

QUANTITATIVE ANALYSIS OF 80 CONSECUTIVE PhD THESIS DEFENSES

Faculty of Medicine, University of Amsterdam, April-July 2018

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1. GENERAL

This report describes a quantitative analysis of all 80 consecutive PhD theses from the Faculty of Medicine UvA, defended in the period from April to July 2018. The number of 80 is 35% of all medical PhD theses defended in 2018 (n=233).

Characterization of PhD theses:

- Basic research n=9 (11%), translational research n=16 (20%), clinical research n=55 (69%).
- Language of PhD thesis defense ceremony completely in English n=15 (19%).
- Cum laude awarded n=3 (3.75%).
- Joint Doctorate n=3 (3.75%).

2A. DOCTORATE COMMITTEE - SUPERVISORS AND CO-SUPERVISORS

<i>Supervisors and co-supervisors</i>	<i>Number of PhD defenses n=80 (100%)</i>
2 + 2 *	n=22 (28%)
2 + 1	n=14 (17%)
2 + 0	n= 9 (11%)
1 + 2	n=22 (28%)
1 + 1	n=13 (16%)

* 1x 3 supervisors and 2 co-supervisors for joint doctorate degree

- 2 supervisors n=45 (56%), 1 supervisor n=35 (44%)
- 2 co-supervisors n=44 (55%), 1 co-supervisors n=27 (34%) 0 co-supervisors n=9 (11%)
- 4 in supervisory team n=22 (27.5%), 3 in supervisory team n=36 (45%), 2 in supervisory team n=22 (27.5%)

2B. DOCTORATE COMMITTEE - VATING MEMBERS / GUEST OPPONENTS

<i>Number of voting committee members</i>	<i>Number of thesis defenses</i>	<i>Number of PhD defense ceremonies complete - absent members</i>	<i>Number of PhD defense ceremonies with guest opponents</i>
n=5	n=16 (20%)	n=9 (56%) - n=7 (44%)	n=7 (44%)
n=6	n=51 (64%)	n=23 (45%) - n=28 (55%)	n=18 (35%)
n=7	n=13 (16%)	n= 6 (46%) - n= 7 (54%)	n= 2 (15%)
<i>Total</i>	<i>n=80 (100%)</i>	<i>n=38 (47%) - n=42 (52%)</i>	<i>n=27 (34%)</i>

Conclusions:

1/ In more than half of all PhD defenses, one or more voting members of the Doctorate Committee are absent at the defense ceremony.

2/ In a third of all PhD defenses, guest opponents are invited at the defense ceremony.

<i>Number of voting members</i>	<i>Number of PhD defenses as a function of number of absent voting members</i>					<i>Number of PhD defenses as a function of number of guest opponents</i>			
	<i>n=1</i>	<i>n=2</i>	<i>n=3</i>	<i>n=4</i>	<i>total</i>	<i>n=1</i>	<i>n=2</i>	<i>n=3</i>	<i>total (%)</i>
n=5	6	1	-	-	7	6	1	-	7/7 = 100%
n=6	16	7	3	2	28	12	4	2	18/28 = 64%
n=7	5	2	-	-	7	2	-	-	2/7 = 29%
<i>Total</i>	27 (64%)	10 (24%)	3 (7%)	2 (5%)	42 (100%)	20 (48%)	5 (12%)	2 (5%)	27/42 = 64% (64%)

Conclusions:

3/ In two third of the PhD defenses with absent voting members 1 committee is absent, and in a third of the PhD defenses 2-4 voting members are absent.

4/ The larger the original doctorate committee, the lower the need for guest opponents.

3A. SIZE OF THE PhD THESIS - NUMBER OF PAGES

Doctorate Regulations UvA Article 15 paragraph 3: The length of the thesis should remain within limits. As a guideline, the maximum length is 70,000 words (150-200 pages of text). Exceptions may be made at the discretion of the supervisor.

