Young Scientists in ERA-Net Neuron joint call 2009

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Summary

The objective of this paper is to explore the position of young scientists in the 2009 ERA-Net NEURON joint transnational call "Technology Development". This report looks at i) the proportion of young scientists among the all applicants ii) how well they succeeded in the application process. Data for this report is gathered from the pre-proposal and evaluation documents of the NEURON joint call of 2009.[1] The pre-proposals contain a "brief CV" and a list of "5 most relevant publications" of each group leader of the consortium. This data is complemented with information from evaluation documents in order to assess whether the "academic age"[2] and gender of applicants (/members of a consortium) is related to success in the application process. These data as well as the results are described in more detail below.

In summary, based on this examination, the data give no indication of a bias toward older researchers: Success in the application process is not correlated with the indicators of "academic age" of the applicants.

Data and results

The sample consists of ERA-Net NEURON joint call 2009 pre-proposals submitted by 81 consortia (and 81 coordinators respectively). These comprise 315 research groups (group leaders / principal investigators / applicants), 10 of which are part of two consortia[3]. The consortia comprise 3 to 5 research groups from 11 partner countries[4]. 29 consortia were asked to submit a full proposal and 10 of those received funding. Information regarding group leaders and consortia is complemented with evaluation documents, mainly scores of the pre-proposals, whether the consortium was invited to submit a full proposal, and whether the project received funding. Group leaders are examined as individuals (in sections 1, 2 and 3) and as part of the consortium (section 4). The first section discusses some indicators of academic age, the second focuses on gender. The third section covers data on the "5 most relevant publications" and finally the fourth examines the data by consortia. Section 5 lists and describes the variables used.

1. "Academic Age"

This section explores some indicators of academic age of the applicants. In this paper these are:

- Whether the applicant has a PhD degree (or equivalent) and since when ("Years since PhD")
- whether the applicant is a (full) professor and for how long ("Years as professor")

[1] In some cases data are completed with information from the internet.

[2] Due to lack of data, "Academic age" here differs from generally used definitions: Here it refers to a set of separate indicators of academic age such as "years since PhD" (or an equivalent degree), is the applicant a professor, etc.

[3] Doubles are removed / counted only once

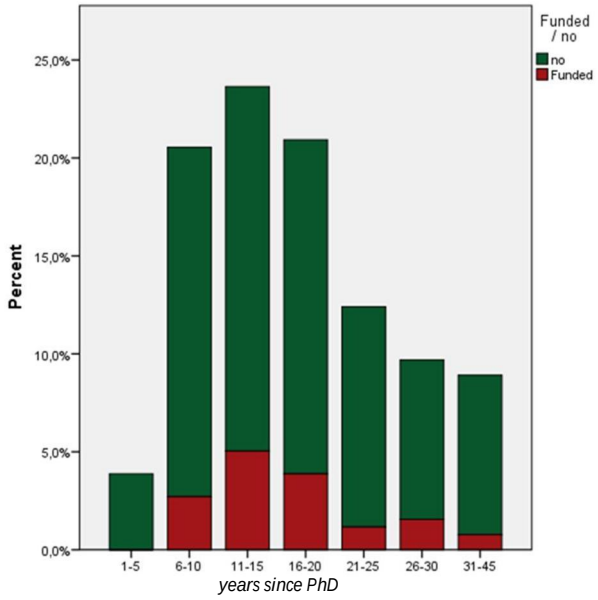
[4] Austria, Finland, France, Germany, Israel, Italy, Luxemburg, Poland, Romania, Spain, UK

(Data were also gathered on "chronological age" of applicants as well as how many years since their post doc period and for how long they had been principal investigators, but these figures proved unreliable: lots of missing cases and uncertain estimates, and were left out for that reason.)
Nearly all group leaders have a PhD degree (or equivalent); 10 are known not to have one (missing data: 31 cases). Table 1a (below) depicts the indicator "Years since PhD" of applicants grouped by whether the applicant is part of a consortium that received funding or not. Mean "years since PhD" are almost the same in the two groups. (The mean of all applicants is 17,3 and median 16.)

