ERUA

SURVEY ON INTERNATIONALIZATION AND NETWORKING NEEDS OF ERUA EARLY CAREER RESEARCHERS

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MS.17 ERUA Early Career Researchers Development Strategy

WP no: WP3
Lead Beneficiary: UP8
Description: Research conducted and strategy developed
Means of Verification: Publication of the strategy.
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1. INTRODUCTION TO THE SURVEY

This study was conducted between June and July 2024 across eight ERUA partner universities using an online survey method via the EU SURVEY platform with contributions from the ERUA Doctoral School Assembly. Its objective was to gather data on the perspectives, needs, and expectations of doctoral students (R1) and researchers within seven years post-PhD (R2) regarding networking and internationalization opportunities within their institutions. The primary goal was to identify and develop the networking and internationalization needs of early career researchers (ECRs) in their academic trajectories. The findings will inform the development of the ERUA ECR Strategy, which seeks to address these needs by proposing tailored solutions and outlining an action plan for enhancement in these areas. The following sections present the survey questionnaires designed for both groups (R1 and R2) and the quantitative and qualitative analyses of the collected data. The Doctoral School Assembly, which is a component of ERUA WP3, was responsible for the design, execution, and analysis of this research. Konrad Piotrowski and Gill Philip, who are members of this assembly, made critical contributions to the quantitative and qualitative analyses, respectively.

2. FINDINGS FROM THE SURVEY CONDUCTED WITH R1 PARTICIPANTS (DOCTORAL STUDENTS)

The findings highlight several key themes regarding the needs and expectations of R1 population related to networking and internationalization within their institutions. We will analyse these principal topics under five primary areas outlined below.

2.1. Description of Demographic Information

2.1.1. Affiliation and Participation Rate

The study included 300 respondents from ERUA partner universities. The largest group of PhD candidates came from the University of Macerata in Italy (63 participants, 21%), followed by the University Paris 8 in France (52 participants, 17.3%). Other participants were affiliated with New Bulgarian University in Bulgaria (20 participants, 6.7%), Mykolas Romeris University in Lithuania (34 participants, 11.3%), SWPS

University in Poland (27 participants, 9%), European University Viadrina Frankfurt in Germany (46 participants, 15.3%), University of Las Palmas in Spain (46 participants, 15.3%), and the University of the Aegean in Mytilene, Greece (12 participants, 4%).

Table 1. University Affiliation

University	n	%
University of Macerata (Italy)	63	21.0
University Paris 8 (France)	52	17.3
New Bulgarian University (Bulgaria)	20	6.7
Mykolas Romeris University (Lithuania)	34	11.3
SWPS University (Poland)	27	9.0
European University Viadrina Frankfurt (Germany)	46	15.3
University of Las Palmas (Spain)	46	15.3

University of the Aegean in Mytilene (Greece)	12	4.0

2.1.2. Age

The data shows that the average age of participants was 34.66 years, with ages ranging from 24 to 66 years.

Table 2. Age of the Participants

Statistic	Age
Mean	34.66
Min	24.0
Max	66.0

2.1.3. Gender

Of the 297 participants who provided gender information, 59.3% (176 participants) identified as female, 37% (110 participants) as male, 2.4% (7 participants) preferred not to disclose their gender, and 1.3% (4 participants) identified as non-binary or third gender.

Table 3. Gender of the Participants

Gender	n	%
Female	176	59.3
Male	110	37.0
Non-binary/Third gender	4	1.3
Prefer not to say	7	2.4

2.1.4. Nationality

The study included PhD candidates from a wide range of countries. The majority were from Italy (66 participants, 22.2%), Poland (42 participants, 14.1%), France (26 participants, 8.8%), Spain (19 participants, 6.4%), Bulgaria (19 participants, 6.3%), Lithuania (28 participants, 9.4%), Ukraine (6 participants, 2.0%), and the United Kingdom (1 participant, 0.3%). Other participants hailed from Brazil, Morocco, Canada, Germany, the USA, and several other countries.

Table 4. Gender of the Participants

Country	n	%
Italy	66	22.2
Poland	42	14.1

France	26	8.8
Germany	35	11.8
Spain	19	6.4
Bulgaria	19	6.3
Lithuania	28	9.4
Ukraine	6	2.0
United Kingdom	1	0.3
Other countries	58	19.5

2.2. General Information about the Thesis Process

2.2.1. Year of Doctorate

Among the respondents, 30.5% (91 participants) were in the first year of their doctoral program, 21.8% (65 participants) in the second year, 18.8% (56 participants) in the third year, 13.1% (39 participants) in the fourth year, 8.4% (25 participants) in the fifth year, and 7.4% (22 participants) were in the sixth year or later.

Table 5. Year of Doctorate of the Participations

Year of Doctorate	n	%
First Year	91	30.5
Second Year	65	21.8
Third Year	56	18.8
Fourth Year	39	13.1
Fifth Year	25	8.4
Sixth Year or Later	22	7.4

2.2.2. Doctoral Discipline

The majority of participants pursued their doctorate in the following disciplines: Arts and Humanities (97 participants, 32.4%), Social and Behavioral Sciences (67 participants, 22.4%), Law (31 participants, 10.4%), Education (29 participants, 9.7%), Business and Economics (28 participants, 9.4%), Engineering and Technology (19 participants, 6.4%), Medical and Health Sciences (8 participants, 2.7%), and Natural Sciences (9 participants, 3%).

Table 6. Doctoral Discipline of the Participants

Discipline	n	%
Arts and Humanities	97	32.4

Social and Behavioral Sciences	67	22.4
Law	31	10.4
Education	29	9.7
Business and Economics	28	9.4
Engineering and Technology	19	6.4
Medical and Health Sciences	8	2.7
Natural Sciences	9	3.0

2.2.3. Financial Resources during PhD (all types of funding, including salary)

Out of 298 respondents, 18.5% (n=55) self-funded their research, 35.2%% (105 participants) received scholarships, 39.6% (n=118) were employed in academic positions, and 14.1% (n=42) worked outside academia. Additionally, 6.4% (n=19) had other funding sources (e.g., external grants).

