bern, Lugano	-

Prominent (but not statistically evaluated) differences for single items of the questionnaire between the Swiss mean and the mean of Lausanne have been discussed more into detail with students of AEML (Association des etudiants en médecine de Lausanne):

The lower satisfaction regarding curriculum & schedule in Lausanne in comparison with the Swiss mean might be due to the students' wish to have more practical courses and the perception that the curriculum is sometimes too research-centred. Additionally, the schedule is perceived to be quite full and there are many teachings happening on the same day.

Regarding the lectures, the lower satisfaction with the relevance of the lectures might be due to perceived missing practical implications of the content of the lectures. The higher mean student satisfaction with the slides of Lausanne in comparison to the Swiss mean might be due to the slides being uploaded beforehand on a digital platform. Regarding the lower satisfaction with the interactivity of the lectures, local students seem to agree that it is sometimes hard to interact with the teachers during the lectures.

Similarly to the lower satisfaction with the curriculum and the relevance of the lectures, the lower satisfaction with the amount of practical courses might be due to the lower perceived amount of practical courses.
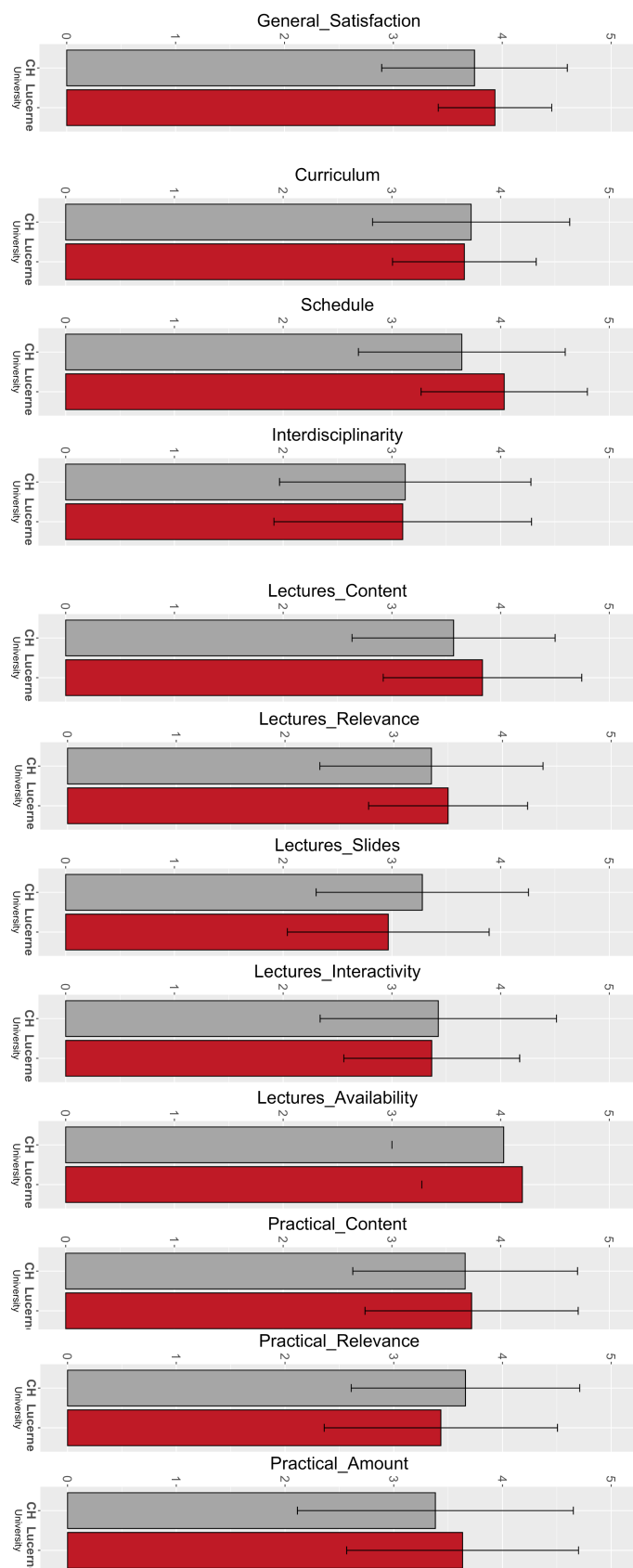
Regarding the patient/clinical courses there are multiple Swiss faculties that show a significant difference in student satisfaction and that seem to have a higher mean satisfaction than Lausanne. The lower satisfaction in Lausanne might be caused by the higher tutor:student-ratio during the clinical courses and the late onset of the clinical courses (96 participants stating "a little too late", 39 participants stating "far too late" in comparison to 91 participants stating "exactly right"). Students from the local association however emphasise that the practical-block in the 4th year is generally appreciated by the students.

The lower satisfaction regarding exams might be due to a lack of perceived overlap between lectures/courses content and the exam content.

Additionally, there seems to be a significant difference between the satisfaction with the Learning materials & Infrastructure in Lausanne and different other Swiss medical faculties. As the mean of Lausanne for this variable is mostly lower than the means of the significantly different faculties, this suggests a need for improvement.

Lucerne-Track:

Results

General_Satisfaction

Curriculum

Schedule

Interdisciplinarity

Lectures_Content

Lectures_Relevance

Lectures_Slides

Lectures_Interactivity

Lectures_Availability

Practical_Content

Practical_Relevance

Practical_Amount

General Satisfaction:
The mean general satisfaction is higher in Lucerne ($\bar{x}$ = 3.933, sd = 0.521) in comparison to the Swiss mean ($\bar{x}$ = 3.745, sd = 0.8522)

Curriculum & Schedule:
Mean student satisfaction with their curriculum ($\bar{x}$ = 3.667, sd = 0.661) and interdisciplinarity ($\bar{x}$ = 3.1, sd = 1.185) is lower in Lucerne in comparison to the Swiss mean ($\bar{x}$ = 3.729, sd = 0.907; $\bar{x}$ = 3.123, sd = 1.156). However mean student satisfaction with their schedule ($\bar{x}$ = 4.033, sd = 0.765) is in Lucerne higher in comparison to the Swiss mean ($\bar{x}$ = 3.643, sd = 0.951)

Lectures & Teaching:
Mean student satisfaction with the content ($\bar{x}$ = 3.833, sd = 0.913) and the relevance ($\bar{x}$ = 3.5, sd = 0.731) of their lectures in Lucerne are higher in comparison to the Swiss mean ($\bar{x}$ = 3.568, sd = 0.934; $\bar{x}$ = 3.347, sd = 1.026). However mean student satisfaction with the slides ($\bar{x}$ = 2.967, sd = 0.928) and the interactivity ($\bar{x}$ = 3.367, sd = 0.809) in Lucerne are lower in comparison to the Swiss mean ($\bar{x}$ = 3.28, sd = 0.976; $\bar{x}$ = 3.43, sd = 1.087). Mean student satisfaction with the availability of the lecturers in Lucerne ($\bar{x}$ = 4.2, sd = 0.925) is higher than the Swiss mean ($\bar{x}$ = 4.029, sd = 1.028).

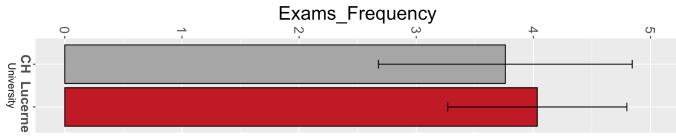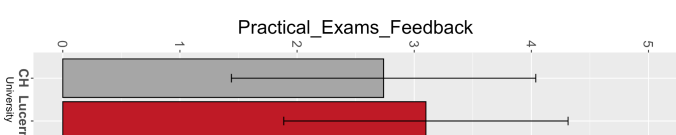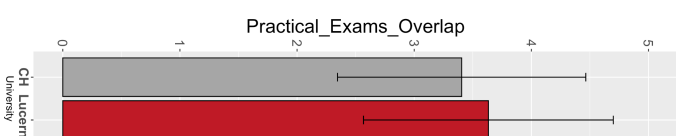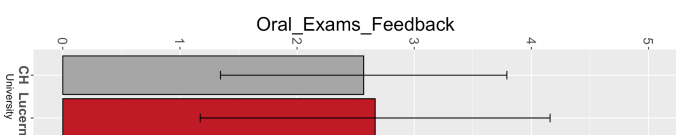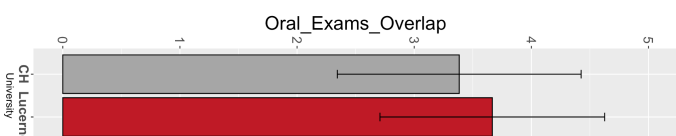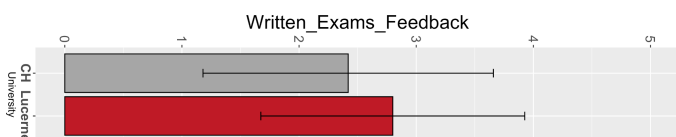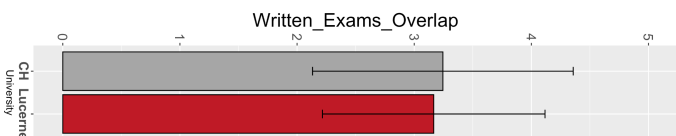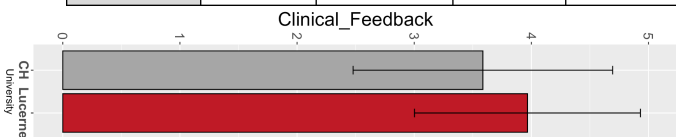*Practical Courses:*
Mean student satisfaction with the content ($\bar{x}$ = 3.733, sd = 0.98) and the amount ($\bar{x}$ = 3.633, sd = 1.066) of practical courses in Lucerne is higher in comparison to the Swiss mean ($\bar{x}$ = 3.674, sd = 1.034; $\bar{x}$ = 3.383, sd = 1.269). Mean student satisfaction with their relevance ($\bar{x}$ = 3.433, sd = 1.073) is however lower than the Swiss mean ($\bar{x}$ = 3.66, sd = 1.051).

Clinical_Ratio_Satisfaction
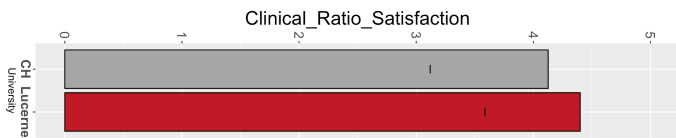
	Tutor : Student(s) ratio in clinical courses		
Ratio	1:1 to 1:5	1:6 - 1:10	Over 1:11
Amount	4	17	4

	Perception of the onset-point of clinical/patient courses				
Perception	Far too early	A little too early	Exactly right	A little too late	Far too late
Amount	0	1	15	14	0

Clinical_Feedback

Patient/Clinical Courses:

Mean student satisfaction with the tutor:student-ratio in Lucerne ($\bar{x}$ = 4.4, sd = 0.814) is higher in comparison to the Swiss mean ($\bar{x}$ = 4.126, sd = 1.007). Mean student satisfaction with the feedback during clinical courses in Lucerne ($\bar{x}$ = 3.967, sd = 0.964) is also higher in comparison to the Swiss mean ($\bar{x}$ = 3.586, sd = 1.108).

