


# AVETH Survey on Supervision of Doctoral Students

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# **AVETH Survey on Supervision of Doctoral Students**

April 2018

Romain Jacob\*, Irena Kuzmanovska and Nina Ripin

\*corresponding author: jacobr@ethz.ch



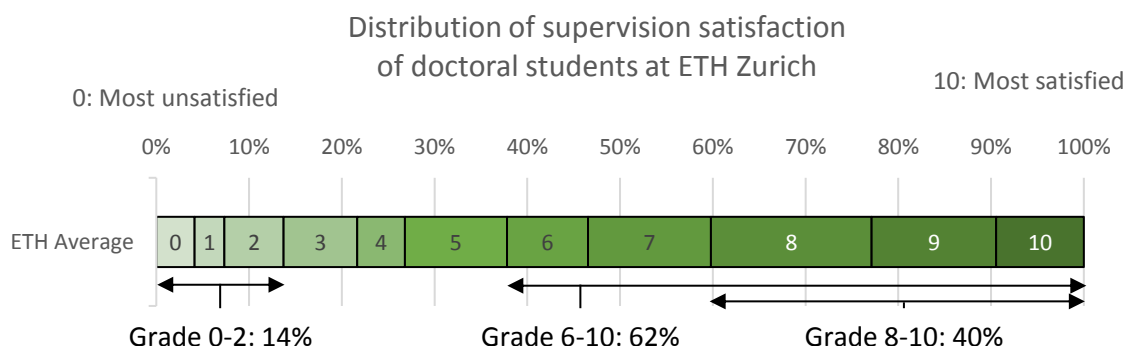
## Abstract

Good supervision is a key factor for the success of doctoral studies. But there are multiple good ways. Depending on the field of studies, the supervisor 'style', and the students' specific needs, multiple approaches can lead to good results. This variety of supervision contexts makes it difficult to have an overview of the supervision practices, and their actual impact on students' satisfaction.

Thus, in fall 2017, AVETH conducted a survey on the doctoral supervision practices at ETH Zurich, with two objectives: (i) draw a picture of the actual supervision practices at ETH, and (ii) investigate the doctoral students' satisfaction with respect to their supervision and the impact of specific practices. Based on 1'594 completed survey answers (corresponding to a response rate of ~36%) this report summarizes the findings.

It appears that 62% of doctoral students are generally satisfied (Grade 6 and above – See figure below) and 40% are very satisfied (Grade 8 and above) with their supervision. However these numbers vary a lot across departments. Furthermore, there are relations between satisfaction and (i) the number of years of the doctoral thesis, (ii) the opportunities for scientific interactions (both within and outside of the group), and (iii) formal or informal appraisal interviews. Finally, 24% of the survey respondents stated that they experience some kind of 'abuse of power' from their supervisor, ranging from lack of scientific freedom to pressure to work long hours or on weekends.

This survey offers a factual description of supervision practices at ETH Zurich and raises some alert flags on practices, which should be monitored and/or prevented. Using this new information, AVETH will work together with the ETH School Board to *propose a set of 'supervision guidelines'*, which will hopefully contribute to improve everyone's situation at ETH.



Each box represents a grade from 0: 'Most unsatisfied' to 10: 'Most satisfied'.  
The size of the box is proportional to the share of answers.



## Table of contents

1	Introduction	5
1.1	Why this survey?	5
1.2	Statistics of the survey	5
2	Quantitative analysis	6
2.1	Conducting your research	6
2.2	Actual supervision: who really supervises, what forms does the supervision take?	9
2.3	Personal and career development	13
2.4	Relationship with supervisors	21
2.5	Overall satisfaction	26
3	Qualitative analysis – problems with supervision and suggestions for supervision improvement	32
4	Summary	33
5	Acknowledgements	34
	Appendix I – Methodology of the survey	35
	Appendix II – Significance of the survey data	36
	Appendix III – Detailed analysis of the comments	37
	Appendix IV – Survey questions	40



**DS:** Doctoral students

**Departments of ETH:** In the present analysis, only the answers of DS employed in one of the ETH departments (Table 1) were considered for the quantitative analysis, unless explicitly mentioned otherwise.

**Table 1: ETH Departments**

<i>Short name</i>	<i>Department name</i>
ARCH	Architecture
BAUG	Civil, Environmental and Geomatic Engineering
BSSE	Biosystems Science and Engineering
BIOL	Biology
CHAB	Chemistry and Applied Biosciences
ERDW	Earth Sciences
GESS	Humanities, Social and Political Sciences
HEST	Health Sciences and Technology
INFK	Computer Science
ITET	Information Technology and Electrical Engineering
MATH	Mathematics
MATL	Materials Science
MAVT	Mechanical and Process Engineering
MTEC	Management, Technology and Economics
PHYS	Physics
USYS	Environmental Systems Science



## 1 Introduction

### 1.1 Why this survey?

The survey was conducted by the [AVETH Politics Team](#), a discussion and working platform of ETH scientific staff members focusing on ETH politics.

The main goal of the present survey was to summarize the situation of the supervision and guidance doctoral students from ETH receive for their thesis, and their respective feeling about it. Prior to the survey, a list of hypotheses was made regarding doctoral students' supervision; the survey was designed to investigate these hypotheses.

### 1.2 Statistics of the survey

The survey was started in fall 2017 and sent to 4'444 people registered as DS at ETH from which 1'594 completed answers were received. This corresponds to a response rate of ~36%.

When the survey was closed, at the end of 2017, 4'092 ETH DS were affiliated to one of the 16 ETH departments and 352 to one of the external research institutes (Empa, PSI, WSL, Eawag).

Given the few answers received from the second group (66 in total), the quantitative analysis of this survey mainly focusses on the first group. A total of 1'500 completed answers were received from this target group, corresponding to a response rate of 37% (Table 2).

More data and statistics on participants and response rates (incl. data per department) is presented in Appendix II – Significance of the survey data.

**Table 2: Survey answer statistics**

<i>Category</i>	<i>Headcount in fall 2017</i>	<i>Completed answers received for the survey</i>	<i>Response rate per category</i>
ETH doctoral students	4'444	1'594	36%
ETH doctoral students affiliated to one of the 16 ETH department (used for most of the analysis)	4'094	1'500	37%



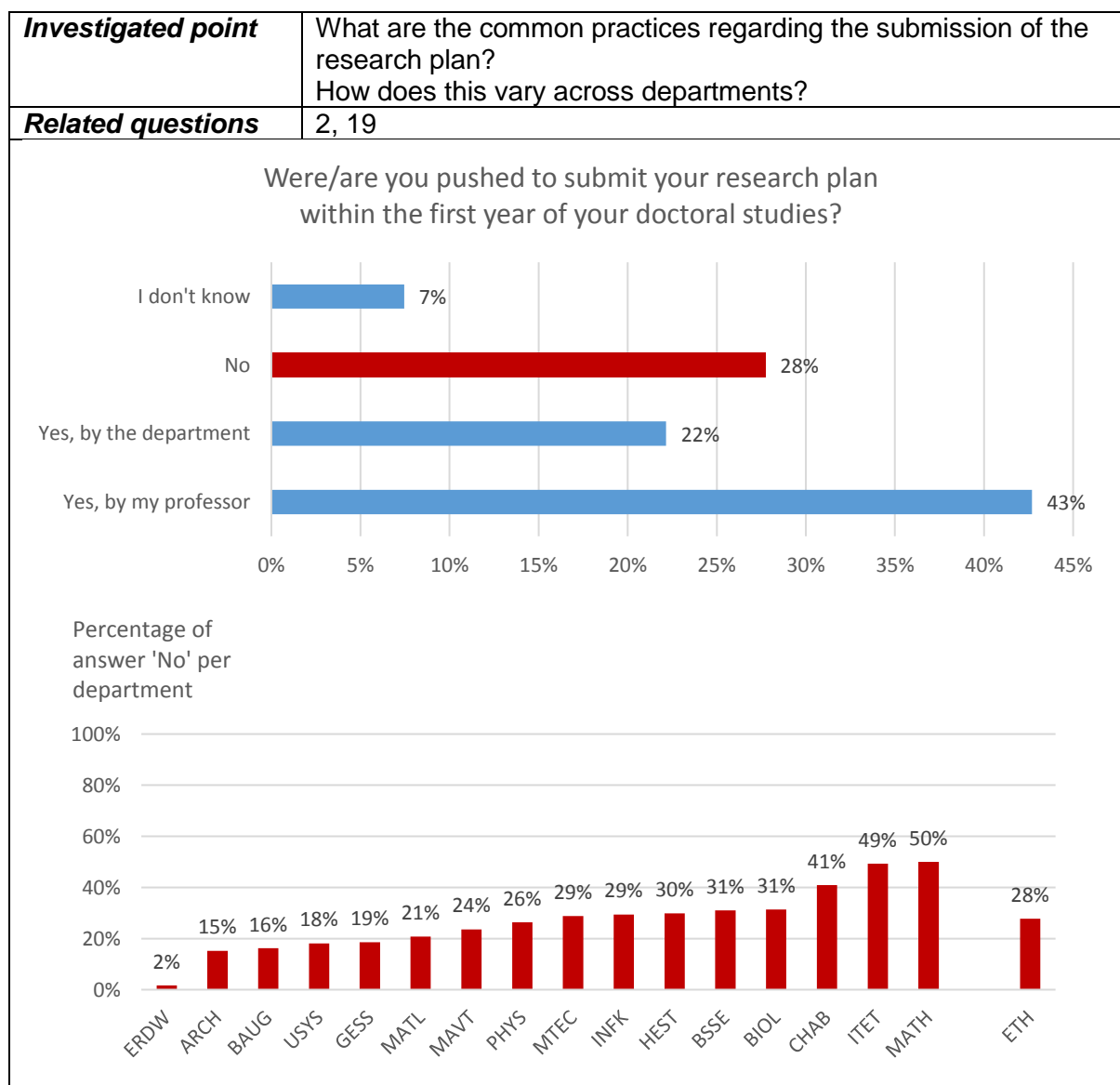
## 2 Quantitative analysis

This survey investigated five different aspects of doctoral supervision:

1. Conducting your research
2. Actual supervision, i.e. who really supervises, what forms does the supervision take?
3. Personal and career development
4. Relationship with supervisors
5. Overall satisfaction

All survey questions are reported in Appendix IV – Survey questions. We reuse some of the survey questions as plot titles (when specified).