Table 7. Participants' Research Funding

Funding Source	n	%
Scholarship	193	64.8

Academic Employment	118	39.6
Non-Academic Employment	42	14.1
Other Funding Sources	19	6.4

2.3. Internationalization and Networking: Visibility, Collaboration, and Mobility Opportunities

2.3.1. Language Barriers

21.2% of respondents (n=63) reported facing barriers related to their proficiency in English writing and expression. However, the vast majority (78.8%) of the study's respondents did not consider language level to be an obstacle to their development.

Table 8. Language Barriers

Language Barrier Encountered	n	%
Yes	63	21.2
No	234	78.8

2.3.2. Conference Participation

75.6% of participants (n=226 participants) reported having had the opportunity to attend and present their research findings at international conferences or symposia, while 24.4% (n=73) had not yet had such opportunities.

Table 9. Conference Participation

Conference Participation	n	%
Yes	226	75.6
No	73	24.4

2.3.3. International collaboration

Most respondents rated the support provided by their university for national collaboration positively, with a majority (32.6%) rating it as "Good" and 17.1% as “Very good.” Only a portion of respondents (11.1%) rated the support as "Very poor" or “Poor” (12.8%).

Table10. Level of support provided by university for international collaboration

level of support	**n**	**%**
Very poor	33	11.1
Poor	38	12.8

Neutral	79	26.5
Good	97	32.6
Very good	51	17.1

2.3.4. Collaborative Research and Projects

45.9% of respondents (n=136) were involved in international research collaborations or joint projects, while 54.1% (n=160) had not participated in such opportunities.

Table11. Participation in International Collaborations

Participation in International Collaborations	n	%
Yes	136	45.9
No	160	54.1

2.3.5. Mobility Opportunities

Among the respondents, 30.5% (n= 91) found mobility opportunities sufficient or highly sufficient (8.1%), while 15.4% (n=46) rated them as insufficient, and 6.7% (n=20) found them highly insufficient.

Table 12. Mobility Opportunities

Sufficiency Level	n	%
Highly Sufficient	24	8.1
Sufficient	91	30.5
Somewhat Sufficient	82	27.5
Insufficient	46	15.4
Highly Insufficient	20	6.7

2.3.6. International visibility

International visibility was highly regarded by respondents, with the majority (60.7%) considering it "Very important" to their research and academic career. Only 1.3% felt it was "Not important."

Table 13. Perspectives on the importance of academic visibility

international visibility	**n**	**%**
Not Important	4	1.3
Somewhat important	32	10.7
Important	81	27.2
Very important	181	60.7

2.3.7. Networking opportunities

50.2% of respondents (n=150) actively sought networking opportunities with researchers from other countries in their field, while 49.8% (n=149) did not engage in such activities.

Table 14. Networking Opportunities

Actively Seeking Networking Opportunities	n	%
Yes	150	50.2
No	149	49.8

2.3.8. Exchange programs

A large majority (70.4%) of respondents did not participate in international exchange programs or research visits during their PhD studies, while 29.6% reported having participated in such opportunities.

Table 15. International exchange programs or research visits during PhD studies

Response	n	%
Yes	88	29.6
No	209	70.4

2.3.9. International exposure

Nearly half of the respondents (47.6%) believed that international exposure and collaboration moderately contributed to their academic and professional development, with 34.8% considering it a significant factor.

Table 16. International exposure and collaboration

Response	n	%
Slightly	49	16.6

Moderately	141	47.6
Significantly	103	34.8

2.3.10. Current mobility opportunities

Respondents were divided in their assessment of current mobility opportunities for PhD students, with a large group finding them either "Sufficient" (30.5%) or "Somewhat sufficient" (27.5%), while 22.1% found them to be insufficient or highly insufficient. On the other hand, 8.1% found mobility opportunities as highly sufficient.

Table 16. Current mobility opportunities for PhD students

Response	**n**	**%**
Highly Insufficient	20	6.7
Insufficient	46	15.4
Somewhat Sufficient	82	27.5
Sufficient	91	30.5

Highly Sufficient	24	8.1
Not Applicable	35	11.7

2.4. Supervision and Mentorship

2.4.1. Support from a supervisor

The majority of respondents felt supported in setting achievable research goals, with 35.4% reporting they were "Significantly" supported, while only a small percentage (3.4%) reported feeling "Not at all" supported.

Table 17. Support in setting achievable goals for research

Response	**n**	**%**
Not at all	10	3.4
Slightly	23	7.7
Moderately	101	34.0

Significantly	105	35.4
Extremely	58	19.5

2.4.2. Supervisor's guidance

A substantial portion of respondents (38.8%) reported feeling that there was a lack of information about post-PhD career options, whereas a majority (61.2%) did not perceive any such lack of information.

Table 18. Guidance provide by supervisor on research objectives and milestones

Response	**n**	**%**
Not at all	13	4.4
Slightly	32	10.8
Moderately	84	28.4
Significantly	100	33.8
Extremely	67	22.6

2.4.3. Supervisor improvement

Most of the respondents (67.2%) indicated that they did not feel their supervisor needed improvement in their mentorship approach. However, 32.8% felt there were areas for improvement.

Table 19. Areas for improvement in primary supervisor's mentorship

Response	n	%
No	199	67.2
Yes	97	32.8

2.4.4. Contact with a supervisor

The largest group of respondents (42%) reported being in contact with their supervisor several times per semester. Frequent contact (once a week or more) was noted by 47.1% of respondents, while less frequent contact was reported by a minority.

Table 20. Frequency of contact with primary supervisor

Response	n	%
Less than once per semester	12	4.1

About once per semester	20	6.8
Several times per semester	124	42.0
Once per week	67	22.7
Several times per week	72	24.4

2.4.5. Support for international collaboration:

A large majority of respondents (71.8%) rated the support from their supervisors for international collaboration and mobility as "Good," while a small portion (11.9%) rated it negatively (Very poor or Poor).

Table 21. Level of encouragement and support provided by supervisors for international collaboration and mobility

Response	**n**	**%**
Very poor	18	6.1
Poor	17	5.8
Neutral	48	16.3

Good	211	71.8

2.4.6. Adequate training

A majority of respondents (62.2%) reported receiving adequate training and support for their research, though a significant portion (37.8%) felt they had not.

Table 22. Adequacy of Training and Support for Research Work

Response	**n**	**%**
No	111	37.8
Yes	183	62.2

2.5. Training and Development

2.5.1. Psychological difficulties

The most commonly reported negative experiences were Stress (74.4%) and Anxiety (64.6%). A smaller percentage of respondents reported Harassment (6.4%) or Other issues (6.7%). The feeling of isolation was also relatively highly prevalent, with 47.4% of doctoral students indicating this as their experience.