Written_Exams_Overlap

Written_Exams_Feedback

Oral_Exams_Overlap

Oral_Exams_Feedback

Practical_Exams_Overlap

Practical_Exams_Feedback

Exams_Frequency

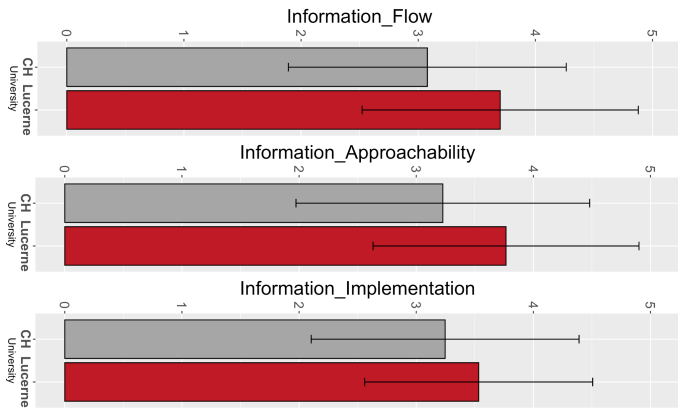*Exams:*

Mean student satisfaction with the overlap of exam and learning content at the written exams ($\bar{x}$ = 3.167, sd = 0.95) in Lucerne is lower than the Swiss mean ($\bar{x}$ = 3.245, sd = 1.113). Mean student satisfaction with the feedback on the performance at the written exams ($\bar{x}$ = 2.8, sd = 1.126) in Lucerne is higher than the Swiss mean ($\bar{x}$ = 2.419, sd = 1.239).

Mean student satisfaction with the overlap of exam and learning content of the oral exams ($\bar{x}$ = 3.667, sd = 0.959) as well as with the feedback on the performance at the oral exams ($\bar{x}$ = 2.667, sd = 1.493) are both higher than the Swiss mean ($\bar{x}$ = 3.384, sd = 1.04; $\bar{x}$ = 2.569, sd = 1.222).

Similarly, mean student satisfaction with the overlap of exam and learning content of the practical exams ($\bar{x}$ = 3.633, sd = 1.066) as well as with the feedback on the performance at the practical exams ($\bar{x}$ = 3.1, sd = 1.213) in Lucerne are both higher than the Swiss mean ($\bar{x}$ = 3.405, sd = 1.06; $\bar{x}$ = 2.739, sd = 1.299).

Last but not least, mean student satisfaction with the exam frequency in Lucerne ($\bar{x}$ = 4.033, sd = 0.765) is higher than the Swiss mean ($\bar{x}$ = 3.761, sd = 1.083).

Information_Flow

Information_Approachability

Information_Implementation

Podcast_Satisfaction

	Availability of Podcasts		
Answer	Yes	No	I do not know
Amount	29	1	0

Digital_Infrastructure

Physical_Infrastructure

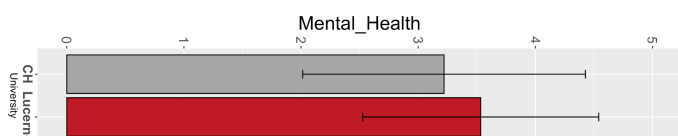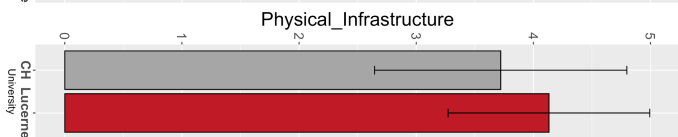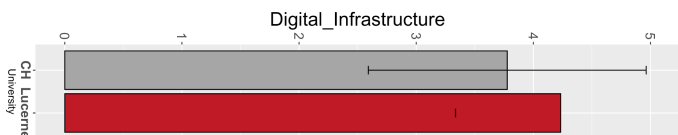
Mental_Health

Mental_Health_Support

Communication:

Mean student satisfaction with the flow of information ($\bar{x}$ = 3.7, sd = 1.179), approachability of the faculty ($\bar{x}$ = 3.767, sd = 1.135) as well as the implementation of student feedback ($\bar{x}$ = 3.533, sd = 0.973) in Lucerne is higher than the Swiss mean ($\bar{x}$ = 3.078, sd = 1.186; $\bar{x}$ = 3.227, sd = 1.254; $\bar{x}$ = 3.247, sd = 1.143).

Infrastructure:

Mean student satisfaction with podcasts ($\bar{x}$ = 4.567, sd = 0.626), the digital infrastructure ($\bar{x}$ = 4.233, sd = 0.898) and the physical infrastructure ($\bar{x}$ = 4.133, sd = 0.86) in Lucerne are all higher in comparison to the Swiss mean ($\bar{x}$ = 3.873, sd = 1.176; $\bar{x}$ = 3.777, sd = 1.186; $\bar{x}$ 3.721, sd = 1.077).

Mental Health:

Mean student satisfaction with their mental health ($\bar{x}$ = 3.533, sd = 1.008) and the mental health support ($\bar{x}$ = 3.5, sd = 0.938) in Lucerne are both higher in comparison to the Swiss mean ($\bar{x}$ = 3.221, sd = 1.207; $\bar{x}$ = 3.002, sd = 1.139).
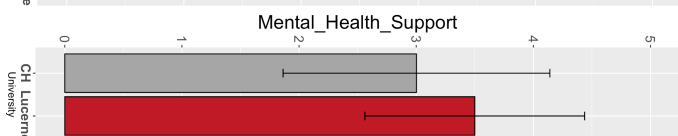
Discussion

Following differences between Lucerne and the other faculties have become significant:

Variable	significantly different in comparison to Lucerne; higher mean than Lucerne	significantly different in comparison to Lucerne; lower mean than Lucerne
General Satisfaction	-	-
Curriculum & Schedule	Lugano	-

Lectures & Teaching	-	-
Practical Courses	Lugano	-
Clinical Courses	-	Lausanne, Zürich
Exams	-	-
Communication	-	Basel, Fribourg, Zürich
Learning Materials & Infrastructure	-	Basel, Fribourg, Geneva, Lausanne
Mental Health	-	-

Note: It is likely that some differences did not become significant due to the rather small sample size for Lucerne (n = 30), since some differences of the means between Lucerne and other universities regarding certain variables could be potentially relevant.

Prominent (but not statistically evaluated) differences for single items of the questionnaire between the Swiss mean and the mean of Lucerne-Track have been discussed more into detail with students of FluMed (Fachverein Luzerner Medizinstudierender):

The higher satisfaction regarding the schedule in Lucerne might be due to the early availability of the schedule as well as with the schedule for the clinical courses being available in a single document. This interpretation would also be in line with the higher satisfaction means for the variable Communication.

The lectures are the same as in Zürich. Practical courses in the bachelor years are as well the same as Zürich. In line with this, there seems to be no significant difference between Lucerne and Zürich regarding these variables. Nevertheless, the mean for the variable Practical Courses for Lucerne is higher than the mean of Zürich, which might indicate that there are potentially relevant differences in the practical courses in the master years.

The higher satisfaction with the tutor:student-ratio for the clinical courses as well as with the feedback during clinical courses might be due to smaller group-sizes and the familiarity of the students within the small cohort. Additionally, multiple students from the local association pointed out the high motivation of the clinical tutors.

There seems to be no significant differences regarding the satisfaction with exams in Lucerne compared to the other Swiss medical faculties. However, a student from the local association pointed out that the slightly lower mean regarding the overlap of lectures/content and the content of the written exams might be due to the uncertainty of master students in Lucerne as to whether their lectures cover all the topics of the exams, as the exams are written together with the students from Zürich.

Regarding the higher means in Communication in Lucerne, there might be multiple reasons for this: According to students from the local association the study managers are very approachable and responsive. Further the faculty informs early enough (sometimes months in advance) if students need to save a date for an event or a course. Additionally, input from students is perceived to be gathered actively and to be appreciated.

The high satisfaction with the Learning materials & Infrastructure might be due to the availability of podcasts and live-streams, as well as to extensive access to digital learning platforms during the master years.

There seems to be no significant difference regarding Mental health between Lucerne and the other medical faculties. The higher means in Lucerne compared to the Swiss mean might result from the proactive communication regarding mental health from the faculty.

Lugano:

Results
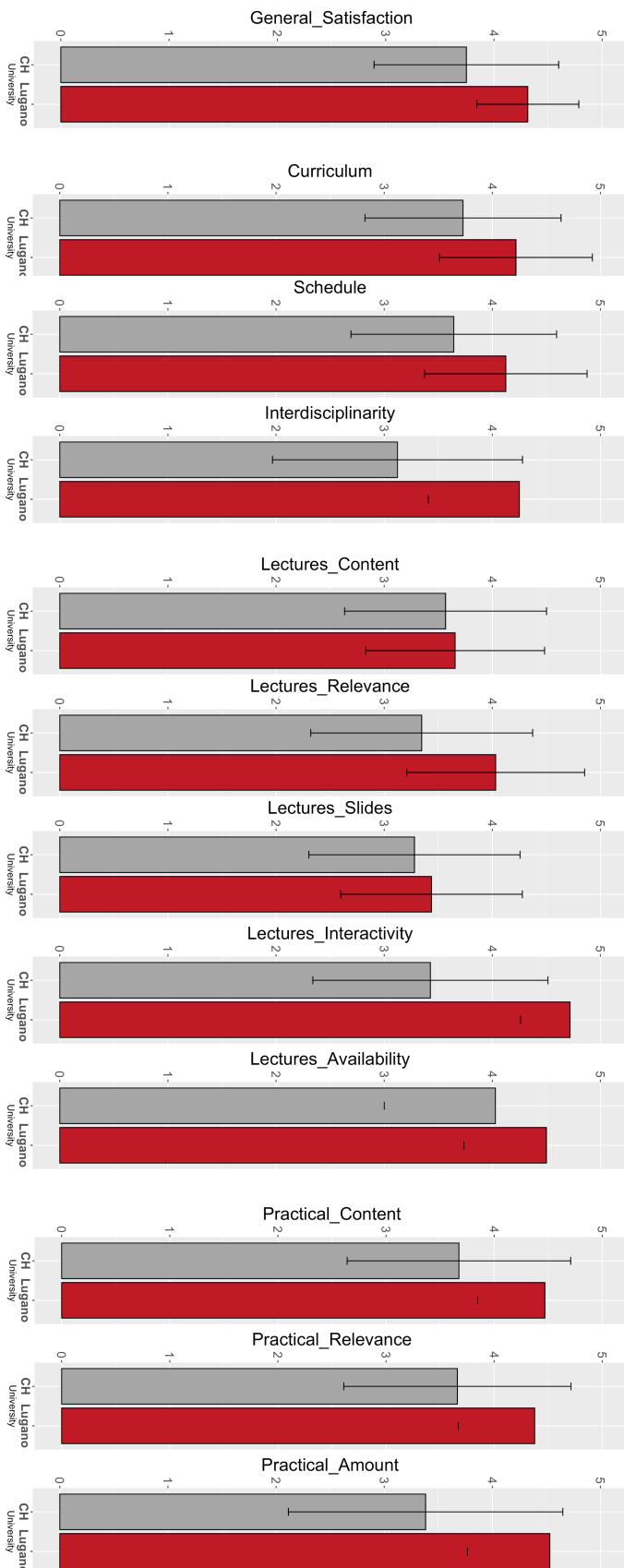
General Satisfaction:
The mean general satisfaction is higher in Lugano ($\bar{x}$ = 4.313, sd = 0.471) in comparison to the Swiss mean ($\bar{x}$ = 3.745, sd = 0.8522)