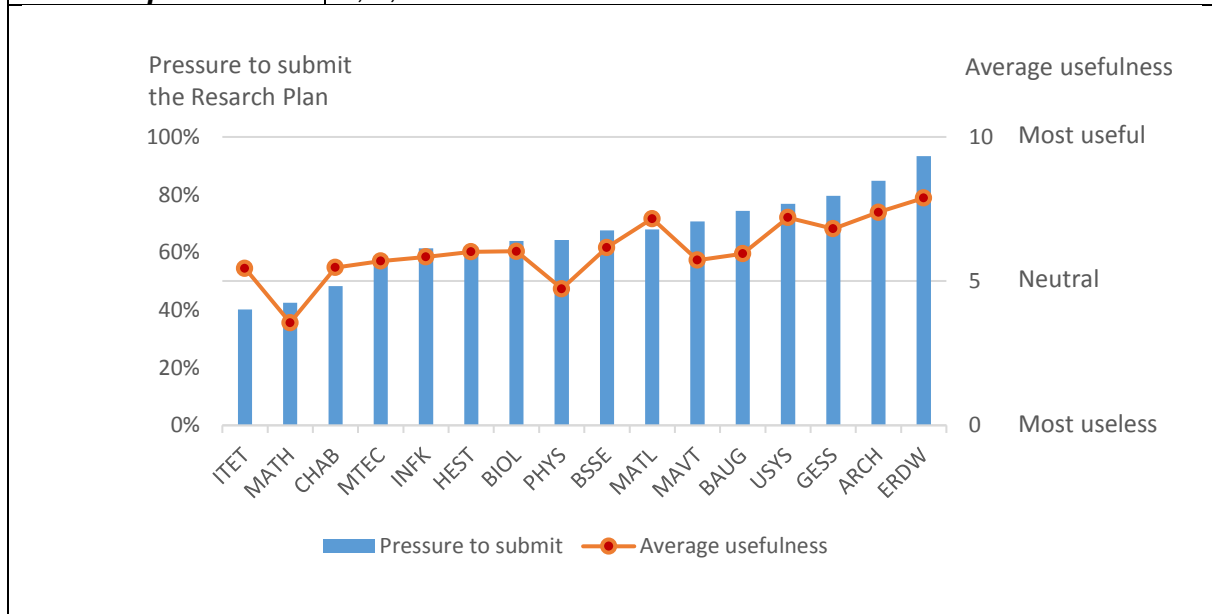
### 2.1 Conducting your research





<b>Conclusion</b>	<p>Almost a third of DS (28% are not pushed to submit a research plan in due time. This varies a lot across departments, from almost zero (ERDW: 2%) to half (ITET: 49%, MATH: 50%).</p> <p>On average at ETH, nearly half of DS (43%) are pushed by their professor to submit their research plan in the first year.</p>
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<b>Investigated point</b>	Do DS think working on and submitting a research plan is useful?
<b>Related questions</b>	2, 3, 19



<b>Conclusion</b>	<p>The usefulness of the research plan is graded 6.0 on average across all DS [on a scale from 0 – ‘Most useless’ to 10 – ‘Most useful’]. Thus, it is considered rather useful.</p> <p>Moreover, there is a positive relation between the ‘pressure’ to submit the research plan and its perceived usefulness: The more students are pushed, the more useful they see the research plan.</p>
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<b>Investigated point</b>	When they start, do DS know what they are expected to accomplish in order to graduate?																																				
<b>Related questions</b>	1, 19																																				
<p style="text-align: center;">Were the requirements for graduation (e.g. number of publications, duration of doctoral studies, etc.) clearly communicated to you when you started your doctoral studies?</p> <p>Percentage of answer 'No' per department</p> <table border="1"> <thead> <tr> <th>Department</th> <th>Percentage of 'No' answer</th> </tr> </thead> <tbody> <tr><td>MTEC</td><td>19%</td></tr> <tr><td>USYS</td><td>35%</td></tr> <tr><td>BAUG</td><td>37%</td></tr> <tr><td>MATL</td><td>40%</td></tr> <tr><td>GESS</td><td>43%</td></tr> <tr><td>ERDW</td><td>45%</td></tr> <tr><td>MAVT</td><td>45%</td></tr> <tr><td>HEST</td><td>51%</td></tr> <tr><td>INFK</td><td>53%</td></tr> <tr><td>CHAB</td><td>54%</td></tr> <tr><td>ARCH</td><td>59%</td></tr> <tr><td>ITET</td><td>60%</td></tr> <tr><td>BIOL</td><td>62%</td></tr> <tr><td>BSSE</td><td>62%</td></tr> <tr><td>PHYS</td><td>62%</td></tr> <tr><td>MATH</td><td>68%</td></tr> <tr><td>ETH</td><td>49%</td></tr> </tbody> </table>		Department	Percentage of 'No' answer	MTEC	19%	USYS	35%	BAUG	37%	MATL	40%	GESS	43%	ERDW	45%	MAVT	45%	HEST	51%	INFK	53%	CHAB	54%	ARCH	59%	ITET	60%	BIOL	62%	BSSE	62%	PHYS	62%	MATH	68%	ETH	49%
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<b>Conclusion</b>	Almost half of DS across ETH (49%) state they were not informed of the expected requirements to graduate.																																				



## 2.2 Actual supervision: who really supervises, what forms does the supervision take?

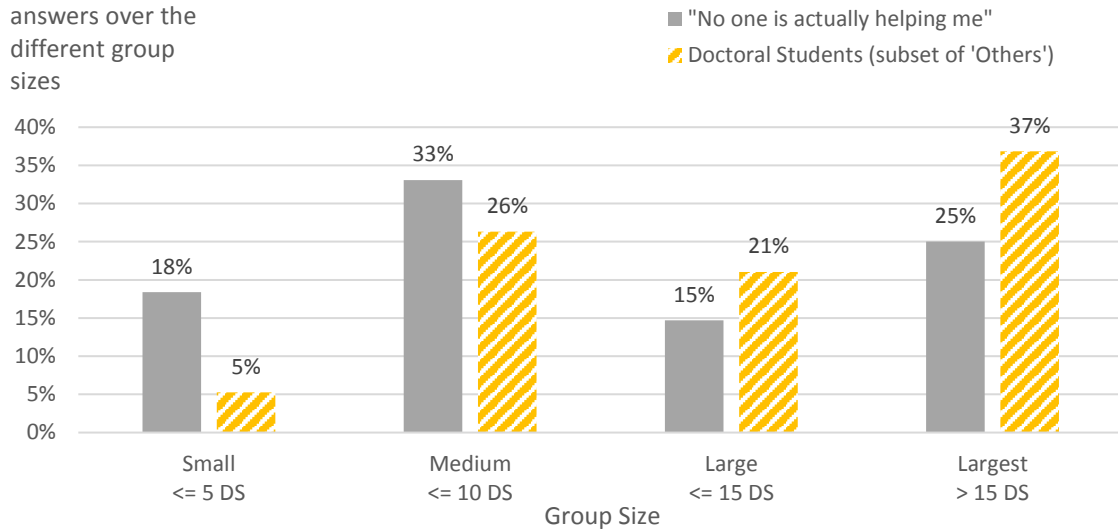
<b>Investigated point</b>	Who do DS consider as being their main supervisor?														
<b>Related questions</b>	5														
<p>What is the position of the person you consider being your main supervisor, i.e. the one guiding you the most in your research?</p> <table border="1"> <thead> <tr> <th>Supervisor Position</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>"No one is actually helping me"</td> <td>7.9%</td> </tr> <tr> <td>External</td> <td>0.9%</td> </tr> <tr> <td>Doctoral students</td> <td>1.1%</td> </tr> <tr> <td>Multiple, including a professor</td> <td>0.7%</td> </tr> <tr> <td>Non-professor scientist</td> <td>37.2%</td> </tr> <tr> <td>Professor</td> <td>52.2%</td> </tr> </tbody> </table>		Supervisor Position	Percentage	"No one is actually helping me"	7.9%	External	0.9%	Doctoral students	1.1%	Multiple, including a professor	0.7%	Non-professor scientist	37.2%	Professor	52.2%
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<b>Conclusion</b>	<p>Most DS consider their main supervisor to be their professor (52.2%) or a non-professor scientist from their group (Senior Scientist, Post-doc, etc.: 37.2%).</p> <p>7.9% (i.e., 136 answers) of respondents to this question stated that 'No one is actually helping' them.</p> <p>Note – 136 students correspond to approx. 3.5% of all ETH DS.</p>														

<b>Investigated point</b>	How does supervision change depending on the group size?																									
<b>Related questions</b>	5, 23																									
<p>What is the position of the person you consider being your main supervisor, i.e. the one guiding you the most in your research?</p> <table border="1"> <thead> <tr> <th>Group Size</th> <th>Professor</th> <th>Non-professor scientist</th> <th>"No one is actually helping me"</th> <th>Others</th> </tr> </thead> <tbody> <tr> <td>Small (&lt;= 5 DS)</td> <td>65%</td> <td>26%</td> <td>6%</td> <td>2%</td> </tr> <tr> <td>Medium (&lt;= 10 DS)</td> <td>52%</td> <td>37%</td> <td>8%</td> <td>2%</td> </tr> <tr> <td>Large (&lt;= 15 DS)</td> <td>47%</td> <td>43%</td> <td>6%</td> <td>3%</td> </tr> <tr> <td>Largest (&gt; 15 DS)</td> <td>35%</td> <td>48%</td> <td>14%</td> <td>3%</td> </tr> </tbody> </table>		Group Size	Professor	Non-professor scientist	"No one is actually helping me"	Others	Small (<= 5 DS)	65%	26%	6%	2%	Medium (<= 10 DS)	52%	37%	8%	2%	Large (<= 15 DS)	47%	43%	6%	3%	Largest (> 15 DS)	35%	48%	14%	3%
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The share of DS stating the “no one is helping (them)” varies between 6 and 14% depending on their group size. However, the number of DS in each group size category varies. Thus, in the following figure, we take look at two answers (DS stating that “no one is helping (them)” or that they are mainly supervised by another DS) and plot their distribution across the group sizes.

Distribution of answers over the different group sizes



### Conclusion

The bigger the group, the fewer DS consider their professor as main supervisor.

The DS stating that ‘no one is helping’ them (136 respondents; 7.9%) or that their main support comes from other DS (19 respondents; 1.1%) are distributed across the groups, without a clear relation to the group size.