2.5.2. Support system for doctoral students

Most respondents (52.9%) were unsure if adequate support systems were in place to address negative experiences or psychological problems. About 28.1% reported that such systems were not in place, while 19% indicated that they believed adequate support systems were available.

Table 23. Negative experiences or psychological problems (Multiple-choice, Yes responses)

Category	n	%
Stress	221	74.4
Isolation	141	47.5
Harassment (verbal or physical)	19	6.4
Anxiety	192	64.6

None of the above	36	12.1
Other	20	6.7

2.5.3. Support system

Most respondents (52.9%) were unsure if adequate support systems were in place to address psychological problems. A smaller portion (28.1%) indicated that such systems were not in place, while only 19% believed support systems were available.

Table 24. Availability of support systems to address these issues

Response	**n**	**%**
Yes	56	19.0
I don't know	156	52.9
No	83	28.1

2.5.4. Preferred training topics

The most frequently selected topics for inclusion in the PhD training program were Academic Writing and Publishing (67.2%) and Advanced Research Methodologies (63.9%). Grant Writing and Funding Acquisition was also selected by 59.4% of respondents.

Table 25. Preferred training topics for ERUA PhD program (Multiple-choice, Yes responses)

Category	n	%
Advanced Research Methodologies	189	63.9
Academic Writing and Publishing	199	67.2
Presentation and Communication Skills	133	44.9
Data Management and Statistical Analysis	134	45.3
Career Development and Planning	158	53.4
Grant Writing and Funding Acquisition	176	59.4

2.5.5. Doctoral clubs or networks

Most respondents (63.1%) were not involved in any doctoral clubs or networks, while 36.9% reported being involved in such groups.

Table 26. Involvement in doctoral clubs or networks

Response	n	%
Yes	110	36.9
No	188	63.1

2.5.6. Committees for scientific feedback

A majority (72.8%) of respondents indicated that they had not participated in committees providing scientific feedback, with only 27.2% reporting participation.

Table 27. Participation in follow-up committees for scientific feedback on research

Response	n	%
Yes	80	27.2

No	214	72.8

2.5.7. Informal or formal groups

A significant portion of respondents (59.9%) reported being part of an informal or formal working group, while 40.1% indicated they were not involved in such groups.

Table 28. Participation in informal or formal working group

Response	**n**	**%**
Yes	178	59.9
No	119	40.1

2.5.8. Career aspirations (field, sector, country preference, etc.)

The majority of respondents (76%) indicated that they planned to pursue an academic career. However, significant proportions also considered careers in the Public Sector (40.9%) and Private Sector (32.8%). A smaller number planned careers in International Organizations/NGOs (28%) or Entrepreneurship (16.9%).

Table 29. Planned career paths (Multiple-choice, Yes responses

Category	n	%
Academic	225	76.0
Private Sector	97	32.8
Public Sector	121	40.9
International Organizations/NGOs	83	28.0
Entrepreneurship	50	16.9

2.5.9. Work abroad

The majority of respondents (56.9%) had not yet decided whether they plan to work abroad, while 23.6% indicated that they plan to, and 19.5% responded that they do not plan to work abroad.

Table 30. Working abroad

Response	n	%
Yes	70	23.6

No	58	19.5
Not yet decided	169	56.9

2.5.10. Lack of information

A significant portion of respondents (38.8%) felt there was a lack of information regarding post-PhD career options, while 61.2% did not feel this was an issue.

Table 31. Areas lacking information regarding post-PhD career options

Response	**n**	**%**
Yes	114	38.8
No	180	61.2

In conclusion, the demographic analysis of the survey respondents highlights a diverse representation of PhD candidates with the largest group affiliated with the University of Macerata in Italy. The average age of participants was 34.66 years with a majority identified as female. The participants came from a broad spectrum of countries, with the largest group from Italy, followed by Poland and France. In terms of doctoral disciplines, most participants are pursuing degrees in Arts and Humanities, Social and Behavioral Sciences, and Law. The distribution of participants across various years of their doctoral studies indicates that a significant proportion is in the early stages of their PhD, though some are in more advanced stages. This diverse demographic and academic background from 8 different European universities provide a solid

foundation for understanding the varied needs and expectations of PhD candidates regarding networking, internationalization, and professional development.

The findings suggest that the majority of PhD students involved in the study view international visibility as central for their academic careers. However, many face significant barriers to mobility and international collaboration, including language difficulties and insufficient financial resources for mobility. Approximately 45.9% of respondents reported participating in international research collaborations, while 54.1% had not. Additionally, 21.2% cited challenges related to English proficiency. Regarding mobility opportunities, 30.5% considered the available options to be sufficient, whereas 15.4% found them inadequate. Stress and anxiety were also prevalent, with 74.4% and 64.6% of participants, respectively, reporting these as ongoing issues. A substantial number of respondents expressed the need for increased support and guidance, particularly in areas such as career development and international networking.

3. FINDINGS FROM THE SURVEY CONDUCTED WITH R2 PARTICIPANTS (POST-DOCTORAL RESEARCHERS)

The findings from the survey conducted with R2 participants underscore several important themes related to their needs and expectations in terms of networking and internationalization within their institutions. These central themes will be analysed across five main categories outlined below.

3.1. Description of Demographic Information

3.1.1. Affiliation and Participation Rate

The majority of respondents were affiliated with SWPS University, representing 41.5% of the total group. The next largest group was from European University Viadrina Frankfurt (12.7%), followed by the University of Macerata (11%) and New Bulgarian University (10.2%). Smaller representations came from the University of Las Palmas (7.6%), Mykolas Romeris University (7.6%), University Paris 8 (5.1%), and University of the Aegean (4.2%).

Table 1. University affiliation of the respondents

University	n	Percentage
New Bulgarian University	12	10.2%
University of Las Palmas	9	7.6%
SWPS University	49	41.5%
European University Viadrina Frankfurt	15	12.7%
University of Macerata	13	11%
University of the Aegean	5	4.2%
University Paris 8	6	5.1%
Mykolas Romeris University	9	7.6%

3.1.2. Age

The ages of respondents ranged from 30 to 71 years. The average age was 38.12 years, with a standard deviation of 5.45 years. Most respondents were in their 30s, with the largest age group being those aged 37 (13.9%), followed by those aged 36 (9.6%) and 35 (8.7%).