Curriculum & Schedule:
Mean student satisfaction with their curriculum ($\bar{x}$ = 4.219, sd = 0.706), their schedule ($\bar{x}$ = 4.125, sd = 0.751) and interdisciplinarity ($\bar{x}$ = 4.25, sd = 0.842) is higher in Lugano in comparison to the Swiss mean ($\bar{x}$ = 3.729, sd = 0.907; $\bar{x}$ = 3.643, sd = 0.951; $\bar{x}$ = 3.123, sd = 1.156).

Lectures & Teaching:
Mean student satisfaction with the content ($\bar{x}$ = 3.656, sd = 0.827), the relevance ($\bar{x}$ = 4.031, sd = 0.822), the slides ($\bar{x}$ = 3.438, sd = 0.84) and the interactivity ($\bar{x}$ = 4.719, sd = 0.457) of the lectures are all higher in Lugano in comparison to the Swiss mean ($\bar{x}$ = 3.568, sd = 0.934; $\bar{x}$ = 3.347, sd = 1.026; $\bar{x}$ = 3.28, sd = 0.976; $\bar{x}$ = 3.43, sd = 1.087). Mean student satisfaction with the availability of the lecturers in Lugano ($\bar{x}$ = 4.5, sd = 0.762) is also higher than the Swiss mean ($\bar{x}$ = 4.029, sd = 1.028).

Practical Courses:
Mean student satisfaction with the content ($\bar{x}$ = 4.469, sd = 0.621), the relevance ($\bar{x}$ = 4.375, sd = 0.707) and the amount ($\bar{x}$ = 4.531, sd = 0.761) of practical courses in Lugano are all higher in comparison to the Swiss mean ($\bar{x}$ = 3.674, sd = 1.034; $\bar{x}$ = 3.66, sd = 1.051; $\bar{x}$ = 3.383, sd = 1.269).

Clinical_Ratio_Satisfaction
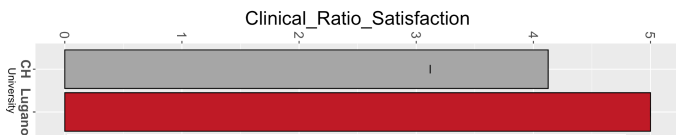
	Tutor : Student(s) ratio in clinical courses		
Ratio	1:1 to 1:5	1:6 - 1:10	Over 1:11
Amount	32	0	0

	Perception of the onset-point of clinical/patient courses				
Perception	Far too early	A little too early	Exactly right	A little too late	Far too late
Amount	0	0	26	6	0
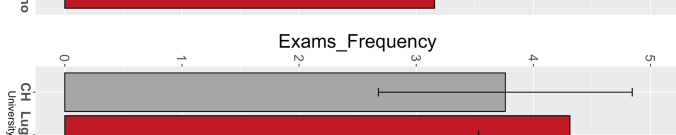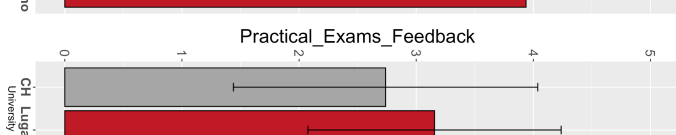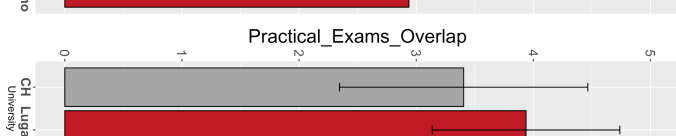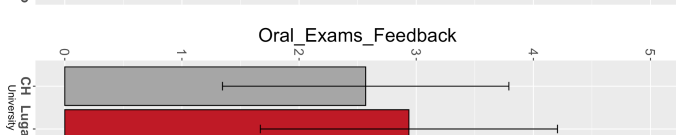
Clinical_Feedback

Patient/Clinical Courses:

Mean student satisfaction with the tutor:student-ratio in Lugano ($\bar{x} = 5$, sd = 0) is higher in comparison to the Swiss mean ($\bar{x} = 4.126$, sd = 1.007). Mean student satisfaction with the feedback during clinical courses in Lugano ($\bar{x} = 4.188$, sd = 0.821) is also higher in comparison to the Swiss mean ($\bar{x} = 3.586$, sd = 1.108).

Written_Exams_Overlap

Written_Exams_Feedback

Oral_Exams_Overlap

Oral_Exams_Feedback

Practical_Exams_Overlap

Practical_Exams_Feedback

Exams_Frequency

Exams:

Mean student satisfaction with the overlap of exam and learning content ($\bar{x} = 3.781$, sd = 1.008) as well as with the feedback on the performance at the written exams ($\bar{x} = 2.906$, sd = 1.279) in Lugano is higher than the Swiss mean ($\bar{x} = 3.245$, sd = 1.113; $\bar{x} = 2.419$, sd = 1.239).
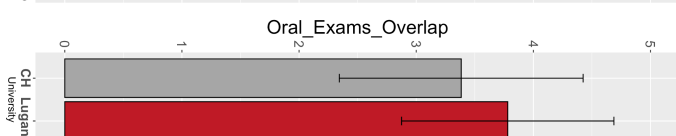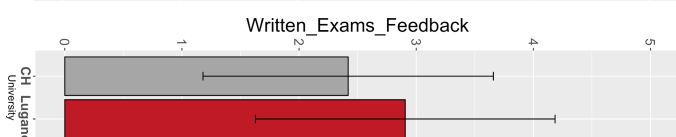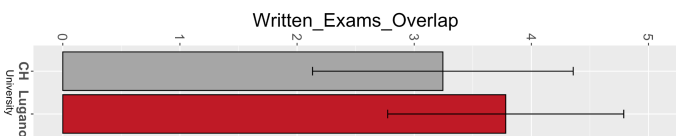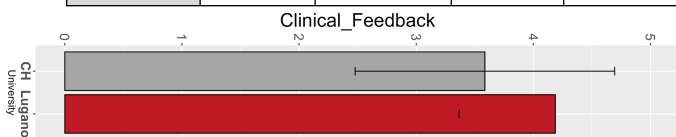
Mean student satisfaction with the overlap of exam and learning content of the oral exams ($\bar{x} = 3.781$, sd = 0.906) as well as with the feedback on the performance at the oral exams ($\bar{x} = 2.938$, sd = 1.268) in Lugano is higher than the Swiss mean ($\bar{x} = 3.384$, sd = 1.04; $\bar{x} = 2.569$, sd = 1.222).

Similarly, mean student satisfaction with the overlap of exam and learning content of the practical exams ($\bar{x} = 3.938$, sd = 0.801) and with the feedback on the performance at the practical exams ($\bar{x} = 3.156$, sd = 1.081) in Lugano is higher than the Swiss mean ($\bar{x} = 3.405$, sd = 1.06; $\bar{x} = 2.739$, sd = 1.299)

Last but not least, mean student satisfaction with the exam frequency in Lugano ($\bar{x} = 4.313$, sd = 0.781) is higher than the Swiss mean ($\bar{x} = 3.761$, sd = 1.083).
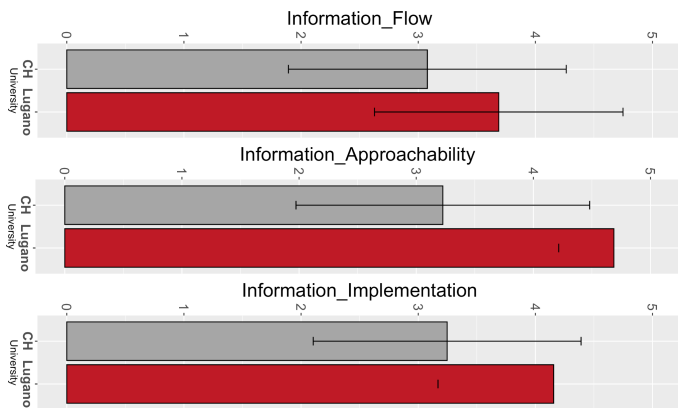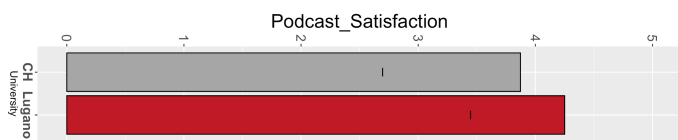
Communication:
Mean student satisfaction with the flow of information ($\bar{x}$ = 3.688, sd = 1.061), approachability of the faculty ($\bar{x}$ = 4.688, sd = 0.471) as well as the implementation of student feedback ($\bar{x}$ = 4.156, sd = 0.987) in Lugano is higher than the Swiss mean ($\bar{x}$ = 3.078, sd = 1.186; $\bar{x}$ = 3.227, sd = 1.254; $\bar{x}$ = 3.247, sd = 1.143).