<i>Number of pages in thesis</i>	<i>Number of theses</i>	<i>Number of pages per thesis (median)</i>
100 - 150 pg.	8 (10%)	142
150 - 200 pg.	21 (26%)	173
200 - 250 pg.	29 (36%)	228
250 - 300 pg.	14 (18%)	273
> 300 pg.	8 (10%)	344
<i>Total</i>	80 (100%)	219 (range 117-421)

Conclusion:

5/ The mean length of a thesis is 219 pages. About a third of the theses contains less than 200 pages, a third contains 200-250 pages, and a third contains over 250 pages.

<i>Number of chapters per thesis</i>	<i>Number of theses</i>	<i>Number of pages per thesis</i>	
		<i>median</i>	<i>min-max</i>
5, 6, 7	19 (24%)	171	117 - 241
8, 9, 10	44 (55%)	221	129 - 344
11, 12, 13	12 (15%)	270	173 - 421
14, 15, 16	5 (6%)	313	240 - 379
<i>Total</i>		<i>219</i>	<i>117 - 421</i>

Conclusions:

6/ The number of chapters per thesis is 5-7 in about a fourth of the theses, 8-10 in half, and 11-16 in another fourth of the theses.

7/ The more chapters per thesis, the larger the number of pages.

Recommendation:

PhD theses are often very thick and sometimes have too little coherence between the different parts. Therefore, make a choice, select one theme in the PhD thesis.

3B. SIZE OF THE PhD THESIS - PhD CANDIDATE 1ST AUTHOR

Further regulation 3 for the Faculty of Medicine: The PhD thesis contains at least three papers with results of original scientific research with the PhD candidate as first author, published in or accepted by international, peer-reviewed, scientific journals at the time of assessment of the thesis manuscript by the voting members of the doctorate committee.

Further regulation 12 for the Faculty of Medicine: For each of the above mentioned supplementary provisions, exemption can be requested by a motivated letter to the dean or his delegate for doctorate affairs.

<i>Number of papers per thesis</i>	<i>Number of theses</i>	<i>Number of papers</i>	<i>PhD candidate as 1st author</i>	<i>PhD candidate ≥ 2nd author</i>
3, 4, 5	14	64 (100%)	59 (92%)	5 (8%)
6	16	96 (100%)	87 (91%)	9 (9%)
7	15	105 (100%)	89 (85%)	16 (15%)
8	16	128 (100%)	108 (84%)	20 (16%)
9 - 16	19	208 (100%)	173 (83%)	35 (17%)
<i>Total</i>	<i>80</i>	<i>601 (100%)</i>	<i>516 (86%)</i>	<i>85 (14%)</i>

NB. The number of scientific papers per thesis equals the total number of chapters minus two in 80% of the theses: the chapters introduction and discussion are usually not

published. In 16 out of the 80 PhD theses (20%), introduction and discussion are published as one (n=7) or two (n=9) separate papers.

Conclusion:

8/ The more publications in a theses, the more often the PhD candidate is not a first author.

<i>Number of papers per thesis</i>	<i>Number of theses</i>	<i>Number of theses with <3 published papers of PhD candidate as 1st author</i>
3, 4, 5	14	3
6	16	0
7	15	1
8	16	0
9 - 16	19	1
<i>Total</i>	<i>80</i>	<i>5 (6%) ‡</i>

‡ 2x basic, 2x translational, 1x clinical thesis

Conclusion:

9/ In 6% of the PhD theses the faculty's requirement that a PhD candidate should be 1st author of at least three papers (accepted or published) in peer-reviewed journals is not met.

In four out of the five instances, exemption was granted.

4A. FURTHER REGULATIONS - SUMMARY

Article 15 of the UvA Doctorate Regulations stipulates that a thesis should contain a summary including the title of the thesis in the language of the thesis, in Dutch and in English.

<i>No summary at all</i>	<i>No English summary</i>	<i>No Dutch summary</i>	<i>Total number of deficiencies</i>
n = 5	n = 13	n = 1	n = 19 (24%)

Conclusion:

10/ In a quarter of the PhD theses a separate summary in English and/or Dutch is missing, mostly because the English summary and the discussion are combined in one final chapter.