Table 2. Age distribution of the respondents

	Mean	Standard Deviation
Age	38.12	5.45

3.1.3. Gender

In terms of gender, the majority of respondents identified as female, making up 61.4% of the total group. Males constituted 36%, while a small fraction (1.8%) preferred not to disclose their gender, and 0.9% identified as non-binary or third gender.

Table 3. Gender distribution of the respondents

Gender	n	Percentage
Female	70	61.4%

Male	41	36.0%
Prefer not to disclose	2	1.8%
Non-binary/Third gender	1	0.9%

3.1.4. Nationality

Respondents represented a diverse range of nationalities. The largest group came from Poland (40.7%), followed by participants from Italy (11.9%), and Germany (8.5%). Other countries with significant representation included Bulgaria (10.2%) and Spain (8.5%). A smaller number of respondents came from Ukraine (3.4%), Greece (4.2%), and other countries.

Table 4. Nationality of the respondents

Nationality	**n**	**Percentage**
Poland	48	40.7%
Italy	14	11.9%

Germany	10	8.5%
Bulgaria	12	10.2%
Spain	10	8.5%
Ukraine	4	3.4%
Greece	5	4.2%
Others	15	12.7%

3.2. General Information about Research

3.2.1. Funding sources for research

Respondents were asked to indicate the sources of funding for their research. This was a multiple-choice question. The majority (93.2%) were employed in academic positions, while only 3.4% received scholarships. Non-academic employment was reported by 7.6%, and very few respondents (0.8%) had no current funding.

Table 5. Funding sources for research

Funding Source	Yes	No	Percentage (Yes)
Academic Employment	110	8	93.2%
Scholarship	4	114	3.4%
Non-Academic Employment	9	109	7.6%
No Current Funding	1	117	0.8%
Other	3	115	2.5%

3.2.2. Research discipline

Respondents conducted research in various academic disciplines. The most common discipline was Social and Behavioral Sciences (54.3%), followed by Arts and Humanities (23.3%). Natural Sciences and Law were less common, with 6.9% and 7.8% of respondents respectively. Participants also conducted studies in Medical and health (6.0%), engineering (2.6%), business (8.6%) and education (6%).

Table 6. Research disciplines of the respondents

Discipline	Yes	No	Percentage (Yes)

Social and Behavioral	63	53	54.3%
Arts and Humanities	27	89	23.3%
Natural Sciences	8	108	6.9%
Law	9	107	7.8%
Medical and Health	7	109	6.0%
Engineering and Technology	3	113	2.6%
Business and Economics	10	106	8.6%
Education	7	109	6.0%

3.2.3. Availability of Resources

Respondents were asked to rate the availability of resources and facilities (such as libraries, research materials, software tools, laboratory equipment, etc.) in their research environment. The majority (45.8%) rated these resources as "Good", while 8.5% rated them as “Very good” and 31.4% rated them as "Neutral". A small percentage (2.5%) reported the availability as "Very Poor".

Table 7. Availability of resources and facilities

Availability of Resources	n	Percentage
Very Poor	3	2.5%
Poor	14	11.9%
Neutral	37	31.4%
Good	54	45.8%
Very Good	10	8.5%

3.2.4. Missing Resources:

43.2% of respondents indicated that there were specific resources or facilities lacking in their research environment, while 54.9% felt there were no significant shortages.

Table 8. Missing resources or facilities in the research environment

Missing Resources	n	Percentage
Yes	51	45.1%
No	62	54.9%

3.3. Mentorship and Guidance Satisfaction in Career Development

3.3.1. Training and support need for research

Most respondents (59.5%) felt they had received adequate training and support for their research work, while 40.5% indicated that they had not received sufficient support.

Table 9. Adequate training and support for research work

Adequate Training and Support	n	Percentage
Yes	69	59.5%
No	47	40.5%

3.3.2. Specific training and skill development need

Respondents identified various areas where they required additional training or skill development. The most common need was for grant writing for international funding opportunities (77.6%), followed by building international research networks (65.5%) and strategies for finding international collaborators (53%).

Table 10. Specific training and skill development needs

Skill Development Area	Yes	No	Percentage (Yes)
Grant writing for international funding	90	26	77.6%
Building international research networks	76	40	65.5%
Job searching, CV preparation, presenting candidacy	41	75	35.3%

Cross-cultural communication	25	92	21.4%
Strategies for finding international collaborators	62	55	53.0%
Publishing and dissemination	68	49	58.1%

3.3.3. Mentorship and Guidance

Slightly over half of the respondents (52.1%) reported receiving mentorship or guidance for their career development, while 47.9% indicated they had not been provided with such support.

Table 12. Mentorship and guidance in career development

Mentorship and Guidance Provided	n	Percentage
Yes	61	52.1%
No	56	47.9%

3.3.4. Mentorship and Guidance Satisfaction

Of those who received mentorship, 31.6% were satisfied with the support provided, while 20% were very satisfied. A smaller portion (8.4%) was very dissatisfied with the mentorship they received.

Table 13. Satisfaction with mentorship or guidance received

Satisfaction with Mentorship	n	Percentage
Very Dissatisfied	8	8.4%
Dissatisfied	9	9.5%
Neutral	29	30.5%
Satisfied	30	31.6%
Very Satisfied	19	20.0%

3.4. Internalization and Communication

3.4.1. Mobility opportunities

The majority of respondents (61%) found mobility opportunities (such as research exchanges, visiting fellowships, and international collaborations) to be sufficient for enhancing their professional development. However, 18.6% rated the opportunities as insufficient, and 9.3% found them highly sufficient.

Table 14. Mobility opportunities for professional development

Mobility Opportunities	n	Percentage
Highly Insufficient	1	0.8%
Insufficient	22	18.6%
Somewhat Sufficient	34	28.8%
Sufficient	38	32.2%
Highly Sufficient	11	9.3%

Not Applicable	12	10.2%

3.4.2. International Collaboration

A large majority of respondents (77.4%) reported having had the opportunity to collaborate with researchers from other countries, highlighting the significance of international collaboration in academic careers.