	Availability of Podcasts		
Answer	Yes	No	I do not know
Amount	31	0	1

Infrastructure:
Mean student satisfaction with podcasts ($\bar{x}$ = 4.25, sd = 0.803), the digital infrastructure ($\bar{x}$ = 4.063, sd = 0.948) and the physical infrastructure ($\bar{x}$ = 3.781, sd = 1.07) in Lugano are all higher in comparison to the Swiss mean ($\bar{x}$ = 3.873, sd = 1.176; $\bar{x}$ = 3.777, sd = 1.186; $\bar{x}$ 3.721, sd = 1.077).
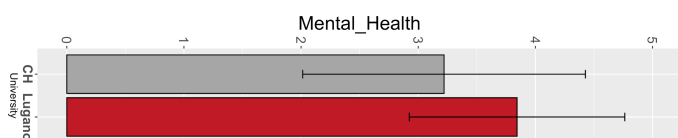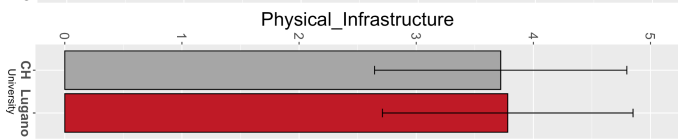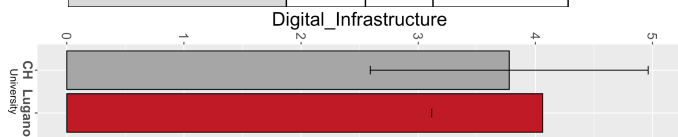
Mental Health:
Mean student satisfaction with their mental health ($\bar{x}$ = 3.844, sd = 0.92) and the mental health support ($\bar{x}$ = 3.406, sd = 0.756) in Lugano are both higher in comparison to the Swiss mean ($\bar{x}$ = 3.221, sd = 1.207; $\bar{x}$ = 3.002, sd = 1.139).
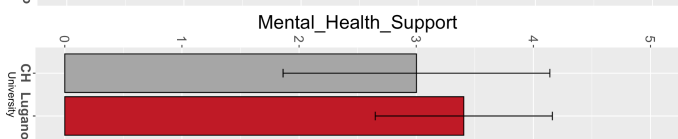
Discussion

Following differences between Lugano and the other faculties have become significant:

Variable	significantly different in comparison to Lugano; higher mean than Lugano	significantly different in comparison to Lugano; lower mean than Lugano
General Satisfaction	-	Basel, Fribourg, Geneva, Lausanne, Zürich
Curriculum & Schedule	-	Basel, Bern, Fribourg, Geneva,

		Lausanne, Lucerne, Zürich
Lectures & Teaching	-	Basel, Fribourg, Geneva, Lausanne, Zürich
Practical Courses	-	Basel, Fribourg, Geneva, Lausanne, Lucerne, Zürich
Clinical Courses	-	Basel, Geneva, Lausanne, Zürich
Exams	-	Basel, Geneva, Lausanne
Communication	-	Basel, Bern, Fribourg, Geneva, Lausanne, Zürich
Learning Materials & Infrastructure	-	Fribourg, Lausanne
Mental Health	-	Geneva, Lausanne

Prominent (but not statistically evaluated) differences for single items of the questionnaire between the Swiss mean and the mean of Lugano have been discussed more into detail with students of smusi (Studenti di medicina dell'USI):

The results indicate higher satisfaction in Lugano for all items in comparison to the Swiss mean. Any faculty that differs significantly from Lugano in any variable, has a higher mean in this variable.

According to local students, the satisfaction with their curriculum and schedule might be due to a good implementation of PROFILES, having 2 clinical days per week and a practical week per semester regarding a specific topic (e.g. paediatric practice, family practice).

This might also explain the higher satisfaction with the content and relevance of the lectures. The high interactivity of lectures and availability of the lecturers might be due to actively discussed clinical cases during lectures and the fact that teachers at the university and in the hospitals are perceived as very motivated by the students.

Regarding patient/clinical courses, the higher satisfaction might result from theoretical lectures and clinical days being well matched to each other. Additionally, another reason for the higher satisfaction with the clinical courses might be the 1:2 tutor-student-ratio during almost all clinical courses.

Satisfaction with exams seems to be higher in Lugano than the Swiss mean. According to students, the thorough review of exam questions beforehand might lead to less confusion and better adjustment of the questions to the students' knowledge.

Communication between the students and the deans is described by the students as very remarkable. Concerns seem to be taken seriously and the deanery is open for adjustments. One event regarding communication mentioned in particular, is a survey conducted by the deanery in January 2021 to assess if students would like to postpone the OSCE-exams due to the pandemic situation, which might not allow students to properly prepare for the exams and would also have a major influence on how the exams would be conducted. The exams were postponed, as a majority of the students voted for this option.

Regarding mental health, the higher satisfaction could be explained by different mental health support systems, as for example the organisation "USI in Ascolto" where students can talk about their concerns and problems as well as other offers from the university to lower the threshold for students to talk about their mental health (e.g. free 1st counselling).

St.Gallen-Track:

Results
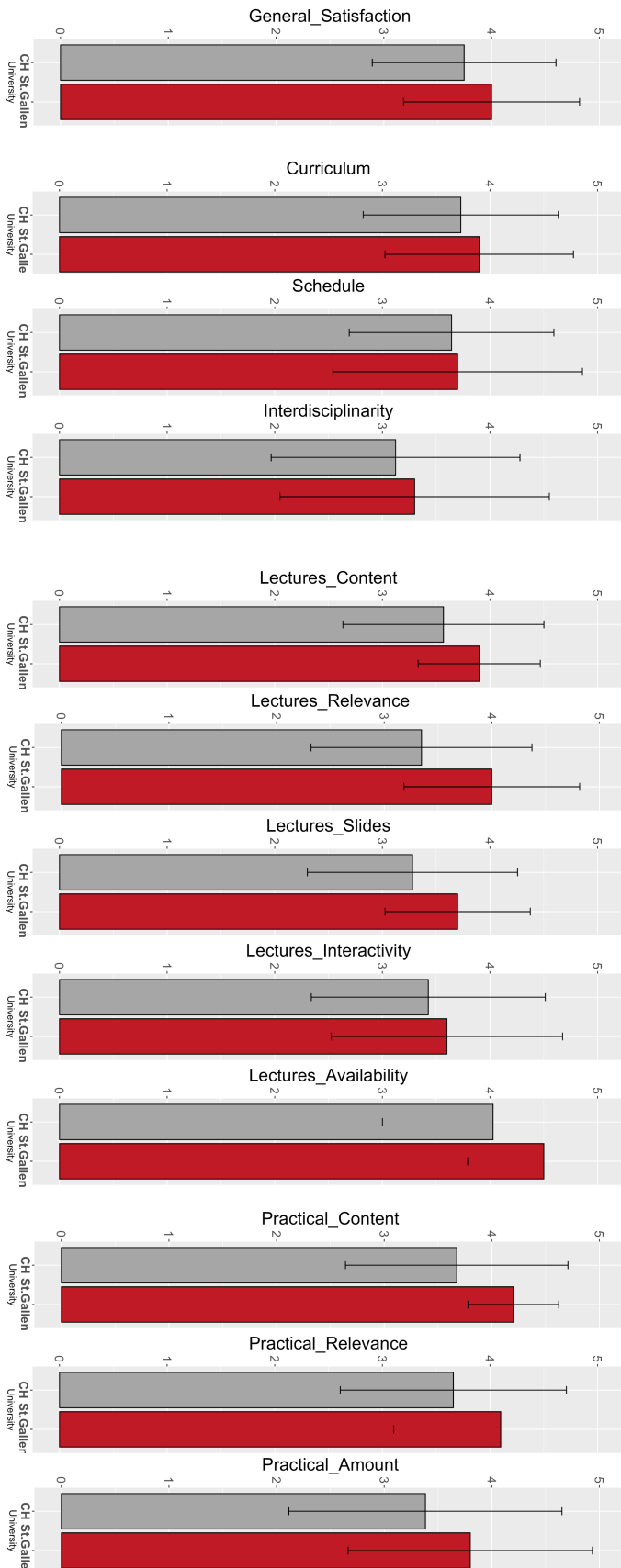
General Satisfaction:
The mean general satisfaction is higher in St.Gallen ($\bar{x}$ = 4, sd = 0.816) in comparison to the Swiss mean ($\bar{x}$ = 3.745, sd = 0.8522)

Curriculum & Schedule:
Mean student satisfaction with their curriculum ($\bar{x}$ = 3.9, sd = 0.876), their schedule ($\bar{x}$ = 3.7, sd = 1.16) and interdisciplinarity ($\bar{x}$ = 3.3, sd = 1.252) is higher in St.Gallen in comparison to the Swiss mean ($\bar{x}$ = 3.729, sd = 0.907; $\bar{x}$ = 3.643, sd = 0.951; $\bar{x}$ = 3.123, sd = 1.156).

Lectures & Teaching:
Mean student satisfaction with the content ($\bar{x}$ = 3.9, sd = 0.568), the relevance ($\bar{x}$ = 4, sd = 0.816), the slides ($\bar{x}$ = 3.7, sd = 0.675) and the interactivity ($\bar{x}$ = 3.6, sd = 1.075) of the lectures are all higher in St.Gallen in comparison to the Swiss mean ($\bar{x}$ = 3.568, sd = 0.934; $\bar{x}$ = 3.347, sd = 1.026; $\bar{x}$ = 3.28, sd = 0.976; $\bar{x}$ = 3.43, sd = 1.087). Mean student satisfaction with the availability of the lecturers in St.Gallen ($\bar{x}$ = 4.5, sd = 0.707) is also higher than the Swiss mean ($\bar{x}$ = 4.029, sd = 1.028).

Practical Courses:
Mean student satisfaction with the content ($\bar{x}$ = 4.2, sd = 0.422), the relevance ($\bar{x}$ = 4.1, sd = 0.994) and the amount ($\bar{x}$ = 3.8, sd = 1.135) of practical courses in St.Gallen are all higher in comparison to the Swiss mean ($\bar{x}$ = 3.674, sd = 1.034; $\bar{x}$ = 3.66, sd = 1.051; $\bar{x}$ = 3.383, sd = 1.269).

Clinical_Ratio_Satisfaction

	Tutor : Student(s) ratio in clinical courses		
Ratio	1:1 to 1:5	1:6 - 1:10	Over 1:11
Amount	2	6	1

	Perception of the onset-point of clinical/patient courses				
Perception	Far too early	A little too early	Exactly right	A little too late	Far too late
Amount	1	0	5	3	1
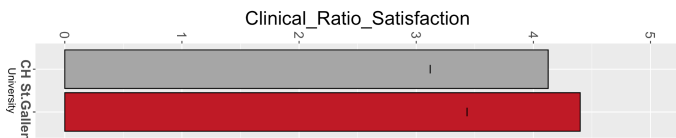
Clinical_Feedback
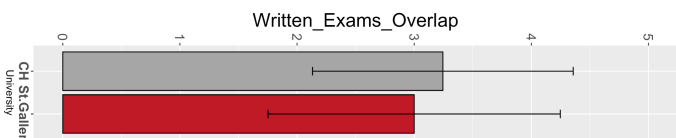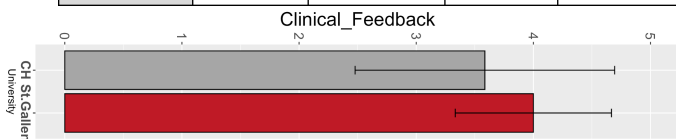

Patient/Clinical Courses:

Mean student satisfaction with the tutor:student-ratio in St.Gallen ($\bar{x}$ = 4.4, sd = 0.966) is higher in comparison to the Swiss mean ($\bar{x}$ = 4.126, sd = 1.007). Mean student satisfaction with the feedback during clinical courses in St.Gallen ($\bar{x}$ = 4, sd = 0.667) is also higher in comparison to the Swiss mean ($\bar{x}$ = 3.586, sd = 1.108).