<b>Investigated point</b>	How does supervision change depending on the professor's seniority?																																
<b>Related questions</b>	4, 22																																
<p style="text-align: center;">How often do you discuss your research with your professor?</p> <p>Distribution of discussion frequency given the professor age</p> <table border="1"> <caption>Data for 'How often do you discuss your research with your professor?' (Estimated from chart)</caption> <thead> <tr> <th>Frequency</th> <th>Young (&lt; 40)</th> <th>Middle-aged (40 to 55)</th> <th>Senior (&gt; 55)</th> </tr> </thead> <tbody> <tr> <td>Daily</td> <td>~5%</td> <td>~2%</td> <td>~1%</td> </tr> <tr> <td>At least weekly</td> <td>~35%</td> <td>~18%</td> <td>~10%</td> </tr> <tr> <td>At least monthly</td> <td>~40%</td> <td>~42%</td> <td>~38%</td> </tr> <tr> <td>At least bi-yearly</td> <td>~15%</td> <td>~25%</td> <td>~32%</td> </tr> <tr> <td>At least yearly</td> <td>~5%</td> <td>~8%</td> <td>~12%</td> </tr> <tr> <td>Less than yearly</td> <td>~2%</td> <td>~4%</td> <td>~6%</td> </tr> <tr> <td>Never</td> <td>~1%</td> <td>~2%</td> <td>~2%</td> </tr> </tbody> </table>		Frequency	Young (< 40)	Middle-aged (40 to 55)	Senior (> 55)	Daily	~5%	~2%	~1%	At least weekly	~35%	~18%	~10%	At least monthly	~40%	~42%	~38%	At least bi-yearly	~15%	~25%	~32%	At least yearly	~5%	~8%	~12%	Less than yearly	~2%	~4%	~6%	Never	~1%	~2%	~2%
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<b>Conclusion</b>	<p>The younger the professor, the more regularly DS have research discussions with her/him [The blue distribution is more on the left-side, the grey distribution is more on the right-side].</p> <p>On average, the majority of DS have research discussions with their professor monthly or more often [62%: Daily + Weekly + Monthly] 5% of DS stated to discuss their research with their professor "less than yearly" or never.</p>																																



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<b>Conclusion</b>	In the first year(s) of their doctoral studies, DS tend to have more regular research discussions with their professor [The blue distribution is more on the left-side, the green distribution is more on the right-side].																																																								



## 2.3 Personal and career development

According to the [Human Resource services of ETH](#):

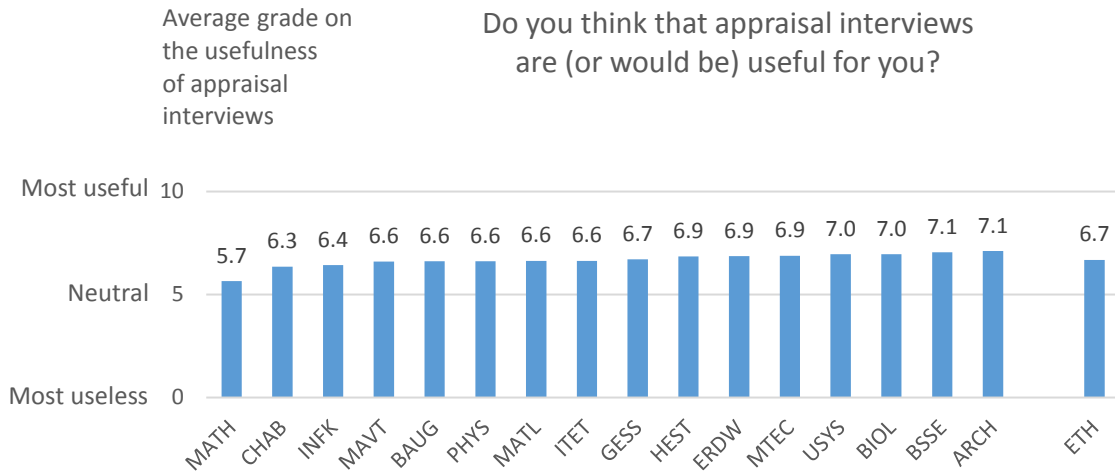
*The appraisal interview ("Personalgespräch") offers the chance for both the employee and the supervisor to assess the employee's current performance and work out opportunities for further personal development.*

The official [appraisal interview form](#) gives a general idea of the objectives of the appraisal interview.

<b>Investigated point</b>	Do DS have yearly appraisal interviews?																																																																								
<b>Related questions</b>	7, 19																																																																								
<p style="text-align: center;">Do you have "appraisal interviews" ("Personalgespräch") with your supervisor?</p> <table border="1"> <caption>Approximate data from the chart</caption> <thead> <tr> <th>Department</th> <th>None (%)</th> <th>Informal (%)</th> <th>Formal (%)</th> </tr> </thead> <tbody> <tr><td>MTEC</td><td>30</td><td>35</td><td>35</td></tr> <tr><td>ARCH</td><td>42</td><td>45</td><td>13</td></tr> <tr><td>BAUG</td><td>45</td><td>35</td><td>20</td></tr> <tr><td>USYS</td><td>48</td><td>40</td><td>12</td></tr> <tr><td>PHYS</td><td>50</td><td>40</td><td>10</td></tr> <tr><td>GESS</td><td>58</td><td>35</td><td>7</td></tr> <tr><td>HEST</td><td>58</td><td>35</td><td>7</td></tr> <tr><td>BSSE</td><td>62</td><td>30</td><td>8</td></tr> <tr><td>MATL</td><td>65</td><td>25</td><td>10</td></tr> <tr><td>ITET</td><td>65</td><td>25</td><td>10</td></tr> <tr><td>CHAB</td><td>65</td><td>25</td><td>10</td></tr> <tr><td>INFK</td><td>65</td><td>25</td><td>10</td></tr> <tr><td>MAVT</td><td>65</td><td>25</td><td>10</td></tr> <tr><td>MATH</td><td>65</td><td>25</td><td>10</td></tr> <tr><td>ERDW</td><td>70</td><td>25</td><td>5</td></tr> <tr><td>BIOL</td><td>78</td><td>15</td><td>7</td></tr> <tr><td>ETH</td><td>60</td><td>30</td><td>10</td></tr> </tbody> </table>		Department	None (%)	Informal (%)	Formal (%)	MTEC	30	35	35	ARCH	42	45	13	BAUG	45	35	20	USYS	48	40	12	PHYS	50	40	10	GESS	58	35	7	HEST	58	35	7	BSSE	62	30	8	MATL	65	25	10	ITET	65	25	10	CHAB	65	25	10	INFK	65	25	10	MAVT	65	25	10	MATH	65	25	10	ERDW	70	25	5	BIOL	78	15	7	ETH	60	30	10
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<b>Conclusion</b>	<p>40% of ETH DS declare having yearly appraisal interviews, either formal or informal; 60% do not have any.</p> <p>Appraisal interviews are common in some departments (MTEC: 68%) and rather rare in others (BIOL: 22%).</p>																																																																								

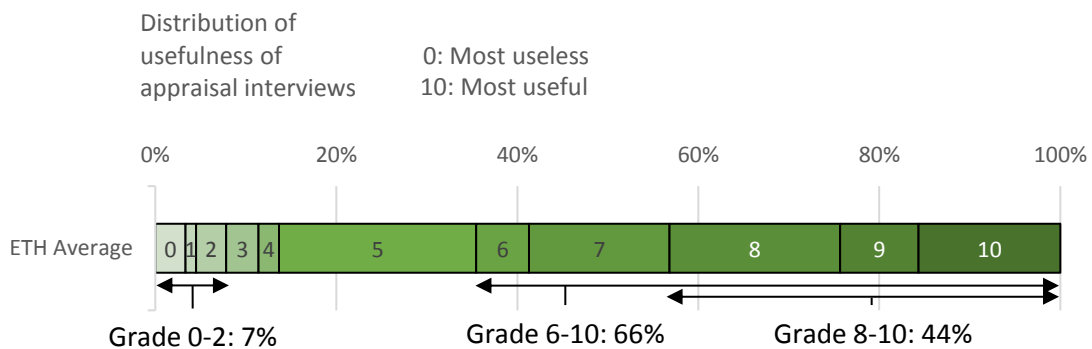


<b>Investigated point</b>	Do DS think that having appraisal interview is/would be useful?
<b>Related questions</b>	7, 8, 19

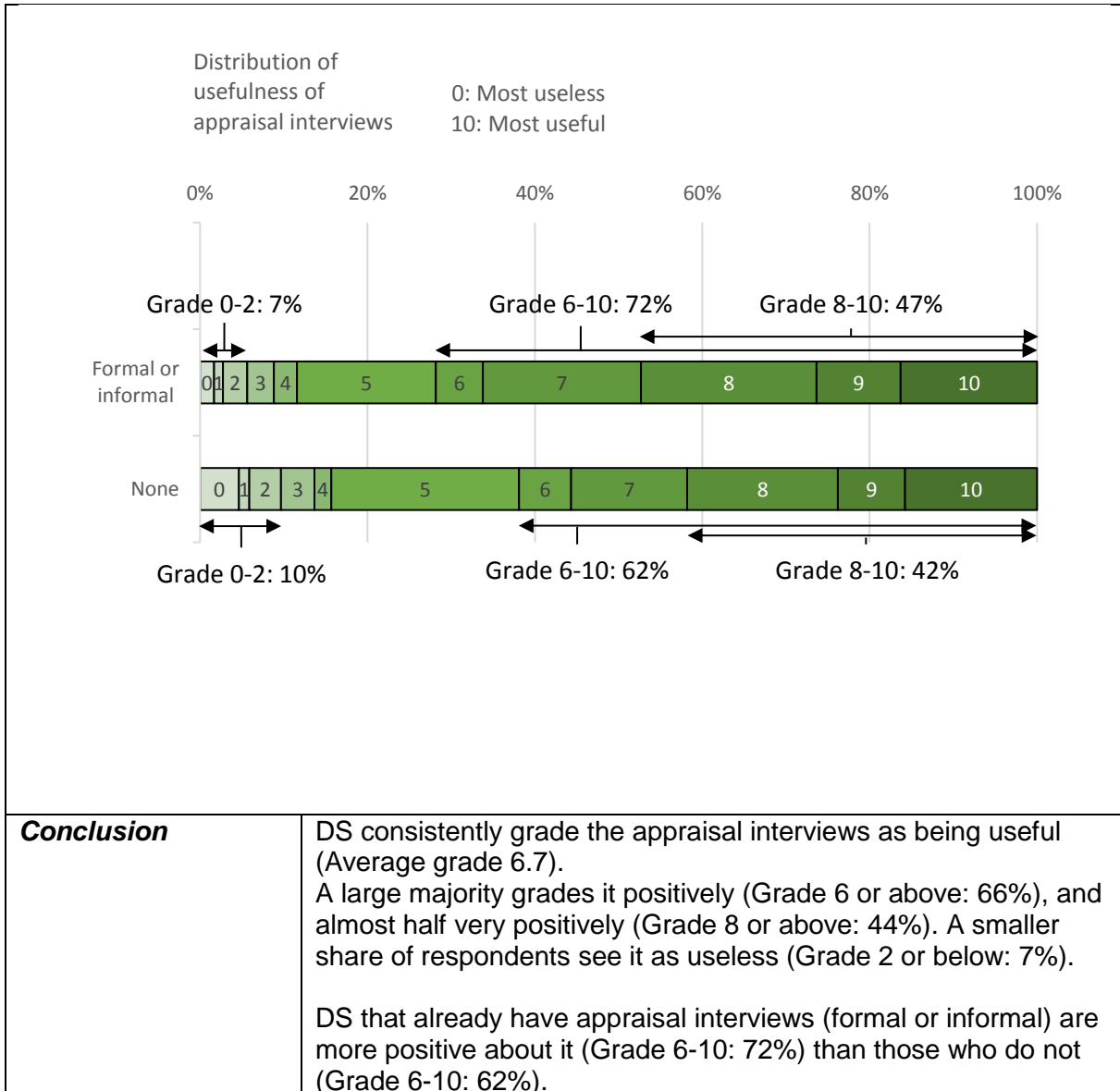


The average grade masks the number of people that have strong opinions (most useful/useless). Thus, we show in the following plots the distribution of the grades.