Table 15. International collaboration opportunities during career

International Collaboration	n	Percentage
Yes	89	77.4%
No	26	22.6%

3.4.3. Importance of international collaboration

Most respondents (72.2%) considered international collaboration "Very important" for their research and career development, with an additional 21.7% rating it as "Important."

Table 16. Importance of international collaboration for career development

Importance of International Collaboration	n	Percentage
Not Important	2	1.7%
Somewhat Important	5	4.3%
Important	25	21.7%
Very Important	83	72.2%

3.4.4. International scientific collaborations

A significant proportion (91.4%) of respondents had participated in international conferences, symposiums, or workshops to present their research findings, with only 8.6% indicating they had not had such opportunities.

Table 17. Participation in international conferences, symposiums, or workshops

Participation in International Conferences	n	Percentage
Yes	106	91.4%

No	10	8.6%

3.4.5. Language barriers

Most respondents (82.8%) did not face language barriers in networking or collaborating internationally, while 17.2% reported that language proficiency was a barrier for them.

Table 18. Language barriers in international collaboration

Language Barriers in Collaboration	n	Percentage
Yes	20	17.2%
No	96	82.8%

3.4.6. Search for networking and collaboration opportunities

The majority (73.3%) of respondents actively sought networking opportunities with researchers from other countries, while 26.7% did not engage in such activities.

Table 19. Actively seeking networking opportunities with researchers from other countries

Actively Seeking Networking	n	Percentage

Yes	85	73.3%
No	31	26.7%

3.4.7. Networking and collaboration opportunities offered by institutions

When asked about the level of support provided by their institution or funding agencies for international networking, 30.4% rated it as "Good" and 40% as "Neutral." However, 17.4% felt the support was "Poor," and only 7.8% rated it as "Very Good."

Table 20. Support provided by institutions for international networking

Support for International Networking	n	Percentage
Very Poor	5	4.3%
Poor	20	17.4%
Neutral	46	40.0%
Good	35	30.4%

Very Good	9	7.8%

3.4.8. Evaluation of different aspects of available collaborative research opportunities

Respondents evaluated collaboration opportunities in three areas. The table below shows the percentage of respondents who answered "Yes" to each type of collaboration opportunity. The most frequently reported opportunity was for International Collaboration, with 42.3% of respondents indicating availability. Interdisciplinary Projects followed with 35.1%, and Industry Partnerships were available to 29.5% of the respondents. The table 21 shows the percentage of respondents who indicated "Yes" for each type of collaboration opportunity.

Table 21. Available collaborative research opportunities

Collaboration Area	Percentage (Yes)
Interdisciplinary Projects	35.1%
Industry Partnerships	29.5%
International Collaboration	42.3%

3.5. Professional Development

3.5.1. Career progression satisfaction

61.2% of respondents were satisfied with their current career progression, while 38.8% were dissatisfied.

Table 22. Satisfaction with current career progression

Satisfaction with Career Progression	n	Percentage
Yes	71	61.2%
No	45	38.8%

3.5.2. Main barriers in advancing career

Respondents identified several barriers to career advancement. Limited funding opportunities were the most commonly reported barrier (52.5%), followed by the lack of permanent academic positions (44.9%), lack of opportunities for advancement (39.8%), lack of compatibility with family responsibilities (38.1%) and lack of recognition (32.2%).

Table 23. Barriers to career advancement

Barrier	Yes	No	Percentage (Yes)
Limited funding opportunities	62	56	52.5%
Lack of recognition	38	80	32.2%
Lack of permanent positions in academia	53	65	44.9%
Compatibility with family responsibilities	45	73	38.1%
Lack of opportunities for advancement	47	71	39.8%

In conclusion, the majority of respondents were affiliated with SWPS University (41.5%) and represented a variety of nationalities, primarily from Poland (40.7%). The largest age group was in their 30s, with 61.4% identifying as female. In terms of research support, 93.2% of respondents were employed in academic positions, predominantly within the Social and Behavioral Sciences (54.3%). Although 45.8% rated their available resources as 'Good,' 43.2% reported a lack of essential resources. Regarding training, 59.5% felt they received adequate support; however, a large proportion expressed a need for further skill development, particularly in grant writing (77.6%) and establishing international networks (65.5%). While 77.4% engaged in international collaborations, 17.2% encountered language barriers, and only 61% considered mobility opportunities sufficient. Career advancement satisfaction was 61.2%, with notable challenges cited as limited funding (52.5%) and a lack of permanent academic positions (44.9%). These findings underscore the need for enhanced support in career advancement, networking, and resource access for researchers in the postdoctoral phase.

4. QUALITATIVE ANALYSIS

Alongside the quantitative data gathered, qualitative data offers profound insights into the personal experiences, expectations, and needs of ECRs. The survey's open-ended questions enabled participants to articulate their opinions in their own words, providing contextual information that enhances the quantitative results. We applied a recursive analysis method to examine this qualitative data using a systematic strategy that entails assigning similar responses to provisional categories, then refining, extending and splitting these categories as patterns emerge in the written responses. Below, the qualitative analysis of the responses provided by the R1 and R2 groups to the open-ended questions is presented.

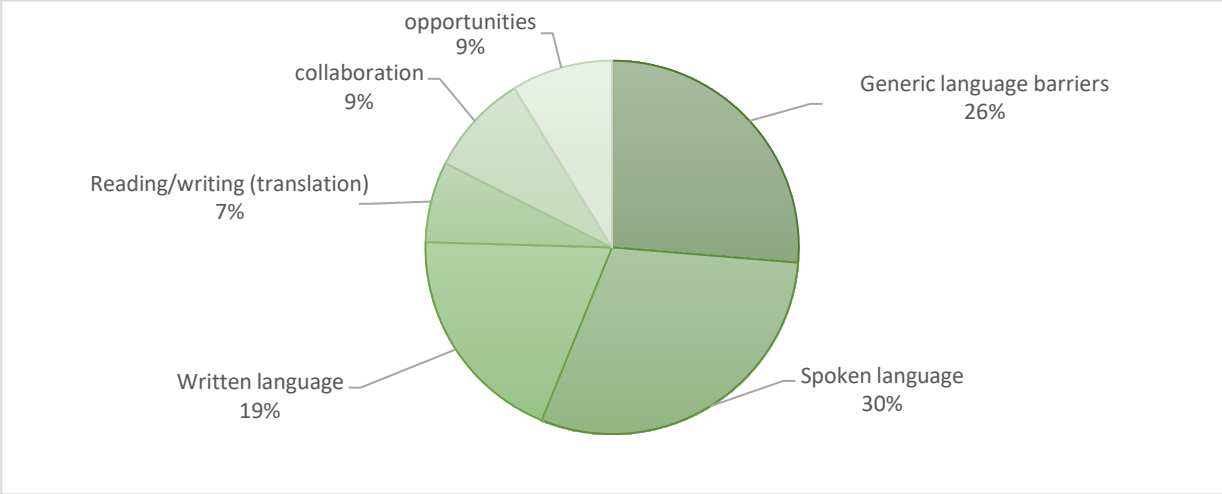
4.1. SUMMARY OF CATEGORIES/RESPONSES FOR DOCTORAL STUDENTS (R1)

Q8- Do you face any barriers due to lack of proficiency in English writing and expression?