Written_Exams_Overlap

Written_Exams_Feedback

Oral_Exams_Overlap

Oral_Exams_Feedback

Practical_Exams_Overlap

Practical_Exams_Feedback

Exams_Frequency

Exams:

Mean student satisfaction with the overlap of exam and learning content ($\bar{x}$ = 3, sd = 1.247) in St.Gallen is lower in comparison to the Swiss mean ($\bar{x}$ = 3.245, sd = 1.113). Mean student satisfaction with the feedback on the performance at the written exams ($\bar{x}$ = 3, sd = 0.816) in St.Gallen is however higher than the Swiss mean ($\bar{x}$ = 2.419, sd = 1.239).
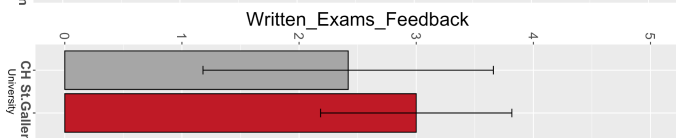
Mean student satisfaction with the overlap of exam and learning content of the oral exams ($\bar{x}$ = 3.2, sd = 0.632) in St.Gallen is lower than the Swiss mean ($\bar{x}$ = 3.384, sd = 1.04). However regarding feedback on the performance at the oral exams ($\bar{x}$ = 2.9, sd = 0.994) the mean in St.Gallen is higher than the Swiss mean ($\bar{x}$ = 2.569, sd = 1.222).
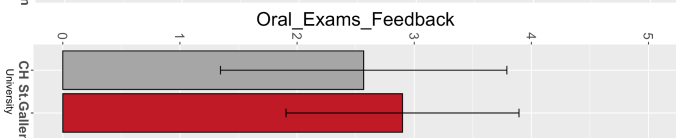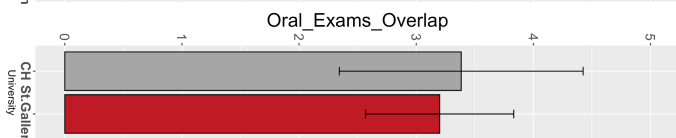
Similarly, mean student satisfaction with the overlap of exam and learning content of the practical exams ($\bar{x}$ = 3.2, sd = 0.422) in St.Gallen is again lower than the Swiss mean ($\bar{x}$ = 3.405, sd = 1.06), while mean student satisfaction with the feedback on the performance at the practical exams is higher in St.Gallen ($\bar{x}$ = 3, sd = 1.247) than the Swiss mean ($\bar{x}$ = 2.739, sd = 1.299). Last but not least, mean student satisfaction with the exam frequency in St.Gallen ($\bar{x}$ = 4.3, sd = 0.675) is higher than the Swiss mean ($\bar{x}$ = 3.761, sd = 1.083).
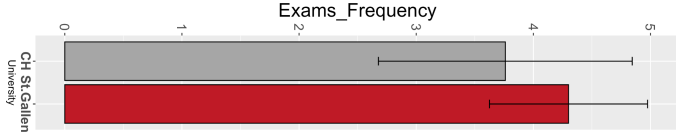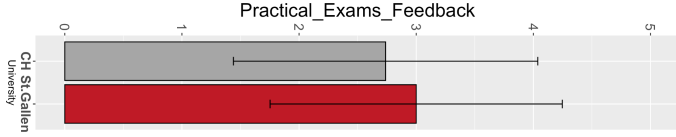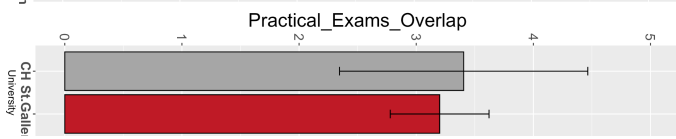
Information_Flow

Information_Approachability

Information_Implementation
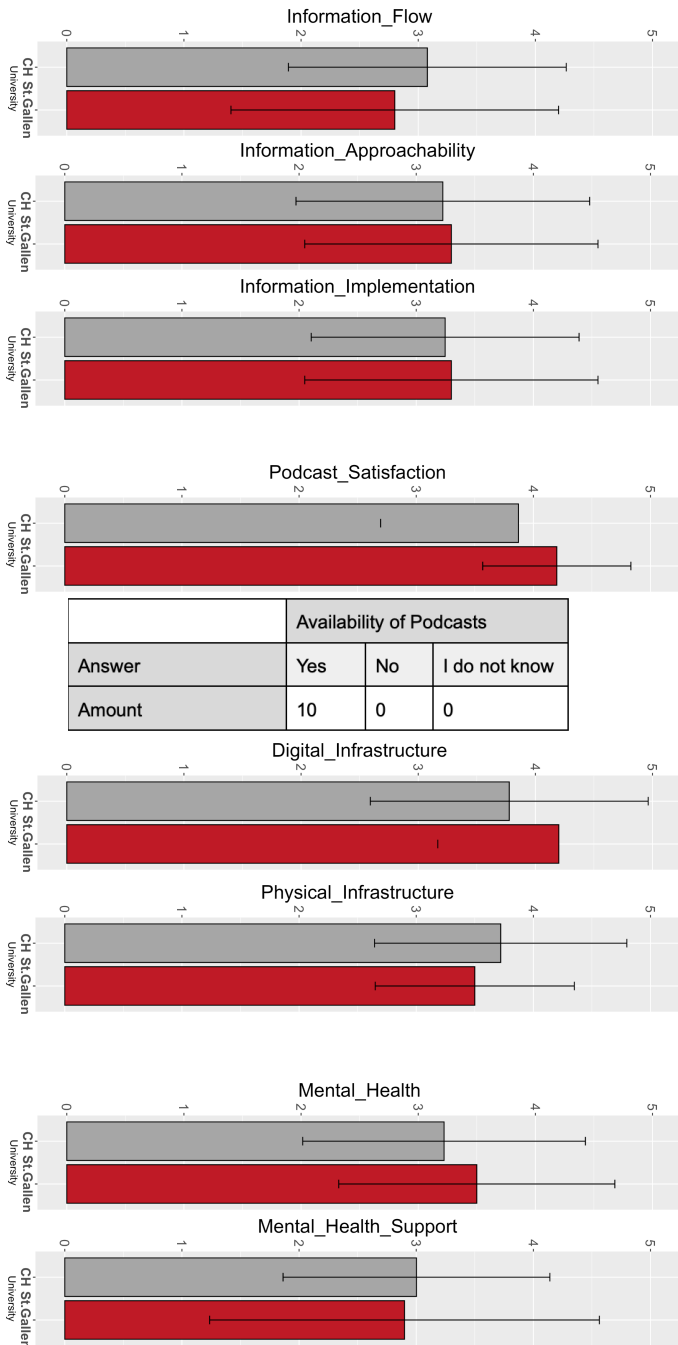
Communication:

Mean student satisfaction with the flow of information ($\bar{x}$ = 2.8, sd = 1.398) in St.Gallen is lower than the Swiss mean ($\bar{x}$ = 3.078, sd = 1.186). Mean student satisfaction with the approachability of the faculty ($\bar{x}$ = 3.3, sd = 1.252) as well as with the implementation of student feedback ($\bar{x}$ = 3.3, sd = 1.252) in St.Gallen is higher than the Swiss mean ($\bar{x}$ = 3.227, sd = 1.254; $\bar{x}$ = 3.247, sd = 1.143).

Podcast_Satisfaction

	Availability of Podcasts		
Answer	Yes	No	I do not know
Amount	10	0	0

Digital_Infrastructure

Physical_Infrastructure

Infrastructure:

Mean student satisfaction with podcasts ($\bar{x}$ = 4.2, sd = 0.632) and the digital infrastructure ($\bar{x}$ = 4.2, sd = 1.033) in St.Gallen are higher in comparison to the Swiss mean ($\bar{x}$ = 3.873, sd = 1.176; $\bar{x}$ = 3.777, sd = 1.186). Mean student satisfaction with the physical infrastructure ($\bar{x}$ = 3.5, sd = 0.85) in St.Gallen however is lower in comparison to the Swiss mean ($\bar{x}$ 3.721, sd = 1.077).

Mental_Health

Mental_Health_Support

Mental Health:

Mean student satisfaction with their mental health ($\bar{x}$ = 3.5, sd = 1.179) in St.Gallen is higher than the Swiss mean ($\bar{x}$ = 3.221, sd = 1.207). Mean student satisfaction with the mental health support ($\bar{x}$ = 2.9, sd = 1.663) in St.Gallen is however lower in comparison to the Swiss mean ($\bar{x}$ = 3.002, sd = 1.139).

Discussion

Please note: The sample size (n = 10) for St.Gallen is small. Following differences between St.Gallen and the other faculties have become significant:

Variable	significantly different in comparison to St.Gallen; higher mean than St.Gallen	significantly different in comparison to St.Gallen; lower mean than St.Gallen
General Satisfaction	-	-

Curriculum & Schedule	-	-
Lectures & Teaching	-	-
Practical Courses	-	-
Clinical Courses	-	-
Exams	-	-
Learning Materials & Infrastructure	-	-
Mental Health	-	-

It is very likely that no differences became significant due to the small sample size for St.Gallen (n = 10), since the differences of the means between St.Gallen and other universities regarding certain variables often seem to be potentially relevant.

Prominent (but not statistically evaluated) differences for single items of the questionnaire between the Swiss mean and the mean of St.Gallen have been discussed more into detail with students of MUSt (Medizinstudierende an der Universität St.Gallen):

Due to the small sample size it is hardly possible to sufficiently discuss the results for St.Gallen and interpretations should be treated with caution. In general, it seems that satisfaction of students from the St.Galler-Track could potentially be higher than the Swiss mean for most items.

Students from the St.Galler-Track seem to be satisfied with their curriculum overall. Potential differences could be due to the high approachability of the faculty (see as well below).

Regarding lectures and teaching, the students seem to be satisfied overall. Especially the potentially higher satisfaction with the interactivity of the lectures might be a result of the Track-specific knowledge application courses in small groups. The small format of these courses might also lead to the potentially higher satisfaction with the content and relevance of the lectures as well as with the higher availability of the lecturers.

Satisfaction with practical as well as with clinical courses seems to be good in general.

Regarding exams, it seems that the satisfaction with the overlap between the content of the lectures/courses and the content of the exams is potentially lower in St.Gallen. As the exams are organised together with Zürich and the Lucerne-Track, this might be due to possible discrepancies between the lectures/courses and/or insufficient communication between these three faculties.