Each box represents a grade from 0: 'Most useless' to 10: 'Most useful'. The size of the box is proportional to the share of answers.



Finally, we look at how this distribution varies depending on DS already having appraisal interviews (formal or informal ones) or not.





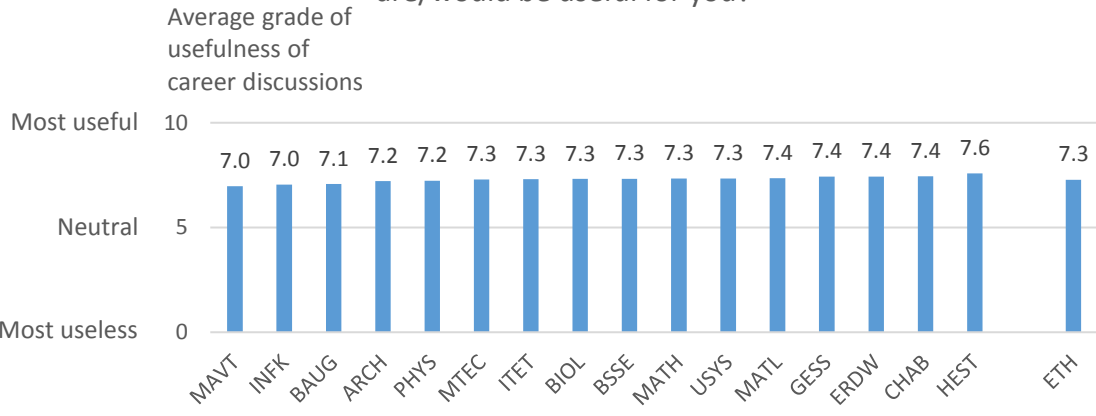
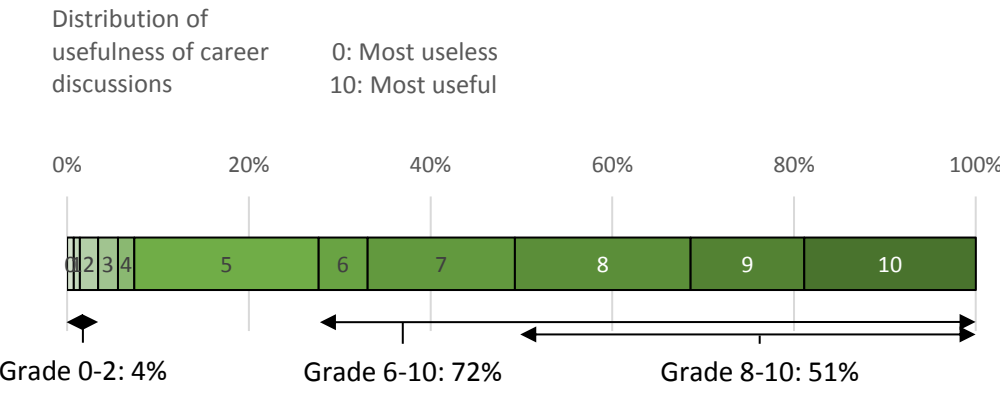


<b>Investigated point</b>	Are DS encouraged to follow personal development and/or soft skill courses?																																												
<b>Related questions</b>	11, 19																																												
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<b>Investigated point</b>	Can DS consult their professor for advice regarding their career plans?																																												
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<b>Investigated point</b>	Do DS think having career discussions with their professor is/would be useful?
<b>Related questions</b>	10, 19
<p style="text-align: center;">Do you think that these career discussions are/would be useful for you?</p> <p style="text-align: center;">Average grade of usefulness of career discussions</p>  <p>The average grade masks the number of people that have strong opinions (most useful/useless). Thus, we show in the following plot the distribution of the grades.</p> <p>Each box represents a grade from 0: 'Most useless' to 10: 'Most useful'. The size of the box is proportional to the share of answers.</p> 	
<b>Conclusion</b>	<p>DS consistently grade the career discussions as being useful (Average grade 7.3). A large majority grades it positively (Grade 6 or above: 72%), and half very positively (Grade 8 or above: 51%).</p> <p>Only a few see it as useless (Grade 2 or below: 4%).</p>



<b>Investigated point</b>	Are DS encouraged to attend conferences or workshops?																																												
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<b>Investigated point</b>	For what reasons professors do not encourage DS to attend conferences or workshops?																		
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<p style="text-align: center;">Do you know why you are not encouraged to attend conferences and/or workshops?</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Reason</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>"It is not worth the time."</td> <td>46.9%</td> </tr> <tr> <td>"It is too expensive."</td> <td>40.4%</td> </tr> <tr> <td>"I have nothing to present."</td> <td>33.4%</td> </tr> <tr> <td>"Others may steal our ideas."</td> <td>26.9%</td> </tr> <tr> <td>My supervisor doesn't care about me.</td> <td>3.9%</td> </tr> <tr> <td>I don't deserve it. / Someone else presents my results.</td> <td>3.6%</td> </tr> <tr> <td>Conferences are not worth it.</td> <td>2.3%</td> </tr> <tr> <td>I'm expected to be proactive.</td> <td>1.6%</td> </tr> </tbody> </table>		Reason	Percentage	"It is not worth the time."	46.9%	"It is too expensive."	40.4%	"I have nothing to present."	33.4%	"Others may steal our ideas."	26.9%	My supervisor doesn't care about me.	3.9%	I don't deserve it. / Someone else presents my results.	3.6%	Conferences are not worth it.	2.3%	I'm expected to be proactive.	1.6%
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<p>Note – Each respondent could tick multiple answers for this question. For each answer, the number given is the percentage of respondents having selected it among those that ticked at least one answer (e.g., 40% of DS that answered this question ticked “it is too expensive”).</p>																			
<b>Conclusion</b>	<p>The main reasons why professors oppose DS to attend conferences or workshops are that it is not worth the time (47%) or that it is too expensive (40%). More than a quarter of respondents states that their professor is afraid of other people stealing their ideas (27%).</p>																		



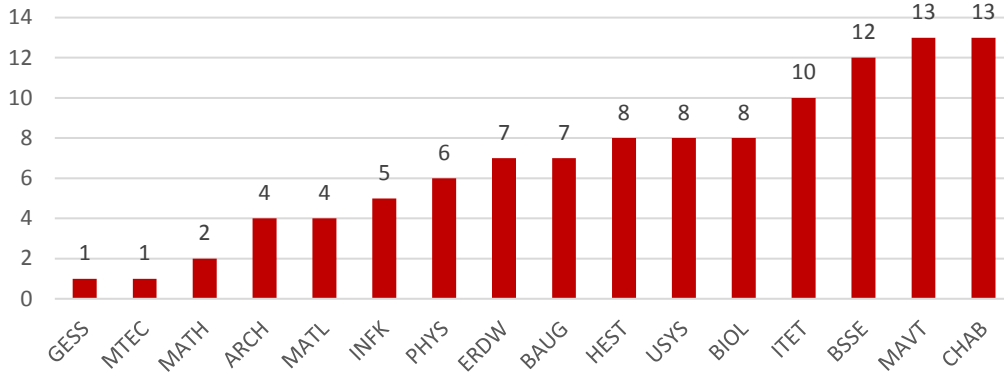
## 2.4 Relationship with supervisors

<b>Investigated point</b>	In case of conflict, do DS know whom to contact to get help?																																				
<b>Related questions</b>	17, 19																																				
<p>Percentage of 'No' per department</p> <p>In case of conflict with your supervisor/colleagues, do you know whom you can talk to?</p> <table border="1"> <thead> <tr> <th>Department</th> <th>Percentage of 'No'</th> </tr> </thead> <tbody> <tr><td>PHYS</td><td>16%</td></tr> <tr><td>BIOL</td><td>16%</td></tr> <tr><td>MATL</td><td>19%</td></tr> <tr><td>BSSE</td><td>19%</td></tr> <tr><td>USYS</td><td>21%</td></tr> <tr><td>ERDW</td><td>22%</td></tr> <tr><td>MTEC</td><td>22%</td></tr> <tr><td>GESS</td><td>24%</td></tr> <tr><td>MAVT</td><td>25%</td></tr> <tr><td>HEST</td><td>25%</td></tr> <tr><td>CHAB</td><td>25%</td></tr> <tr><td>ARCH</td><td>27%</td></tr> <tr><td>ITET</td><td>31%</td></tr> <tr><td>MATH</td><td>32%</td></tr> <tr><td>BAUG</td><td>37%</td></tr> <tr><td>INFK</td><td>38%</td></tr> <tr><td>ETH</td><td>25%</td></tr> </tbody> </table>		Department	Percentage of 'No'	PHYS	16%	BIOL	16%	MATL	19%	BSSE	19%	USYS	21%	ERDW	22%	MTEC	22%	GESS	24%	MAVT	25%	HEST	25%	CHAB	25%	ARCH	27%	ITET	31%	MATH	32%	BAUG	37%	INFK	38%	ETH	25%
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<b>Conclusion</b>	<p>25% of DS state they do not know where to get help to solve relationship problems.</p> <p>Depending on the department, this ranges from 16% (PHYS) to 38% (INFK).</p>																																				

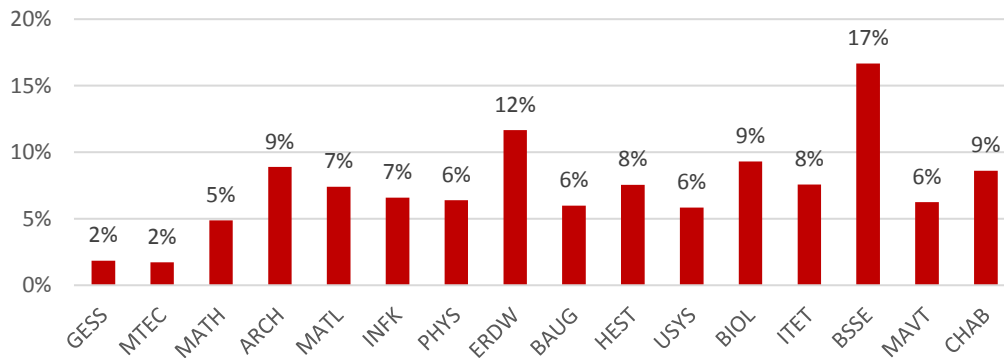
<b>Investigated point</b>	Are there DS that would need help, but do not contact anyone because there are scared to get help?										
<b>Related questions</b>	2, 19										
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Number of 'Yes, but I'd be scared' answers



Percentage of 'Yes, but I'd be scared' answers



### Conclusion

7% of respondents (109 answers) state they would be scared to ask for help.