No response – 1

NO – 234

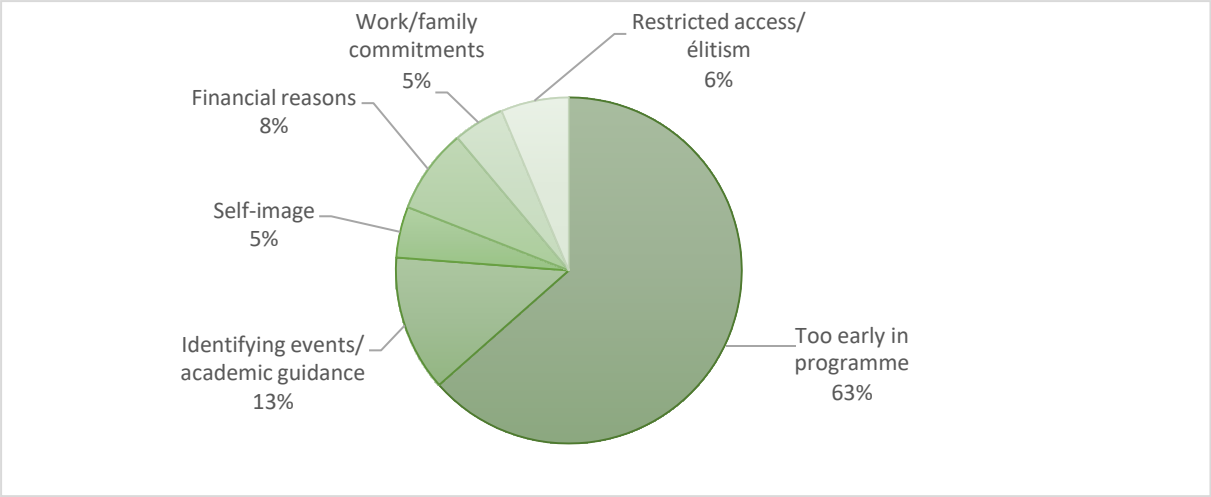
YES – 63, of whom **46** provide additional details



Problems with English in conducting/communicating research				Problems in relation to networking	
Generic language barriers	**Spoken language**	**Written language**	**Reading/writing (translation)**	**collaboration**	**opportunities**
15	17	11	4	5	5
I have a C1 in English, but the scientific language is far more complicated	*It's very hard and stressful to talk during conference, specifically in the case of unprepared, spontaneous talks*	*The time I need to write an article and I have to prepare a presentation*		*Limited options for networking, collaboration with partners and institutions from English speaking countries.*	*Due to the level of English requested by Interviews and scholarships*

Q9- Have you had the opportunity to attend or to present your research findings at international platforms such as conferences or symposiums related to your field of research during your PhD studies?

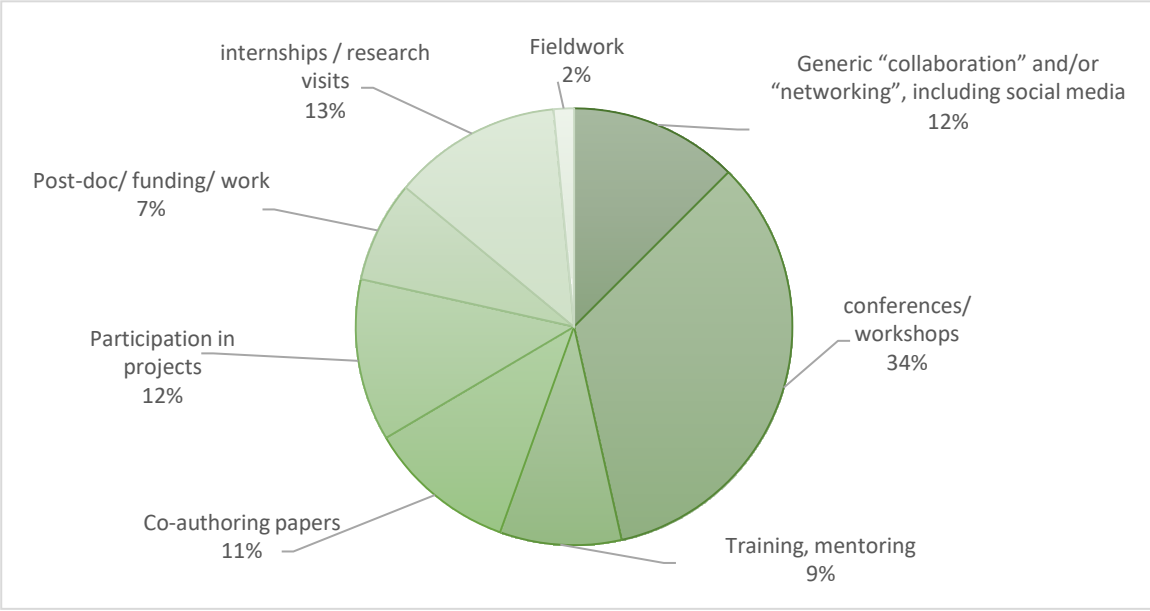
No response – 0
YES - 226
NO – 73, of whom **60** provide further details (one writes simply 'no reason' so was excluded)



Academic factors			Exclusion/social factors		
Too early in programme	**Identifying events/ academic guidance**	**Self-image**	**Financial reasons**	**Work/family commitments**	**Restrict d access/ élitism**
40	**8**	**3**	**5**	**3**	**4**
Too early for presenting results	*it is hard to find conferences that would fit my thesis idea.*	*lack of self-confidence,*	*Due to the lack of funding*	*Family and Work responsibilities have not allowed me to get far in my research*	*In my research area, only completed PhD studies are being presented.*

Q13- Do you actively seek out networking opportunities with researchers from other countries in your field of study?