The students express that the faculty is very approachable in general. A potentially lower satisfaction with the flow of information might be due to the St.Galler-Track being one of the younger medical faculties and some information is still changing or missing.

Further, the students express their satisfaction with the availability of podcasts. The lower satisfaction with the physical infrastructure might be due to some rooms to train practical skills still being under construction.

Satisfaction with mental health might potentially be higher in St.Gallen. There are different mental health support systems that reached out actively to students during the time of the pandemic.

Zürich:

Results

General_Satisfaction

Curriculum

Schedule

Interdisciplinarity

Lectures_Content

Lectures_Relevance

Lectures_Slides

Lectures_Interactivity

Lectures_Availability

Practical_Content

Practical_Relevance

Practical_Amount
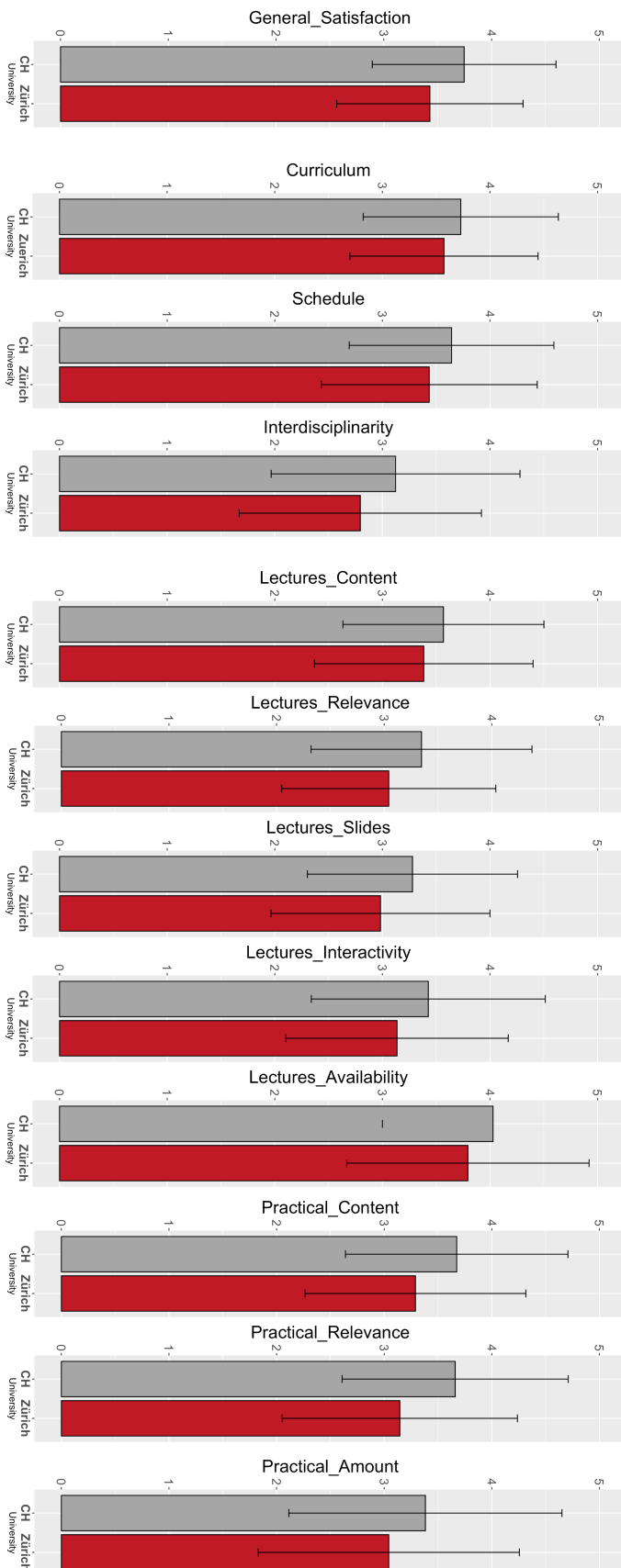
General Satisfaction:
The mean general satisfaction is lower in Zürich ($\bar{x}$ = 3.427, sd = 0.864) in comparison to the Swiss mean ($\bar{x}$ = 3.745, sd = 0.8522)

Curriculum & Schedule:
Mean student satisfaction with their curriculum ($\bar{x}$ = 3.573, sd = 0.874), their schedule ($\bar{x}$ = 3.436, sd = 1.003) and interdisciplinarity ($\bar{x}$ = 2.795, sd = 1.126) is lower in Zürich in comparison to the Swiss mean ($\bar{x}$ = 3.729, sd = 0.907; $\bar{x}$ = 3.643, sd = 0.951; $\bar{x}$ = 3.123, sd = 1.156).

Lectures & Teaching:
Mean student satisfaction with the content ($\bar{x}$ = 3.385, sd = 1.016), the relevance ($\bar{x}$ = 3.043, sd = 0.995), the slides ($\bar{x}$ = 2.983, sd = 1.017) and the interactivity ($\bar{x}$ = 3.137, sd = 1.033) of the lectures are all lower in Zürich in comparison to the Swiss mean ($\bar{x}$ = 3.568, sd = 0.934; $\bar{x}$ = 3.347, sd = 1.026; $\bar{x}$ = 3.28, sd = 0.976; $\bar{x}$ = 3.43, sd = 1.087). Mean student satisfaction with the availability of the lecturers in Zürich ($\bar{x}$ = 3.795, sd = 1.126) is also lower than the Swiss mean ($\bar{x}$ = 4.029, sd = 1.028).

Practical Courses:
Mean student satisfaction with the content ($\bar{x}$ = 3.291, sd = 1.026), the relevance ($\bar{x}$ = 3.145, sd = 1.093) and the amount ($\bar{x}$ = 3.043, sd = 1.213) of practical courses in Zürich are all lower in comparison to the Swiss mean ($\bar{x}$ = 3.674, sd = 1.034; $\bar{x}$ = 3.66, sd = 1.051; $\bar{x}$ = 3.383, sd = 1.269).

Clinical_Ratio_Satisfaction
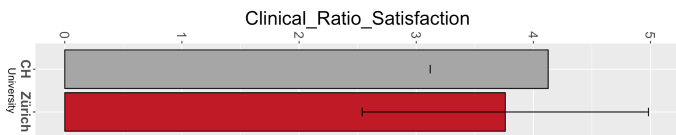
	Tutor : Student(s) ratio in clinical courses		
Ratio	1:1 to 1:5	1:6 - 1:10	Over 1:11
Amount	6	78	22

	Perception of the onset-point of clinical/patient courses				
Perception	Far too early	A little too early	Exactly right	A little too late	Far too late
Amount	0	5	51	42	19
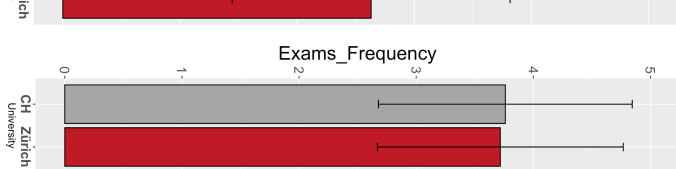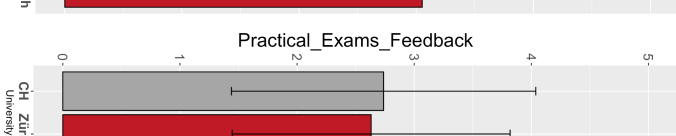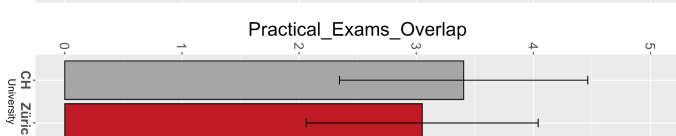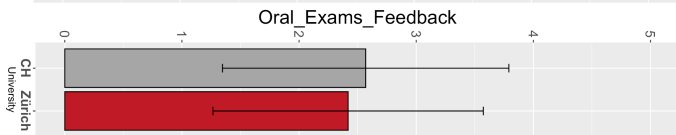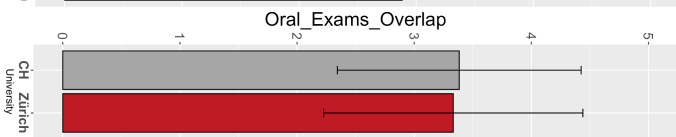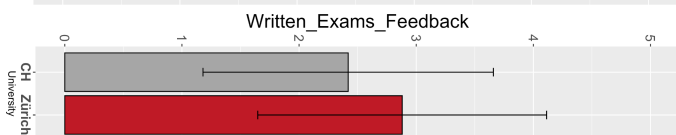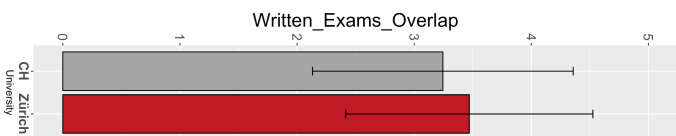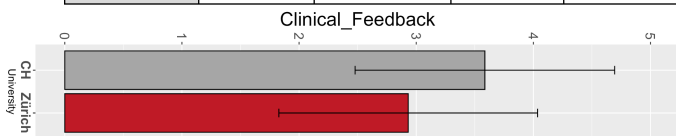
Clinical_Feedback

Patient/Clinical Courses:

Mean student satisfaction with the tutor:student-ratio in Zürich ($\bar{x}$ = 3.761, sd = 1.222) is lower in comparison to the Swiss mean ($\bar{x}$ = 4.126, sd = 1.007). Mean student satisfaction with the feedback during clinical courses ($\bar{x}$ = 2.932, sd = 1.104) in Zürich is also lower in comparison to the Swiss mean ($\bar{x}$ = 3.586, sd = 1.108).

Written_Exams_Overlap

Written_Exams_Feedback

Oral_Exams_Overlap

Oral_Exams_Feedback

Practical_Exams_Overlap

Practical_Exams_Feedback

Exams_Frequency

Exams:

Mean student satisfaction with the overlap of exam and learning content ($\bar{x}$ = 3.47, sd = 1.055) as well as with the feedback on the performance at the written exams ($\bar{x}$ = 2.88, sd = 1.233) in Zürich is higher than the Swiss mean ($\bar{x}$ = 3.245, sd = 1.113; $\bar{x}$ = 2.419, sd = 1.239).

Mean student satisfaction with the overlap of exam and learning content of the oral exams ($\bar{x}$ = 3.333, sd = 1.106) and with the feedback on the performance at the oral exams ($\bar{x}$ = 2.419, sd = 1.154) in Zürich are both lower than the Swiss mean ($\bar{x}$ = 3.384, sd = 1.04; $\bar{x}$ = 2.569, sd = 1.222).