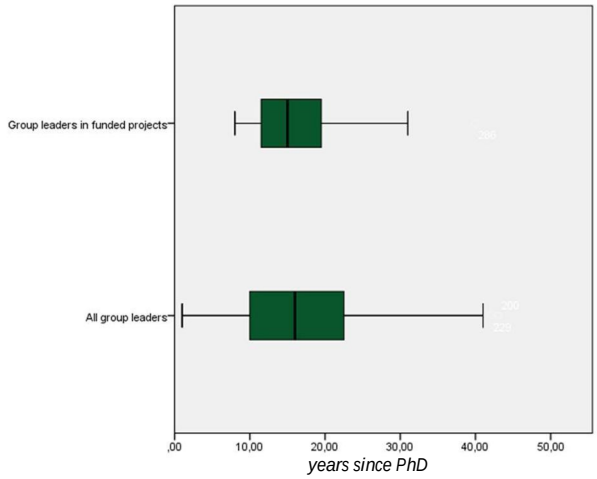
Table 1a: Years since dissertation of applicants

Funded / no		N	Minimum	Maximum	Mean	Std. Deviation
no	Years since PhD	219	1,00	43,00	17,3927	9,01432
	Valid N (listwise)	219				
Funded	Years since dissertation	39	8,00	40,00	16,8974	7,06658
	Valid N (listwise)	39				

The bar chart (Graph 1b) illustrates the same; the two groups are quite evenly distributed. ("Years since PhD" is classified and red color highlights the proportion of individual applicants that were part of a consortium that received funding.)



Graph 1b Years since Phd (Classified) of group leaders (in red: those applicants that are part of a consortium that received funding)



Graph 1c: Graph 1c compares the "Years since PhD" of all applicants and those group leaders that are in partners in funded projects. Medians are almost the same (about 16) but the range differs.

Coordinators are slightly "academically younger" than other partners; mean "years since PhD" of coordinators is 16.2 and the median is 13. There is no correlation between the score of the pre-proposal and "years since PhD" of the coordinator.
Approximately 42 % of the group leaders are (full) professors (119 out of 284, missing cases: 32). "Years as professor" and success in receiving funding are not correlated. The proportion of professors is approximately the same in funded and unfunded projects (Table 1d):

Table 1d: Professor/no * Funded / no Crosstabulation

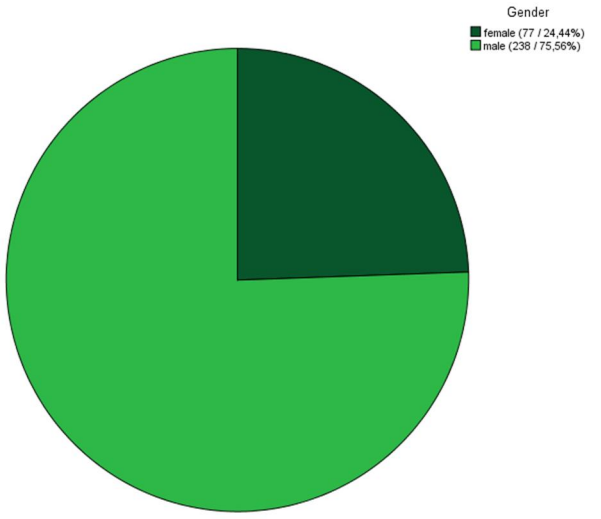
			Funded / no		Total
			no	Funded	
Professor/no	no	Count	141	24	165
		Expected Count	141,2	23,8	165,0
	professor	Count	102	17	119
		Expected Count	101,8	17,2	119,0
Total		Count	243	41	284
		Expected Count	243,0	41,0	284,0