Depending on the department, this ranges from single answers (GESS, MTEC: 1) to more numerous cases (CHAB, MAVT: 13, BSSE: 12).

In term of percentages, these high numbers of cases correspond to 6% (MAVT), 9% (CHAB) and 17% (BSSE) of the respondents.

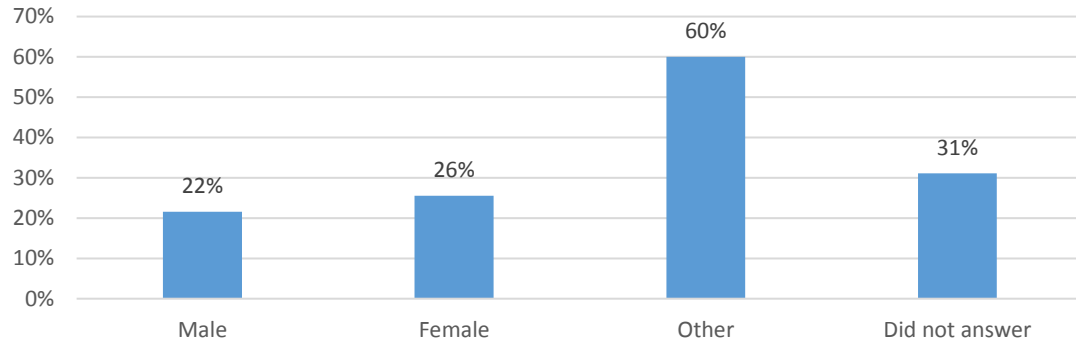


<b>Investigated point</b>	Do DS experience abuse of power from their professor?																																																												
<b>Related questions</b>	16, 19																																																												
<p style="text-align: center;">Do you feel that your professor abuses his/her power over you?</p> <p>Percentage of respondents ticking at least one type of 'abuse', per department</p> <table border="1"> <caption>Percentage of respondents feeling professor abuse by department</caption> <thead> <tr> <th>Department</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>MTEC</td><td>11%</td></tr> <tr><td>MATL</td><td>11%</td></tr> <tr><td>MATH</td><td>13%</td></tr> <tr><td>USYS</td><td>15%</td></tr> <tr><td>INFK</td><td>15%</td></tr> <tr><td>PHYS</td><td>18%</td></tr> <tr><td>ERDW</td><td>20%</td></tr> <tr><td>BAUG</td><td>22%</td></tr> <tr><td>ARCH</td><td>22%</td></tr> <tr><td>GESS</td><td>23%</td></tr> <tr><td>HEST</td><td>23%</td></tr> <tr><td>ITET</td><td>26%</td></tr> <tr><td>MAVT</td><td>29%</td></tr> <tr><td>CHAB</td><td>30%</td></tr> <tr><td>BIOL</td><td>37%</td></tr> <tr><td>BSSE</td><td>43%</td></tr> <tr><td>ETH</td><td>24%</td></tr> </tbody> </table> <p style="text-align: center;">If yes, which kind of abuse do you experience?</p> <table border="1"> <caption>Number of respondents reporting specific types of abuse</caption> <thead> <tr> <th>Abuse Type</th> <th>Number of Respondents</th> </tr> </thead> <tbody> <tr><td>"Asking you to work on weekends"/long hours</td><td>167</td></tr> <tr><td>"Bargaining of contract renewal"</td><td>137</td></tr> <tr><td>"Not granting holidays"</td><td>106</td></tr> <tr><td>"Salary pressure"</td><td>105</td></tr> <tr><td>Bullying/No respect/Emotional pressure</td><td>59</td></tr> <tr><td>Additional duties</td><td>18</td></tr> <tr><td>Defense bargaining</td><td>18</td></tr> <tr><td>Overly high workload</td><td>15</td></tr> <tr><td>Lack of/No help</td><td>14</td></tr> <tr><td>Publication pressure</td><td>12</td></tr> <tr><td>Lack of/No scientific freedom</td><td>7</td></tr> </tbody> </table> <p>Note – Each respondent could tick multiple answers for this question. For each answer, the number given is the number of respondents having selected it.</p>		Department	Percentage	MTEC	11%	MATL	11%	MATH	13%	USYS	15%	INFK	15%	PHYS	18%	ERDW	20%	BAUG	22%	ARCH	22%	GESS	23%	HEST	23%	ITET	26%	MAVT	29%	CHAB	30%	BIOL	37%	BSSE	43%	ETH	24%	Abuse Type	Number of Respondents	"Asking you to work on weekends"/long hours	167	"Bargaining of contract renewal"	137	"Not granting holidays"	106	"Salary pressure"	105	Bullying/No respect/Emotional pressure	59	Additional duties	18	Defense bargaining	18	Overly high workload	15	Lack of/No help	14	Publication pressure	12	Lack of/No scientific freedom	7
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Percentage of respondents ticking at least one type of 'pressure' given the gender



## Conclusion

About a quarter of the survey respondents state that they experience some kind of abuse of power from their professors. (347 answers represent about 8.6% of all ETH DS)

Depending on the department, this ranges from 11% (MTEC, MATL) to 37% (BIOL) and 43% (BSSE).

The most commonly reported 'abuses' are the pressure to work long hours/ on weekends (44.5%) and the bargaining of contract renewal (36.5%).

Moreover, female and male DS similarly declare to experience abuse of power (26% and 22% respectively). DS students that declare being of another gender (25 answers) or that did not answer the question (45 answers) are 60% (15) and 31% (14) respectively to declare experiencing abuse of power.

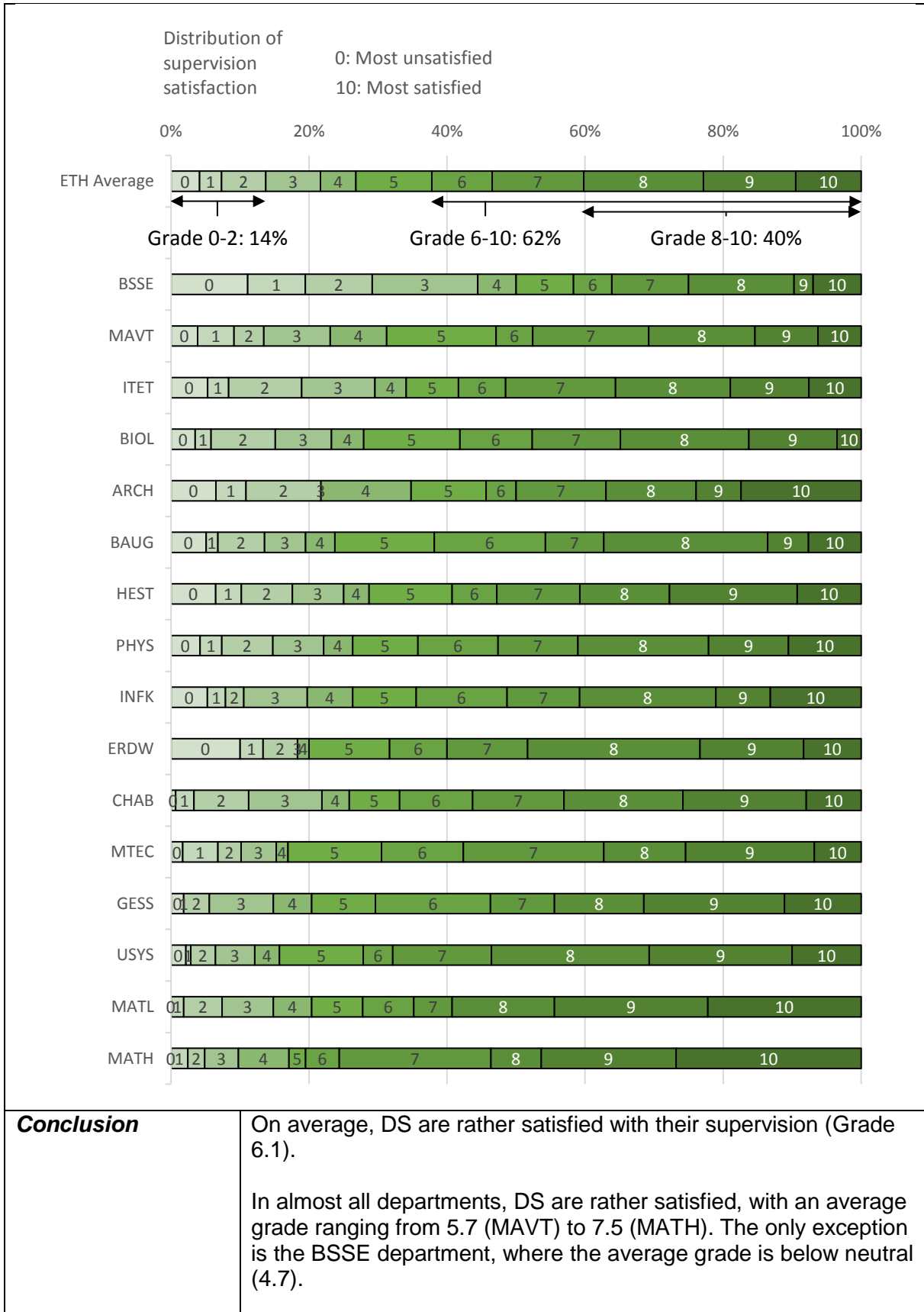


<b>Investigated point</b>	Is there a relation between group sizes and abuse of power?												
<b>Related questions</b>	16, 23												
<p style="text-align: center;">Do you feel that your professor abuses his/her power over you?</p> <p>Percentage of respondents ticking at least one type of 'abuse', per group size</p> <table border="1"> <thead> <tr> <th>Group Size</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Small (&lt;= 5 DS)</td> <td>22%</td> </tr> <tr> <td>Medium (&lt;= 10 DS)</td> <td>21%</td> </tr> <tr> <td>Large (&lt;= 15 DS)</td> <td>22%</td> </tr> <tr> <td>Largest (&gt; 15 DS)</td> <td>36%</td> </tr> <tr> <td>ETH average</td> <td>24%</td> </tr> </tbody> </table>		Group Size	Percentage	Small (<= 5 DS)	22%	Medium (<= 10 DS)	21%	Large (<= 15 DS)	22%	Largest (> 15 DS)	36%	ETH average	24%
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Large (<= 15 DS)	22%												
Largest (> 15 DS)	36%												
ETH average	24%												
<b>Conclusion</b>	DS studying in the bigger groups (more than 15 DS) declare more often that they experience abuse of power (36%) than the average (24%).												