Similarly, mean student satisfaction with the overlap of exam and learning content of the practical exams ($\bar{x}$ = 3.051, sd = 0.99) and with the feedback on the performance at the practical exams ($\bar{x}$ = 2.632, sd = 1.186) in Zürich is lower than the Swiss mean ($\bar{x}$ = 3.405, sd = 1.06; $\bar{x}$ = 2.739, sd = 1.299). Last but not least, mean student satisfaction with the exam frequency in Zürich ($\bar{x}$ = 3.718, sd = 1.049) is slightly lower than the Swiss mean ($\bar{x}$ = 3.761, sd = 1.083).

Information_Flow

Information_Approachability

Information_Implementation
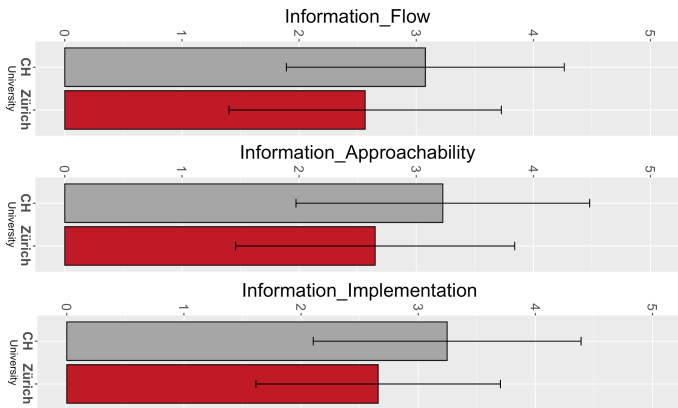
Communication:
Mean student satisfaction with the flow of information ($\bar{x}$ = 2.564, sd = 1.163), approachability of the faculty ($\bar{x}$ = 2.65, sd = 1.191) as well as the implementation of student feedback ($\bar{x}$ = 2.658, sd = 1.044) in Zürich is lower than the Swiss mean ($\bar{x}$ = 3.078, sd = 1.186; $\bar{x}$ = 3.227, sd = 1.254; $\bar{x}$ = 3.247, sd = 1.143).
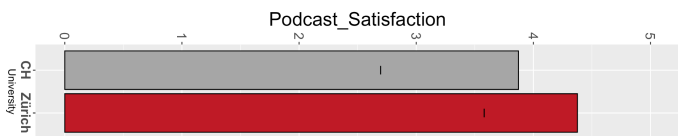
Podcast_Satisfaction

	Availability of Podcasts		
Answer	Yes	No	I do not know
Amount	116	1	0

Digital_Infrastructure

Physical_Infrastructure

Infrastructure:
Mean student satisfaction with podcasts ($\bar{x}$ = 4.376, sd = 0.796) in Zürich is higher in comparison to the Swiss mean ($\bar{x}$ = 3.873, sd = 1.176). Mean student satisfaction with the digital infrastructure ($\bar{x}$ = 3.675, sd = 1.057) and with the physical infrastructure ($\bar{x}$ = 3.658, sd = 1.01) in Zürich are lower in comparison to the Swiss mean ($\bar{x}$ = 3.777, sd = 1.186; $\bar{x}$ 3.721, sd = 1.077).

Mental_Health

Mental_Health_Support
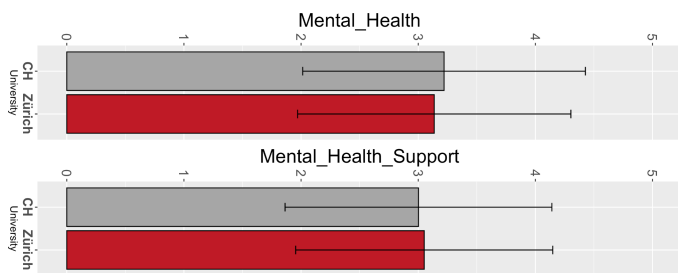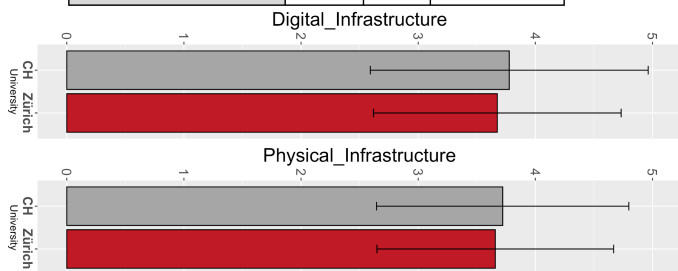
Mental Health:
Mean student satisfaction with mental health ($\bar{x}$ = 3.137, sd = 1.166) in Zürich is slightly lower in comparison to the Swiss mean ($\bar{x}$ = 3.221, sd = 1.207). Mean student satisfaction with the mental health support ($\bar{x}$ = 3.051, sd = 1.097) in Zürich however is slightly higher in comparison to the Swiss mean ($\bar{x}$ = 3.002, sd = 1.139).

Discussion
Following differences between Zürich and the other faculties have become significant:

Variable	significantly different in comparison to Zürich; higher mean than Zürich	significantly different in comparison to Zürich; lower mean than Zürich
General Satisfaction	Bern, Lugano	-
Curriculum & Schedule	Bern, Lugano	-

Lectures & Teaching	Bern, Lugano	-
Practical Courses	Bern, Lugano	-
Clinical Courses	Bern, Fribourg, Lucerne, Lugano	-
Exams	-	-
Communication	Bern, Geneva, Lausanne, Lucerne, Lugano	
Learning Materials & Infrastructure	Bern	Fribourg, Lausanne
Mental Health	-	-

Prominent (but not statistically evaluated) differences for single items of the questionnaire between the Swiss mean and the mean of Zürich have been discussed more into detail with students of fvmed (Fachverein Medizin der Universität Zürich):

According to students, one reason for the lower satisfaction with the curriculum & schedule could be that clinical courses only start in the 3rd year. This is further supported by the result that the amount of participants from Zürich that think the onset of clinical courses is "a little too late" (n=42) or "far too late" (n=19) is bigger than the amount of people who think the onset is "exactly right" (n=51). Further students indicate that some topics of the curriculum are implemented in rather theoretical lectures than as practical courses, and a more practical approach would sometimes be preferred. Regarding the lower satisfaction with lectures, students expressed dissatisfaction with the amount of slides per 45 minute lecture (in some cases being over 100 slides) and the slides sometimes only being available after the lectures. Further, students have the impression that some teachers tend to talk a lot about their own research during lectures and sometimes do not prioritise aspects of clinical relevance. This might also impact student satisfaction with the content and the relevance of the lectures. The lower satisfaction with the availability of the lecturers is not fully understood by students from the local association, as in their experience teachers tend to answer in a reasonable time-frame.

The results with the practical courses are difficult to interpret at the moment, as there have been recent changes in the structure of these courses. According to the local association, students generally express satisfaction with the dissection classes.

Regarding patient/clinical courses, Zürich seems to show significant differences in satisfaction to multiple other faculties. Reasons for the lower mean might be the late onset of clinical courses, dissatisfaction with the tutor:student-ratio at the clinical courses or the lack of feedback from the tutors during the clinical courses. However, students expressed that these experiences seem to vary depending on which institution the clinical courses take place in. Other reasons could be that Zürich does not have block-internships included in their curriculum or that the distance to the institutions, where clinical courses take place are sometimes multiple hours of travel-time away from the campus.

The student satisfaction with exams seems to be low in general although higher than the Swiss mean for the written exams. Regarding the oral exams, there currently is no

existing feedback system, however there are current discussions ongoing and the students of the local association are hopeful to see an improvement in the feedback of the oral exams. The lower satisfaction with the overlap between lectures/courses and the practical exams might be related to the lower satisfaction with the perceived relevance of the lectures and practical courses.

Regarding communication, Zürich seems to show significant differences in satisfaction in comparison to multiple other faculties. Reasons for this lower mean might be that students perceive to receive information as well as the schedule for lectures and the clinical courses on a rather short notice, which makes it hard to plan jobs, appointments and other activities around their studies. Additionally, some information is distributed over multiple documents and needs to be brought together by the students themselves every semester, which might also explain the lower satisfaction with communication (and also potentially with the schedule). Further, local students would wish for more active communication from the faculty as well as more information on different student support services.

Regarding infrastructure there seem to only be slight differences between Zürich and the Swiss mean. Different students of the local association express high satisfaction with the availability of podcasts in general since the COVID pandemic, which is also in line with the results of this survey.

There seems to be no significant difference between Zürich and any other Swiss medical faculty for mental health and also the comparison to the Swiss mean shows only marginal differences.

General Discussion and Conclusion

The goal of this survey was to find out…:

- … how much of the variance in general student satisfaction is explained by the eight selected aspects of medical education.
- … if student satisfaction regarding any of the eight selected aspects of medical education does correlate significantly with the general student satisfaction.
- … if there are significant differences between the Swiss medical faculties regarding student satisfaction with the eight selected aspects of medical education and regarding general student's satisfaction with medical education.

The amount of explained variance by the multiple linear regression model is approximately 60% which translates into a large effect size of the independent variables included in the model on general student satisfaction. As the questionnaire was fully constructed by medical students, this supports the view that medical students are able to identify variables that have a significant and relevant impact on their satisfaction with medical education in general. Thus, including medical students in processes that impact their education could help increase student satisfaction at the respective faculty.

Further the medium effect sizes on general student satisfaction of the variables "Curriculum & Schedule" and "Lectures & Teaching" leads to the assumption that improvements in these aspects of medical education can efficiently improve general student satisfaction. Similarly, the variables "Practical Courses", "Exams", "Learning materials & Infrastructure" and "Mental Health" have also small effect sizes on general student satisfaction and improvement in these variables could also be relevant to general student satisfaction.

Two interesting observations can be done while comparing the results for the data-set using no imputation with the results for the data-set using predictive mean matching imputation. In the later data-set, which does not exclude a large number of participants from the lower study years, the coefficient for the variable "Mental Health" increases and the coefficient for the variable "Curriculum & Schedule" decreases. Whether these changes are really significant and additionally linked to the variable "study year" cannot be discussed with this study design. However, it could be a potentially interesting implication for further research on how the relevance of the selected variables for student satisfaction can change in the course of medical studies.

It is currently unclear why the variable "Patient/Clinical Courses" has not become significant, as this aspect of medical education has been mentioned repeatedly to be important to many medical students in general. This could be due to not having found the right items to assess the satisfaction of medical students with clinical courses. Potentially relevant aspects of clinical courses could also be the amount and the content of clinical courses, the temporal correspondence of the content of the lectures and the clinical courses, or also different characteristics of the institution where the courses take place (e.g. size of the institution, geographical proximity to the university). Aspects like these could be considered in future surveys regarding medical student satisfaction with their "Patient/Clinical Courses". Similar considerations should also be done regarding the variable communication.