2. Gender

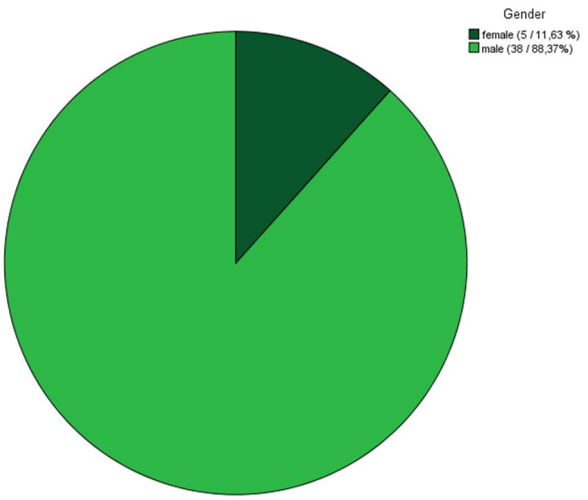
Approximately 25%, (77 out of 315) of group leaders are women. 17 % of them are coordinators, 25 % of them professors. There are 238 men as group leaders, 29 % of them are coordinators and 42 % of them are professors.

Table 2a: Group leaders, Coordinators and Professors classified by gender							
	Female (count)	% of female	% of total	Male (count)	% of male	% of total	Total / missing data
Group Leaders	77	100	25	238	100	75	315 / 0
Coordinators	13	17	16	68	29	84	81 / 0
Professors	19	25	15	100	42	85	119 / 32

The proportion of women and men among all applicants are shown in the pie chart (graph 2a). Graph 2b shows their share in funded projects. The proportion of women is smaller in projects that received funding.

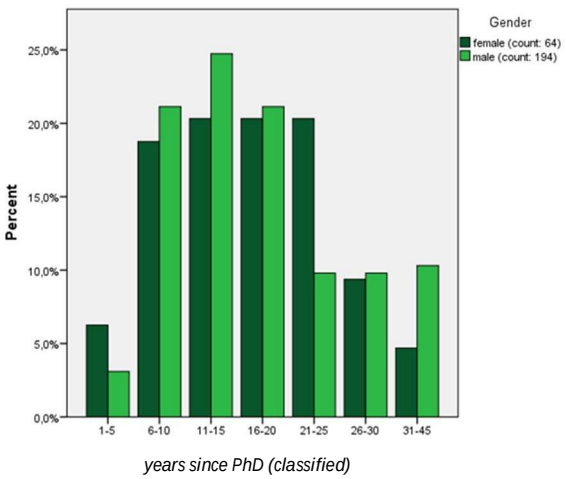


Graph 2a: Share of women



Graph 2b: Share of women in funded projects

Table 2c: Years since PhD, comparison by gender						
Gender		N	Minimum	Maximum	Mean	Std. Deviation
female	Years since PhD	64	3,00	32,00	16,5781	7,71682
	Valid N (listwise)	64				
male	Years since PhD	194	1,00	43,00	17,5619	9,05417
	Valid N (listwise)	194				



Graph 2c: Years since PhD classified, comparison by gender (women as percent-age of women; men as percentage of men)

Table 2c compares "years since PhD" by gender. There are no significant differences.

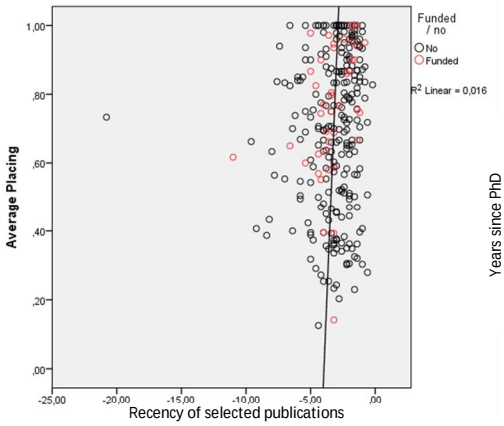
Graph 2c illustrates "Years since PhD classified", comparison by gender, (women as percentage of women, men as percentage of men): They are evenly distributed, but the overall number of women (only 64, missing data: 13) allows for greater uncertainty (chance).