## 2.5 Overall satisfaction

<b>Investigated point</b>	Are DS generally satisfied with the supervision of their doctoral studies?																																				
<b>Related questions</b>	14, 19																																				
<p style="text-align: center;">In general, are you satisfied with the supervision of your doctoral studies?</p> <p>Average satisfaction regarding supervision</p> <table border="1"> <thead> <tr> <th>Department</th> <th>Average Satisfaction Score</th> </tr> </thead> <tbody> <tr><td>BSSE</td><td>4.7</td></tr> <tr><td>MAVT</td><td>5.7</td></tr> <tr><td>ITET</td><td>5.8</td></tr> <tr><td>BIOL</td><td>5.8</td></tr> <tr><td>ARCH</td><td>5.9</td></tr> <tr><td>BAUG</td><td>6.0</td></tr> <tr><td>HEST</td><td>6.0</td></tr> <tr><td>PHYS</td><td>6.2</td></tr> <tr><td>INFK</td><td>6.2</td></tr> <tr><td>ERDW</td><td>6.3</td></tr> <tr><td>CHAB</td><td>6.4</td></tr> <tr><td>MTEC</td><td>6.5</td></tr> <tr><td>GESS</td><td>6.7</td></tr> <tr><td>USYS</td><td>7.0</td></tr> <tr><td>MATL</td><td>7.2</td></tr> <tr><td>MATH</td><td>7.5</td></tr> <tr><td>ETH</td><td>6.1</td></tr> </tbody> </table> <p>The average grade abstracts away the number of people that have strong opinions (most satisfied/unsatisfied). Thus, we show the distribution of the grades in the following plots.</p> <p>Each box represents a grade from 0: 'Most satisfied' to 10: 'Most unsatisfied'. The size of the box is proportional to the share of answers.</p>		Department	Average Satisfaction Score	BSSE	4.7	MAVT	5.7	ITET	5.8	BIOL	5.8	ARCH	5.9	BAUG	6.0	HEST	6.0	PHYS	6.2	INFK	6.2	ERDW	6.3	CHAB	6.4	MTEC	6.5	GESS	6.7	USYS	7.0	MATL	7.2	MATH	7.5	ETH	6.1
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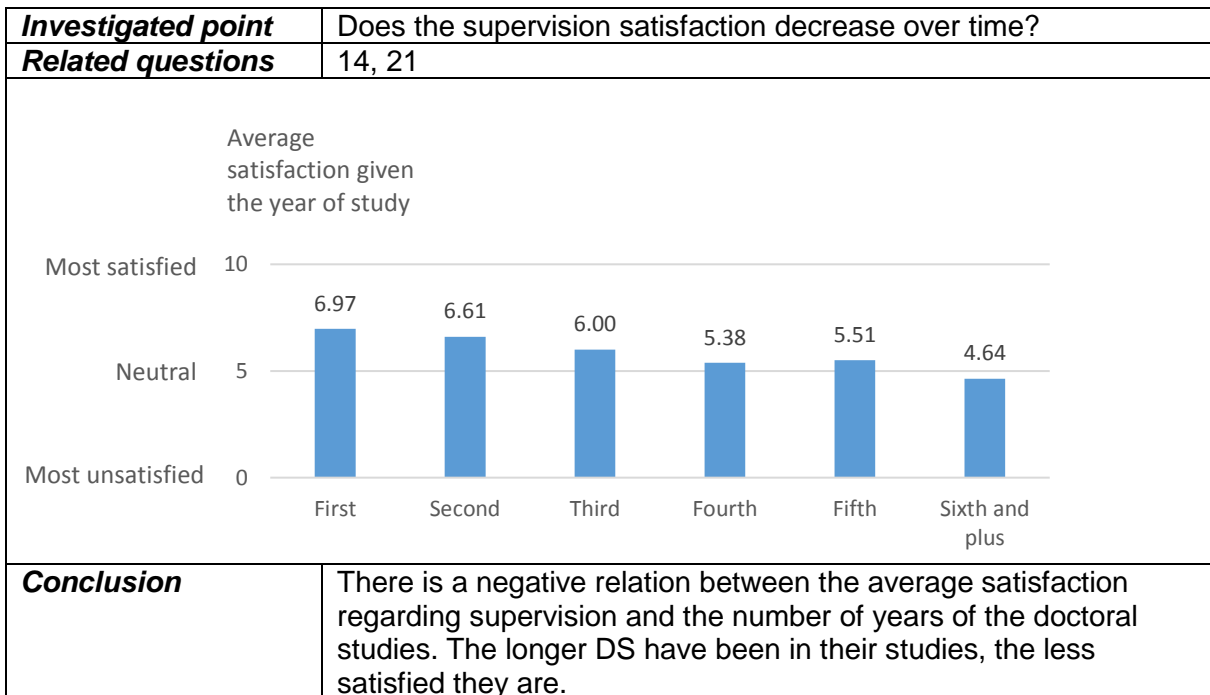
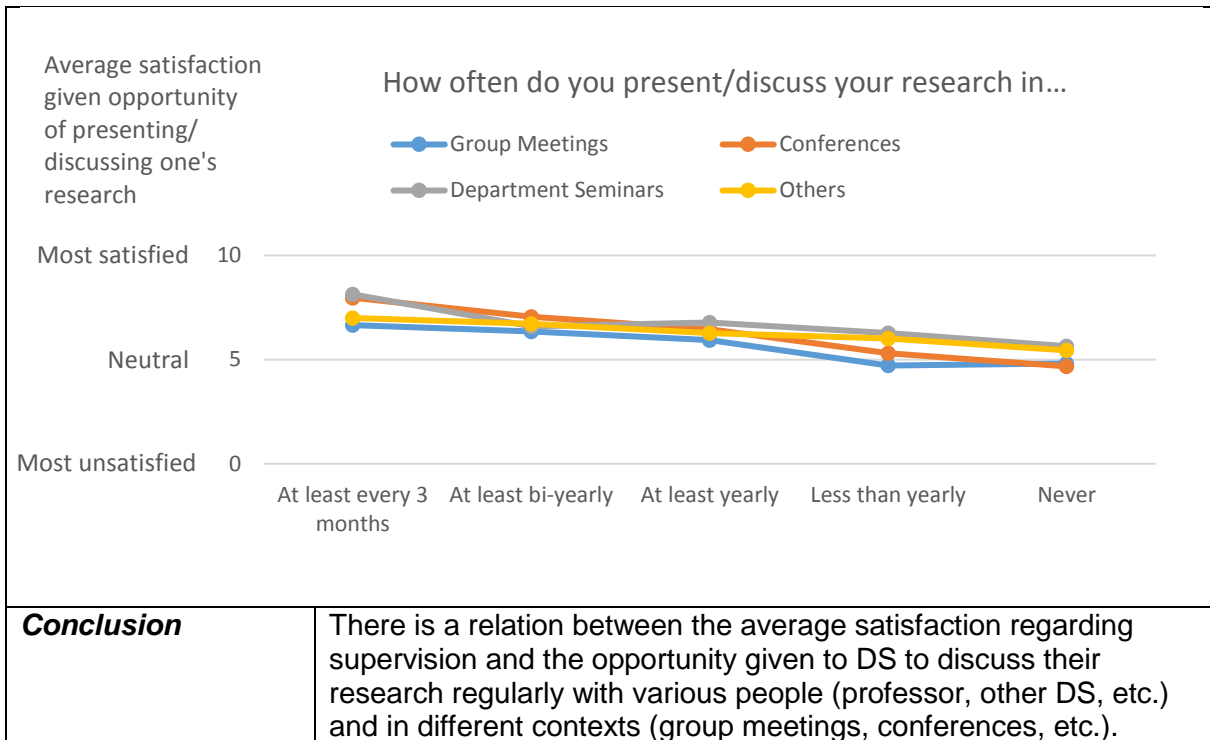




	<p>A large majority of DS grades their supervision satisfaction positively (Grade 6 or above: 61%), and 40% very positively (Grade 8 or above).</p> <p>14% of DS are very dissatisfied with their supervision (Grade 2 or below).</p>
--	---

<b>Investigated point</b>	Are DS more satisfied with their supervision in smaller groups?										
<b>Related questions</b>	14, 23										
<p>Average satisfaction given the group size</p> <table border="1"> <caption>Average satisfaction given the group size</caption> <thead> <tr> <th>Group size</th> <th>Average satisfaction</th> </tr> </thead> <tbody> <tr> <td>Small (&lt;= 5 DS)</td> <td>6.72</td> </tr> <tr> <td>Medium (&lt;= 10 DS)</td> <td>6.02</td> </tr> <tr> <td>Large (&lt;= 15 DS)</td> <td>5.14</td> </tr> <tr> <td>Largest (&gt; 15 DS)</td> <td>6.26</td> </tr> </tbody> </table>		Group size	Average satisfaction	Small (<= 5 DS)	6.72	Medium (<= 10 DS)	6.02	Large (<= 15 DS)	5.14	Largest (> 15 DS)	6.26
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Large (<= 15 DS)	5.14										
Largest (> 15 DS)	6.26										
<b>Conclusion</b>	There is no clear relation between the average satisfaction regarding supervision and the group size.										