No response – 0
NO – 149
YES – 254, of whom **125** commented on the follow-up question "**If yes, please specify what kind of opportunities**". Many of these responses cite multiple opportunities, which are separated out in the following analysis.

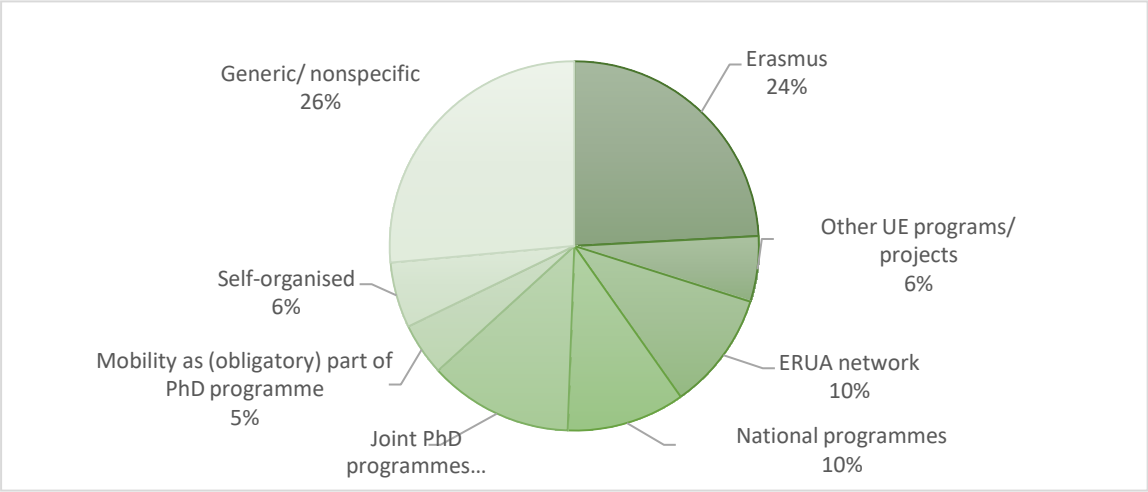


"collaboration"/ "networking", incl. social media	Conferences/ workshops	Training, mentoring	Co-authoring papers	Participation in projects	Post-doc/ funding/ work	Internships/ research visits	Fieldwork
25	**68**	**18**	**22**	**24**	**15**	**25**	**3**
	trying to keep in touch with	*I personally contact*					

	researchers met in seminar or conference	*researchers who have conducted similar research*					

Q14- Have you participated in any international exchange programs or research visits during your PhD studies?

No response – 3
NO – 209
YES – 88, of whom **83** comment on follow-up question- "**If yes, please specify which program**:".

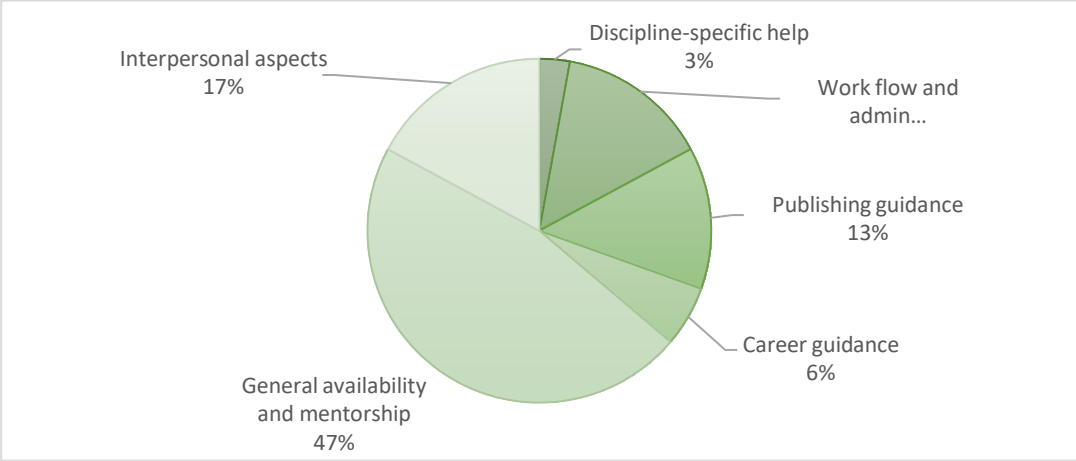


Erasmus	**Other UE programs/ projects**	**ERUA network**	**National programmes**	**Joint PhD programmes**	**Mobility as (obligatory) part of PhD programme**	**Self-organised**	**Generic/ nonspecific**

21	**5**	**9**	**9**	**11**	**4**	**5**	**23**
	COST *MSCA* *RISE* *TRUST*	*ERUA PhD conferences* *ERUA summer school*	*COFECUB* *DAAD* *NAWA*				

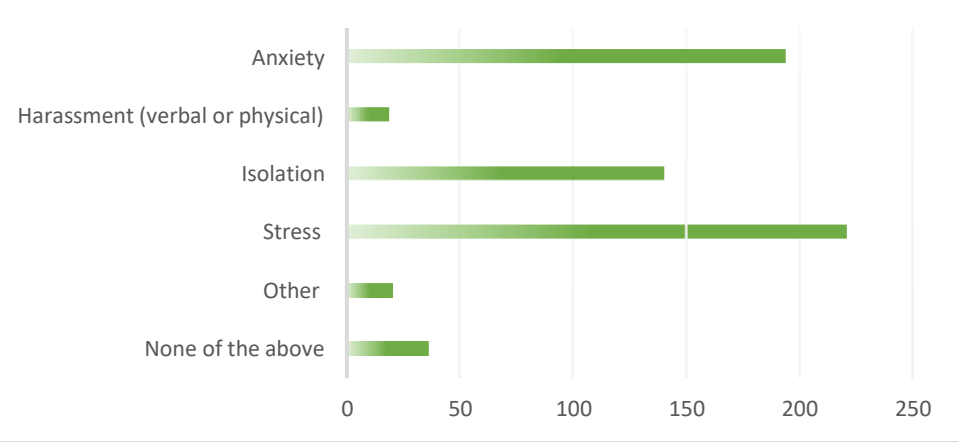
Q19- Are there any specific areas where you feel your primary supervisor could improve their mentorship approach?