Recommendation:

It is not allowed to combine the English summary with a general discussion in one final chapter. The English summary should be a separate part of the thesis.

4B. FURTHER REGULATIONS - CO-AUTHORS

The UvA Doctorate regulations article 20 paragraph 8: If the doctoral thesis consists (partly) of papers that have been written in the name of several authors, the co-authors of these articles may only make up a minority of the remaining (voting) members of the Doctorate Committee.

This means that in a Doctorate Committee:

- with 5 voting members (opponents) 2 out of 5 may be co-authors
- with 6 voting members (opponents) 2 out of 6 may be co-authors
- with 7 voting members (opponents) 3 out of 7 may be co-authors.

Voting members	Allowed number of co-authors	Number of thesis defenses as function of number of voting co-authors				Total
		n=0	n=1	n=2	n=3	
n=5	2	6	7	3	-	16
n=6	2	27	14	10	-	51
n=7	3	5	3	3	2	13
<i>Total</i>		38 (48%)	24 (30%)	16 (20%)	2 (2%)	80(100%)

Conclusion:

11/ In half the PhD defenses voting members of the Doctorate Committee are co-authors of publications in the PhD thesis. They are a minority of all voting members in all instances.

Further regulation 4 for the Faculty of Medicine: No more than 25% of the papers in the PhD thesis may have one or more voting members of the doctorate committee as co-author.

Number of theses with papers published by PhD candidate and voting member(s)	Number of PhD defenses with >25% of papers with voting co-author	Number of papers with voting co-authors as percentage of total number of papers
0 common papers	38 (48%)	0
1 common paper	21 (26%)	0
2 common papers	16 (20%)	3
3 common papers	3 (4%)	3
≥4 common papers	2 (2%)	2
<i>Total</i>	80(100%)	8 (10%)

Conclusion:

12/ In 10% of the PhD defenses the faculty's requirement of at most 25% of voting members as co-authors on papers is not met.

Recommendation:

It is wise as co-author not to oppose to those chapters of which you are co-author.

4C. FURTHER REGULATIONS - SCREENING ON PLAGIARISM

Conclusion:

13/ In 16 out of 80 PhD theses (20%) the screening on plagiarism revealed similarities with existing literature.

This result is an improvement compared with the similarities in 31% of the UvA Faculty of Medicine PhD theses in 2017 (Wiersinga WM, de Haes JCJM. Plagiaat-scans bij medische proefschriften UvA 2017 - Bureau Promotiezaken AMC november 2017). As in 2017, the similarities found were limited in number and not serious, in the sense that they were more a consequence of sloppiness, inattention and inaccuracy than a result of malicious intent or preconceived intentions. Extra attention to citing correctly in the course program of the AMC Graduate School will hopefully contribute to a further decline in the number of similarities found with existing literature.

5. PROPOSITIONS

UvA Doctorate Regulations article 29 paragraph 8: It is recommended that the doctoral candidate adds a set of propositions to the doctoral thesis. These propositions do not form part of the thesis and should be submitted as supplementary sheets. The number of propositions should be at least six and no more than eleven, and at least six of them should relate to the academic field of study of the faculty. The propositions must be approved by the supervisor.

52 PhD theses included propositions (65%) and 28 did not include propositions (35%).

<i>Number of propositions per thesis</i>	<i>Number of theses with propositions</i>
n=8	2 (4%)
n=9	8 (15%)
n=10	24 (46%)
n=11	12 (23%)
n=12	3 (6%)
n=13	3 (6%)
	<i>Total n=52 (100%)</i>

Conclusion:

14/ In a third of all PhD theses propositions are not included.

Recommendation:
Propositions deserve more attention.

Chairpersons of the thesis defense ceremony Faculty of Medicine UvA 2018

Em.Prof. Piet Kager

Em.Prof. Caro Koning

Em.Prof. Ray Krediet

Em.Prof. Antoon Moorman

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