<b>Investigated point</b>	Does the supervision satisfaction correspond with frequent opportunities for scientific interactions?
<b>Related questions</b>	4, 6, 14
<p>Average satisfaction given the frequency of research discussions</p> <p>How often do you discuss your research with...</p> <ul style="list-style-type: none"> <li>Professors</li> <li>Non-professor scientists</li> <li>Technicians</li> <li>External</li> <li>Doctoral Students</li> </ul>	





<b>Investigated point</b>	Does the supervision satisfaction relate to having regular appraisal interviews?								
<b>Related questions</b>	7, 14								
<p>Average satisfaction given the appraisal interview practices</p> <table border="1"> <caption>Average satisfaction given the appraisal interview practices</caption> <thead> <tr> <th>Practice</th> <th>Average Satisfaction</th> </tr> </thead> <tbody> <tr> <td>Informal</td> <td>7.1</td> </tr> <tr> <td>Formal</td> <td>6.7</td> </tr> <tr> <td>None</td> <td>5.6</td> </tr> </tbody> </table>		Practice	Average Satisfaction	Informal	7.1	Formal	6.7	None	5.6
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Informal	7.1								
Formal	6.7								
None	5.6								
<b>Conclusion</b>	<p>There is a relation between the average satisfaction regarding supervision and having regular appraisal interviews.</p> <p>DS that have formal or informal appraisal interviews are more satisfied (Grade 7.1 and 6.7 resp.) than those that do not (grade 5.6).</p>								

<b>Investigated point</b>	How is the general situation of DS affiliated to external research institutions (e.g. Empa)?																					
<b>Related questions</b>	14, 19																					
<p>Average satisfaction</p> <table border="1"> <caption>Average satisfaction for DS affiliated to external research institutions</caption> <thead> <tr> <th>Institution</th> <th>Average Satisfaction</th> <th>Sample Size</th> </tr> </thead> <tbody> <tr> <td>Eawag</td> <td>7.44</td> <td>[25]</td> </tr> <tr> <td>Empa</td> <td>5.80</td> <td>[15]</td> </tr> <tr> <td>PSI</td> <td>6.18</td> <td>[17]</td> </tr> <tr> <td>WSL</td> <td>7.11</td> <td>[9]</td> </tr> <tr> <td>Average (ext.)</td> <td>6.70</td> <td>[66]</td> </tr> <tr> <td>Average (dept.)</td> <td>6.15</td> <td>[1500]</td> </tr> </tbody> </table>		Institution	Average Satisfaction	Sample Size	Eawag	7.44	[25]	Empa	5.80	[15]	PSI	6.18	[17]	WSL	7.11	[9]	Average (ext.)	6.70	[66]	Average (dept.)	6.15	[1500]
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Average (dept.)	6.15	[1500]																				
<b>Conclusion</b>	<p>On average, DS affiliated to external research institutions are rather satisfied with their supervision (Grade 6.7), slightly above the ETH average within the departments (Grade 6.15).</p>																					



<b>Investigated point</b>	Does the supervision satisfaction relate to the gender of DS?										
<b>Related questions</b>	14, 20										
<p>Average satisfaction given the gender</p> <table border="1"> <caption>Average satisfaction given the gender</caption> <thead> <tr> <th>Gender</th> <th>Average Satisfaction</th> </tr> </thead> <tbody> <tr> <td>Male</td> <td>6.29</td> </tr> <tr> <td>Female</td> <td>6.12</td> </tr> <tr> <td>Other</td> <td>3.04</td> </tr> <tr> <td>Did not answer</td> <td>5.23</td> </tr> </tbody> </table>		Gender	Average Satisfaction	Male	6.29	Female	6.12	Other	3.04	Did not answer	5.23
Gender	Average Satisfaction										
Male	6.29										
Female	6.12										
Other	3.04										
Did not answer	5.23										
<b>Conclusion</b>	<p>On average, the DS are equivalently satisfied with their supervision regardless of being male (Grade 6.29) or female (Grade 6.12).</p> <p>DS students that declare being of another gender (25 answers) are rather dissatisfied with their supervision (grade 3.04).</p>										

<b>Investigated point</b>	Do DS perceive that they rather work <b>with</b> or <b>for</b> their professor?																																																																								
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<b>Conclusion</b>	<p>In some departments, the culture of collaboration is quite strong (USYS: 44% state to work <b>with</b> their professor). It is rather the opposite in some other departments (BSSE: 51% state to work <b>for</b> their professor).</p>																																																																								





### 3 Qualitative analysis – problems with supervision and suggestions for supervision improvement

Overall, 553 individual respondents have left at least one comment, which corresponds to 31% of the collected answers.

In total, 715 comments were made by the respondents (general comments (Q24) and comments about how supervision can be improved (Q18)). 134 of those comments regarded general aspects of the survey or not related to supervision and are therefore not included in this analysis.

We summarize below the 581 comments related to supervision. The comments include problems in the supervision faced by DS, suggestions for improvement and positive experiences with supervision. A more detailed summary of the comments is given in Appendix III – Detailed analysis of the comments.

- 6% of the comments suggest that DS are happy with their supervision as it is. The rest of the comments describe supervision problems and suggestions for improvement.
- Most of the comments (about 36%) are focused on the absence or the lack of involvement of the professor in the research of the DS or the lack of her/his technical competences in the field. DS express their need for regular meetings with the professor (one-on-one and group meetings) and regular feedback on their work.
- Around 12% of the comments mention some sort of abuse of power from their professor (e.g., not granting holidays, bargaining with the employment conditions, etc.), which should not be the case. DS mention that the professors should respect them and treat them with fairness; and that professors should show trust and appreciation in the work of their students, and allow sufficient freedom in their research.
- Around 9% of the comments involve suggestions about better group hierarchy. DS commented that if regular supervision by the professor is hard to achieve due to the group size, the supervision should be delegated to a more senior researcher in the group (but nevertheless monitored by the professor).
- Approximately 8% of the comments suggest that the professors should have good management skills and be able to better distribute his/her time among supervising, lecturing, writing grants and administrative tasks.
- Another 8% of the comments propose that the mentorship and supervision by professors should be monitored externally on a regular basis; furthermore, professors should undergo mentorship trainings, including training on communication and other soft skills.
- 5% of the comments are related to fair and transparent salary regulations and regular contract renewals as a part of good supervision, which should be both better communicated and in a timely manner. DS commented that if additional duties (e.g., teaching, lab maintenance etc.) are expected to be part of the doctorate, it should be clearly communicated in advance.
- A good supervisor should promote the personal and professional development of their DS (e.g. attending workshop, conferences), and/or provide career advice (around 3% of the comments).



## 4 Summary

The high response rate of the survey (36% on average) and the large amount of open comments (31% of respondents) show that doctoral students (DS) are interested in the topic of doctoral supervision and how to improve it.

However, it is **important to keep in mind** that there may be a bias in the answers collected (most unsatisfied people may be keener to answer the survey). Unfortunately, this cannot be avoided.

The survey analysis showed that, although DS are generally satisfied (62% grade 6 or above) or very satisfied (40% grade 8 or above) with their supervision, the situation varies significantly across departments – from an average grade of 4.7 in the BSSE department (5 is neutral) to 7.5 in the MATH department. On average, 14% of DS are very unsatisfied (Grade 2 or below) with their supervision.

The analysis revealed some relations between satisfaction w.r.t. supervision.

- The average satisfaction decreases with the number of years spent in the doctoral studies.
- The average satisfaction increases with more frequent opportunities to discuss and present one's work.
- The average satisfaction is higher for DS having yearly appraisal interviews or other informal meetings where they can exchange feedback on their performance.

On the contrary

- The group size does not appear to have an impact on the average satisfaction.
- Male and female DS are equivalently satisfied w.r.t. their supervision.

Moreover, 24% of the survey respondents stated that they experience some kind of 'abuse of power' from their supervisor, ranging from lack of scientific freedom (7 cases) to pressure to working long hours or on weekends (167 cases, which corresponds to 11% of the respondents; therefore at least 3.7% of all ETH DS).

Furthermore, 7% of the respondents of the survey declare being scared to get help in case of conflict with their supervisor or colleagues. This percentage reaches 12% in the ERDW and 17% in the BSSE departments.

Finally, in the collected comments, several suggestions have been made regarding how to improve supervision. Most of them are related to the presence and interest of the professor in the work of the DS, accompanied with frequent meetings and regular feedback. Further comments suggest that better group hierarchy, good management skills of the professor and fair treatment of the DS are part of a good supervision, which could be monitored externally.



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## 5 Acknowledgements

This survey and its analysis would not have been possible without the help and support of a number of people across ETH. We would like to thank the Politics Team of AVETH for their productive discussions during the course of survey preparation as well as for the analysis of the results. The Politics Team meetings throughout 2017 and till early 2018 were often the place of debates on this particular topic.

We would like to thank the Rector of ETH, Prof. Dr. Sarah Springman, for allowing us to send this survey to the complete list of ETH doctoral students and making it a great success with nearly 40% of reply rate. We would also like to thank the Vice Rector for Doctoral Studies, Prof. Dr. Antonio Togni, for his help and suggestions during the design phase of the survey.

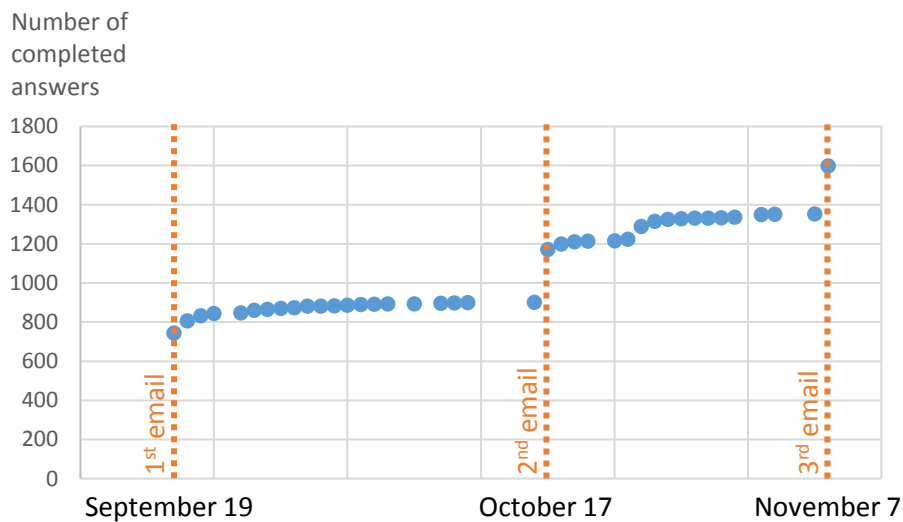


## Appendix

### Appendix I – Methodology of the survey

The survey was anonymous (no IP tracking) and conducted using the survey tool "SelectSurvey" provided by ETH. Only the data of completed answers was used.

The survey was first sent by email on September 19, 2017 to all DS of ETH (4'094 people on this date). Two more emails were sent to all DS on October 17 and November 7 respectively, each resulting in a significant increase in completed answers to the survey. In addition, three reminders were sent within the AVETH newsletters. Finally, the survey was closed on December 22, 2017, with 1'594 received answers.