Further, the large effect size of the gender-category "Prefer not to state" on the general student satisfaction is difficult to explain as there could be different reasons why a

participant would prefer not to state their gender: The participant could not identify themself with one of the three answer options "Female", "Male", "Non-binary" or the participant does identify themself with one of these answers but does not want to indicate their gender due to other reasons. There might also be other yet unknown reasons for participants to choose this answer option. This potential heterogeneity of this group makes an interpretation of this result difficult. A follow-up on this result is necessary and additional literature research on how to handle the variable "Gender" should be done for future surveys.

Regarding the comparison of the variables between the Swiss medical faculties the results showed that there is at least one medical faculty for each variable, that is significantly different than the other medical faculties. As already previously pointed out in this report, the Kruskal-Wallis test and the Dunn-Bonferroni post-hoc test do not allow to directly compare the sizes of the differences between the means of groups. Nevertheless, they allow to check for significant differences in the central tendency of the different groups and are therefore still able to compare the student satisfaction between the Swiss medical faculties.

The faculties of Bern and Lugano seem to show significant differences in student satisfaction for most variables in comparison to most other Swiss medical faculties. For the variables in which these two faculties show significant differences from the other faculties, the mean satisfaction has been higher in Bern and Lugano than in the faculty with which they were compared. A look at the means of the Lucerne- and the St.Gallen-Track could also suggest multiple possible differences between these and other Swiss medical faculties. However, the tests only show a small amount of significant differences between Lucerne and the other faculties and no significant differences between St.Gallen and the other faculties. Whether this is a real lack of missing difference or an effect of the small sample sizes, especially in the case of St.Gallen, still remains a point of discussion.

Other prominent observations (three or more significantly different faculties and/or a mean score that is lower than 3) can be noticed for the following variables and faculties:

- The faculty of Bern shows significant differences in comparison to at least three other faculties for all variables, except for the variables "Exams" and "Mental Health". Mean satisfaction in Bern for these variables is higher than in the significantly different faculties.
- The faculty of Lugano shows this amount of significant differences for all variables except for the variables "Learning materials & Infrastructure" and "Mental Health". Mean satisfaction in Lugano for these variables is higher than in the significantly different faculties.
- In addition to Lugano and Bern, the faculties of Lucerne and Geneva also show significant differences in comparison to at least three other faculties for the variable "Communication". Mean satisfaction in these two faculties for this variable is higher than in the significantly different faculties.
- In addition to Bern, the faculty of Lucerne also shows significant differences in comparison to at least three other faculties for the variable "Learning materials & Infrastructure". Mean satisfaction in Lucerne for this variable is higher than in the significantly different faculties.

- The faculty of Basel shows significant differences in comparison to at least three other faculties in the variable "Lectures & Teaching". Mean satisfaction in Basel for this variable is lower than in the significantly different faculties.
- The faculties of Zürich and Lausanne show significant differences in comparison to at least three other faculties in the variable "Patient/Clinical Courses". Mean satisfaction in these faculties for this variable is lower than in the significantly different faculties.
- The faculties of Basel, Fribourg and Zürich show significant differences in comparison to at least three other faculties in the variable "Communication". Mean satisfaction in these faculties for this variable is lower than in the significantly different faculties and is also below three, indicating a student dissatisfaction with this variable.
- The faculties of Fribourg and Lausanne show significant differences in comparison to at least three other faculties in the variable "Learning materials & Infrastructure". Mean satisfaction in these faculties for this variable is lower than in the significantly different faculties. Mean satisfaction in Fribourg is also below three, indicating a student dissatisfaction with this variable.
- Regarding the variable "Mental Health", there is no Swiss medical faculty that is significantly different from three or more faculties. Nevertheless, the faculties of Basel, Fribourg, Geneva and Lausanne have a mean satisfaction below three in the variable "Mental Health".
- Similarly, the faculties of Basel, Geneva and Lausanne show a mean satisfaction below three for the variable "Exams".
- There were no prominent observations regarding the variables "General Satisfaction", "Curriculum & Schedule" and "Practical Courses".

Possible explanations why the faculties show these differences have already been discussed in the faculty-specific discussion-chapters above. Attaining a mean satisfaction score of three for all variables at all faculties would be desirable, as this would mean that there is no student dissatisfaction with this aspect of medical education in Switzerland. This might especially be relevant for the variable "Exams", as there seems to be an overall low mean satisfaction with this variable for all Swiss medical faculties, especially regarding the feedback of the exams. Similarly, an increase in the variable "Mental Health" could be strived towards on a national level, as different studies showed that medical students are a population with a high prevalence of depression and anxiety and with higher levels of psychological distress than the general population[6]. Further the reduction of the amount of significant differences in student satisfaction between universities would be desirable from the student's perspective.

A possible point for improvement for this survey would be to further include theoretical background regarding student satisfaction to understand even better what impacts medical student satisfaction. Although the estimated regression-model explains a considerable amount of variance, the questionnaire has currently not been validated extensively nor been standardised. Further assessments of quality criteria (objectivity, reliability, validity etc.) and the structure of the different items and variables used in the

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[6] Dyrbye, L.N., Thomas, M.R., Shanafelt, T.D. (2006). Systematic review of depression, anxiety and other indicators of psychological distress among U.S. and Canadian medical students. *Academic medicine, 81*(4), 354 - 373

questionnaire are needed to assure and further increase the quality of the questionnaire.

Different ways to increase the participants' attentiveness while filling out the survey need to be figured out to reduce the amount of exclusions. Additionally, future surveys should be ensured to be distributed at all Swiss medical faculties during the time-frame for data-collection, to avoid having to exclude entire faculties. Further, the handling of missing values needs to be refined and reduced as much as possible to avoid possible methodical drawbacks and implausibilities.

Last but not least, a follow-up survey during the upcoming years could be useful, to track developments at the different Swiss medical faculties with potential impact on medical student's satisfaction.

Literature

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Attachment

Attachment 1: Questionnaire

Item-number	Item-name (questions with a * are mandatory)	respective variable	Full question text	Answer options
1	university*	-	"At which university/track are you currently studying?"	"Zürich", "Lucerne-Track", "St.Gallen-Track", "Bern", "Basel", "Fribourg", "Lausanne", Geneva", "ETHZ", "Lugano"
2	year*	-	"Which year are you currently studying in?"	"1. year", "2. year", "3. year", "4. year", "5. year", "6. year"
3	gender*	-	"What is your gender?"	"Female", "Male", "Non-binary", "Prefer not to state"
4	age*	-	"What is your age?"	"16 or younger", "17", … , "32", "33 or older"
5	general_satisfaction*	General Satisfaction	"How satisfied are you with your medical education in general?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
6	schedule*	Curriculum & Schedule	"How satisfied are you with the organization of your schedule? (e.g. distribution of lectures/courses, breaks, etc.)"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
7	curriculum*	Curriculum & Schedule	"How satisfied are you with the content of your curriculum (e.g. topics of the different thematic blocks, topics of the courses over all etc.)?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
8	interdisciplinarity*	Curriculum & Schedule	"How satisfied are you with the interdisciplinarity of your curriculum (e.g. contact with other medical professions, etc.)?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
9	lectures_content*	Lectures & Teaching	"How satisfied are you with the content of your lectures? (e.g. covered content, depth of the topics, additional information, etc.)"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)

10	lectures_relevance*	Lectures & Teaching	"How satisfied are you with the relevance of your lectures? (e.g. practical implications, link to later worklife, etc.)"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
11	lectures_slides*	Lectures & Teaching	"How satisfied are you with the slides of your lectures in general?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
12	lectures_ interactivity*	Lectures & Teaching	"How satisfied are you with the interactivity of your lectures in general?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
13	lectures_ availability*	Lectures & Teaching	"How satisfied are you with the availability of your lecturers (e.g. mail, walk-in, etc.)"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
14	practical_content	Practical Courses	"How satisfied are you with the content of the practical courses?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
15	practical_relevance	Practical Courses	"How satisfied are you with the relevance of the practical courses?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
16	practical_amount	Practical Courses	"How satisfied are you with the amount of practical courses?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
17	clinical_ratio	-	"How big is the student-tutor-ratio in your patient/clinical courses? (approximately or most of the time)"	"From 1:1 to 1:5", "From 1:6 to 1:10", "From 1:11 to 1:15", … , "From 1:36 to 1:40", "Over 1:41"
18	clinical_ratio_ satisfaction	Patient/Clinical Courses	"How satisfied are you with the student-tutor-ratio in your patient/clinical courses?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
19	clinical_feedback	Patient/Clinical Courses	"How satisfied are you with the feedback on your performance during/after your patient/clinical courses?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
20	clinical_onset*	-	"How satisfied are you with the onset (= point of starting) of the patient/clinical courses in your curriculum?"	"far too early", "a little too early", "exactly right", "a little too late", "far too late"
21	exams_written_	Exams	"How satisfied are you	Scale 1 (= not satisfied at

	overlap		with the congruency/overlap of your lectures/courses and the content of your written exams?"	all) to 5 (= very satisfied)
22	exams_written_ feedback	Exams	"How satisfied are you with the feedback on your performance at your written exams?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
23	exams_oral_overla p	Exams	"How satisfied are you with the congruency/overlap of your lectures/courses and the content of your oral exams?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
24	exams_oral_ feedback	Exams	"How satisfied are you with the feedback on your performance at your oral exams?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
25	exams_practical_ overlap	Exams	"How satisfied are you with the congruency/overlap of your lectures/courses and the content of your practical exams (e.g. OSCE's)?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
26	exams_practical_ feedback	Exams	"How satisfied are you with the feedback on your performance at your practical exams?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
27	exams_frequency*	Exams	"How satisfied are you with your exam frequency?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
28	information_flow*	Communication	"How satisfied are you with the flow of information from your faculty?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
29	information_ approachability*	Communication	"How satisfied are you with the approachability of your faculty?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
30	*	-	"Please check number two."	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
31	information_ implementation*	Communication	"How satisfied are you with the implementation of student input from your faculty?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)

32	podcast_availability*	-	"Are podcasts of your lectures available at your university?"	"Yes", "No", "I do not know"
33	podcast_satisfaction*	Learning Materials & Infrastructure	"How satisfied are you with the podcast-situation (e.g. availability, quality) at your university?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
34	digital_infrastructure*	Learning Materials & Infrastructure	"How satisfied are you with the digital learning possibilities at your university (e.g. Via Medici, Amboss, learning videos etc.)"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
35	physical_infrastructure*	Learning Materials & Infrastructure	"How satisfied are you with the physical learning possibilities at your university (e.g. Skills Labs, Libraries, etc.)"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
36	mental_health*	Mental Health	"How satisfied are you with your mental health?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
37	mental_health_support*	Mental Health	"How satisfied are you with the mental health support at your university?"	Scale 1 (= not satisfied at all) to 5 (= very satisfied)
38	-	-	"Would you like to share any comments regarding this survey in general?"	short-answer text