3. Publications

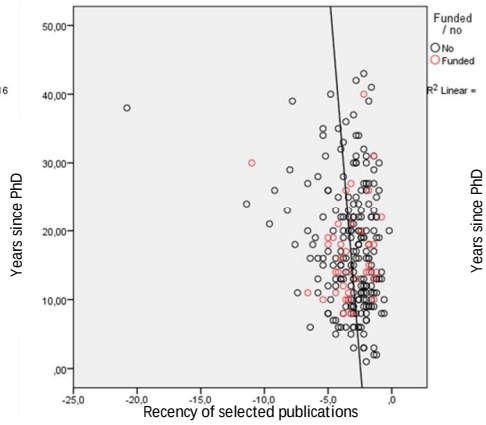
In addition to a brief CV, the applicants were asked to submit a list of “the 5 most relevant publications” (herein referred to as ”selected publications”). Data concerning ”selected publications”:

”Average placing”: Average placing among authors in the 5 selected publications. Scale is from 0 to 1, 1 indicating the ”most senior author”
”Time since publication”: Average year of publication of the selected publications – 2009
”Time range of selected publications”: Length in years between the first and the most recent selected publication

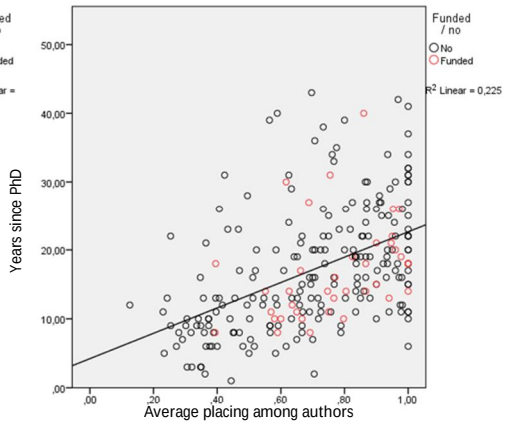
As the previous sections, this one deals with individual applicants, not consortia. Applicants who are part of a consortium that received funding are indicated in red. Below are scatterplot diagrams (Graphs 3a, 3b, 3c) that describe the relations of the above-mentioned variables and “years since PhD”.



Graph 3a: average placing and recency of selected publications



Graph 3b: years since PhD and recency of selected publications



Graph 3c: years since PhD and average placing among authors

Pearson correlation between “average placing” and “time since publication” 0,125 is statistically significant at the 5 % level (two-tailed).
Pearson correlation between “years since PhD” and “time since publication” -0189 is statistically significant at the 1 % level (two-tailed).
Pearson correlation between “years since PhD” and “average placing among authors” 0,474 is statistically significant at the 1 % level (two-tailed).
Correlation between “range of publications” and “years since PhD” 0,161 is also statistically significant at the 1% level.

4. Figures by consortia

This section deals with consortia averages, mainly “average year of dissertation of consortium” and the number of research groups in a consortium. These are handled in two groups: all consortia (81) and those who received funding (10). The small number of funded projects adds to the uncertainty of comparisons.

This reveals nothing new the “academic ages” don't seem to be related to success in the application process / success in receiving funding. Mean “average year of dissertation of consortium” in the sample is 1992 and standard deviation 6,16. Mean “average year of dissertation of consortium” that received funding is also 1992, with standard deviation slightly smaller: 4,5. However, size of consortium seems to matter; the larger the consortium, the more likely it is that applicants have received funding. (Average size of all consortia is 4 research groups, average size of consortia that received funding is 4,2. Aver-age size of consortia whose pre-proposal was unsuccessful is 3,8.)