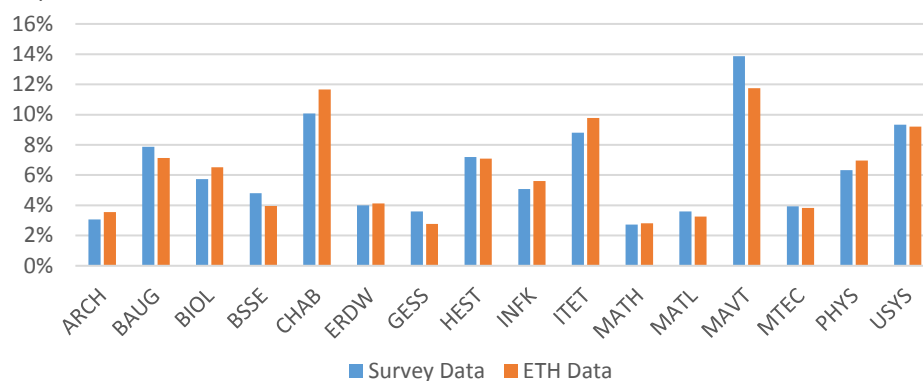




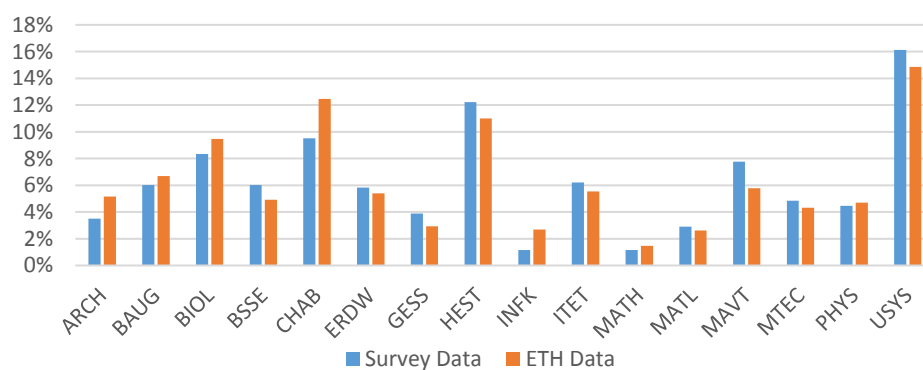
## Appendix II – Significance of the survey data

Prior to the data analysis, the significance of the received answers was checked by comparing the obtained survey data with official ETH data for DS affiliated to one of the 16 ETH departments. In addition, the ratio of female DS was compared between the survey data and ETH data.

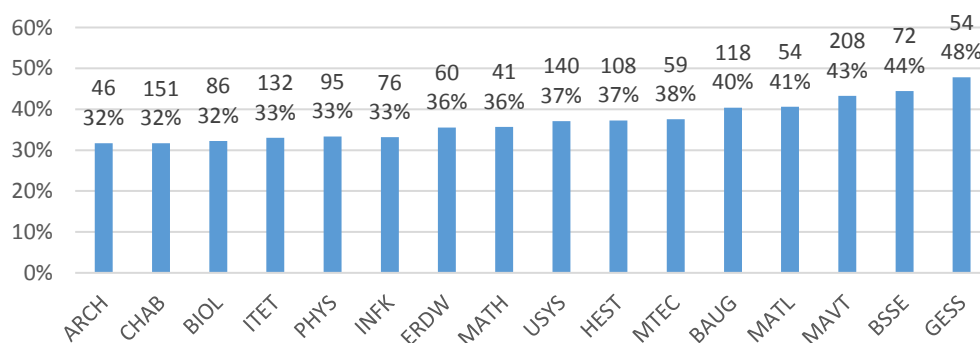
Distribution of DS per department



Distribution of female DS per department



Response rate and number of answers per department





## Appendix III – Detailed analysis of the comments

In the detailed analysis below, each comment is classified in one of the following groups (a few comments are classified in more than one group, since they contain several aspects). The number in the squared brackets contains the number of comments for each group.

*Note – Throughout the comments, the DS refer to their supervisors with a variety of expressions (e.g., PI, supervisor, professor, etc.). Throughout this section, for consistency reasons, we use only the expression ‘professor’.*

- **Presence, better communication, more involvement [207]**

The professors should be more present, more involved and care more about what his/her students do. This includes more frequent meetings (one-to-one and group meetings), better feedback (positive or constructive negative), setting clear goals regarding one’s project (better structured requirements for graduation), and overall better and more open communication between the professor and the student. Some of these comments can be further sub-classified into:

  - Explicitly mentioned “*regular one-to-one meetings*” [34]
  - Explicitly mentioned “*personalgespräch*”, i.e. “*appraisal interview*” [10]
  - Explicitly mentioned “*regular group meetings*” [10]
  - Explicitly mentioned that more *regular feedback* on someone’s work is needed for good supervision [24]
  - Complains about the lack of competences of the professor (he/she is not expert in field) [11]
- **More human behavior, more respect, follow the rules, no abuse of power [69]**

The professors should treat their DS better; he/she should be more human. DS should not be seen only as numbers/slaves and should be treated with respect. DS should not be discriminated, nor treated differently.

  - The professors should not abuse their power over the DS and should support work life balance. DS should not be afraid to ask for holidays or be forced to work extra hours or on weekends. Over hours/working on weekends should not be taken for granted and should be more acknowledged. [7]
- **Better group structure [51]**

There are too many DS in the group and not enough Post-Docs or Senior scientists who could supervise them.

  - The group is too big, especially there are too many DS (the professor does not have time for them). [13]
  - If this is the case, a better group hierarchy should be established: DS should be supervised by Post-Docs and/or Senior scientists. [33]
  - It should be taken care, and monitored by the main supervisor, that senior scientists or Post-Docs are good mentors and supervisors themselves when they take care of DS. [4]
- **Better manager [48]**

The professor should have better management skills to lead the group. He/she should be able to organize his/her time better in order to have time for administrative work,



writing grants and supervising students. He/she should also have a better idea of how big of a group he/she can afford to manage.

○ **External influence is required [45]**

Stronger external influence on the professor's leadership and supervision skills would be useful.

- Professors should get external (potentially from HR) training about how to be better supervisor and to acquire soft skills in order to better communicate with their students. [22]
- External and frequent committee evaluations on professor's leadership and mentorship skills would be useful. [14]
- Departments should take more responsibilities for their professors (monitoring) and DS (in case help is needed). [4]
- Evaluation tool for the professors in regards of supervision and mentoring is needed, similar as the one for teaching [3]
- The DS professor should not be the same person that will grade and approve the thesis. That gives too much leverage to the professors [1] ;  
Assign external co-supervisor from the beginning and work closely with him/her as well. [1]

○ **Happy with supervision [37]**

Some DS are perfectly happy with their supervision and their work environment.

○ **Contract renewal, short contracts, and salary [30]**

Contract renewal should be fair, communicated better, and in timely manner.

- Complains about contract renewal, multiple short contracts, and permits for Non-EU students were made. [15]
- Complaints were made about salary. [15]

○ **Appreciation, trust, freedom [24]**

More appreciation and trust for one's work, freedom in one's work.

- The professor should trust their DS more and understand how long it takes for certain tasks to be completed; appreciation for the student's work should be given. [14]
- The professor should give more freedom to DS in their research. [10]

○ **Professional and personal development [8]**

The professor should encourage the DS in their professional and personal development (i.e., attending conferences, workshops).

○ **Career talks [7]**

Career talks with the DS are part of good supervision.

○ **Miscellaneous [55]**

- It is hopeless to improve something; the professor is simply unfit for the job or the system is flawed. [7]
- Some say only "No" or "Yes" or "N/A". [8]
- Having two supervisors (the professor and the post-doc or a co-supervisor) is a problem... [5]



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- Disappointing experience with the ombudsman or HR. [4]
- It is not all about publishing... [3]





## Appendix IV – Survey questions

### Supervision of your doctoral studies

1. Were the requirements for graduation (e.g. number of publications, duration of doctoral studies, etc.) clearly communicated to you when you started your doctoral studies?

Yes  No

2. According to the ETH Regulations for Doctoral Studies, a [Research Plan](#) must be submitted within the first year of enrollment to the doctoral studies. This plan is supposed to outline the research project of your doctoral studies. It represents a written agreement co-signed by the supervisor and the doctoral student.

Were/are you pushed to submit your research plan within the first year of your doctoral studies?

Yes, by my professor       Yes, by the department       No       I don't know

3. Do you think that writing your Research Plan was/is useful for you?

0: Most useless - 10: Most useful

4. With whom and how often do you discuss your research?

	Daily	At least every week	At least every month	At least every six months	At least every year	Less than once per year	Never
Your Professor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-professor scientists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technicians or engineers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other doctoral students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
External collaborators (e.g. industry partners)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. What is the position of the person you consider being your main supervisor, i.e. the one guiding you the most in your research?

- Professor  
 Non-professor scientist (e.g., postdoc, senior scientist, etc.)  
 No one is actually helping me  
 Other, please specify

6. How often do you present/discuss your research in the following?

	At least every three months	At least every six months	At least every year	Less than once per year	Never
Group meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conferences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Department seminars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other opportunities (i.e. to external collaborators)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## Personal and Professional development

7. According to the Human Resource services of ETH:

*The appraisal interview ("Personalgespräch") offers the chance for both the employee and the supervisor to assess the employee's current performance and work out opportunities for further personal development.*

The official [appraisal interview form](#) gives a general idea of the objectives of the appraisal interview.

Do you have "[appraisal interviews](#)" ("Personalgespräch") with your supervisor?

- Yes - I have a formal meeting, using the official form
- Yes - I have an informal discussion
- No

8. Do you think that these meetings are (or would be) useful for you?

0: Most useless - 10: Most useful


9. Is your professor available to discuss and advise his/her doctoral students with their career plans?

- Yes
- Yes, but only if I ask him/her
- No
- I don't know

10. Do you think that these career discussions are/would be useful for you?

0: Most useless - 10: Most useful


11. Are you encouraged by your professor to attend personal development and/or soft-skill courses, e.g. [didactica programme](#), [Learning To Teach](#), D-GESS doctoral lectures, job fairs, etc.?

- Yes
- No, but he/she agrees if I ask
- No, he/she is opposed to the idea
- I don't know

12. Are you encouraged by your professor to attend conferences and/or workshops?

- Yes
- No, but he/she agrees if I ask
- No, he/she is opposed to the idea
- I don't know.

13. If not, do you know why?

- I have nothing to present.
- Others may steal our ideas.
- It is not worth the time.
- It is too expensive.
- Other, please specify



## Overall Satisfaction

14. In general, are you satisfied with the supervision of your doctoral studies?

0: Most unsatisfied - 10: Most satisfied

5



15. Would you rather say that:

(1) 'I work **with** my professor.'

or that

(2) 'I work **for** my professor.'

0: Most agreement with (1) - 10: Most agreement with (2)

5



16. Do you feel that your professor abuses his/her power over you? If yes, which kind of abuse do you experience?

- No
- Salary pressure
- Bargaining of contract renewal
- Asking you to work on weekends
- Not granting holidays
- Yes, but other (please specify)

17. In case of conflict with your supervisor/colleagues, do you know whom you can talk to?

- Yes, I know
- Yes, but I would be/am scared to seek help
- No, but I know where to look it up if necessary
- No, I don't

18. Do you have any suggestions about how your supervisor could improve his/her supervision?