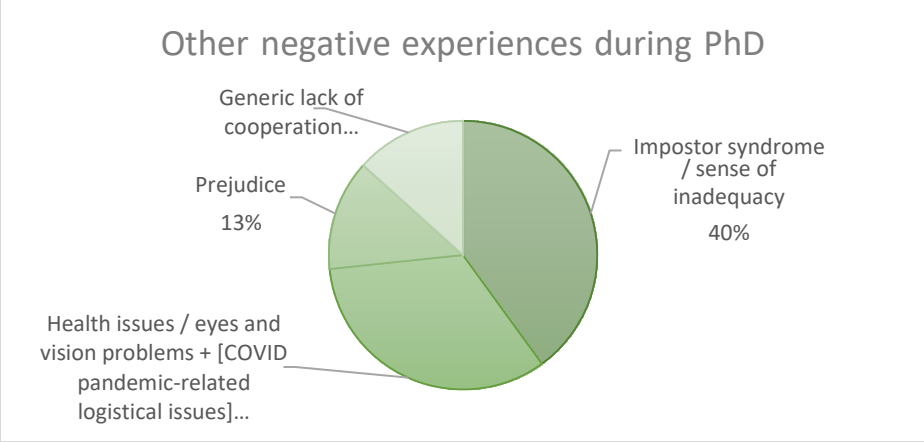
No response – 3
NO – 199
YES – 97, of whom **81** comment on follow-up question "**If yes, please specify which areas**".



Discipline-specific help	Work flow and admin	Publishing guidance	Career guidance	General availability and mentorship	Interpersonal aspects
3	**15**	**14**	**6**	**49**	**18**
My supervisors are not sufficiently familiar with the PhD discipline as they are involved while coming from other disciplines.	*clarity on expectations regarding tasks in joint projects* *stating the milestones more clearly*		*how to write as an academic and how publish* *In the strategic planning of my career development*	*giving direction where and how to research about specific topics* *Providing more inputs on what I write*	*Encourage independence (e.g. planning my own research projects)* *sharing more opportunities with me*

Q23- Which of the following have you experienced during your doctoral studies? (Select all that apply)
Most respondents indicated several factors; total numbers are shown below. Those who responded to the follow-up question "**share the most negative experience you have had during your doctoral studies**" provided answers which match the previous categories.

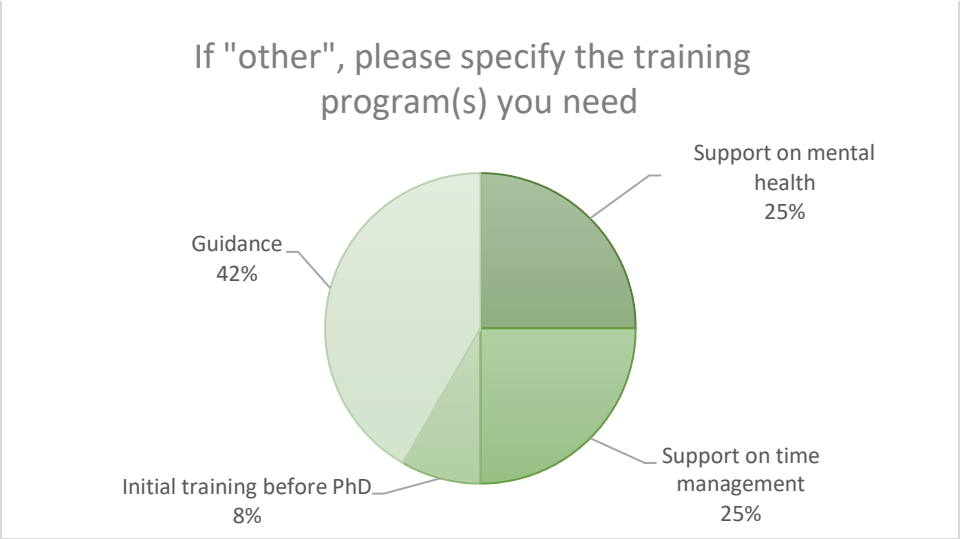




Anxiety	194
Harassment (verbal or physical)	19
Isolation	140
Stress	221
Other	20
None of the above	36

Anxiety	**Isolation**	**Harassment (verbal or physical)**	**Stress**	**Other**	**None of the above**
Not having enough time *uncertainty about the future*	*being alone all the time*	*deception and enthusiasm* [=gaslighting]	*burn out* *stress about employment*		

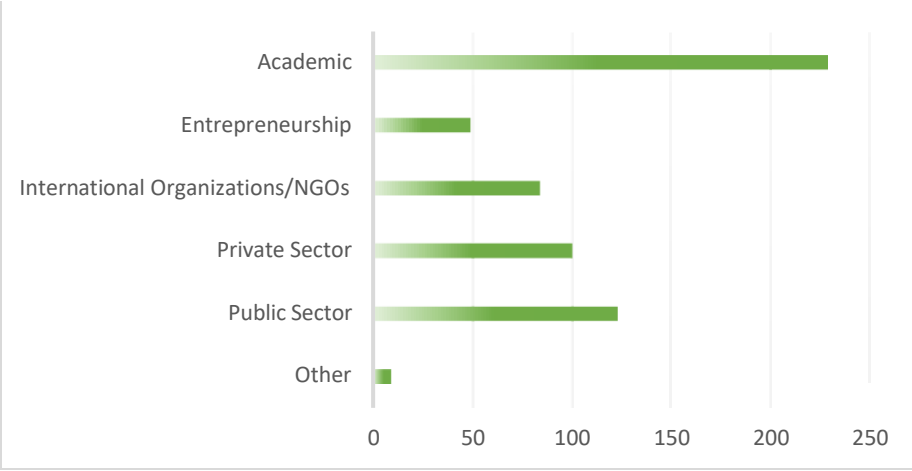
Q25- Which specific topic(s) or skill(s) would you like to see included in training programs designed for PhD candidates by ERUA?
(Many respondents indicated three or four of these)

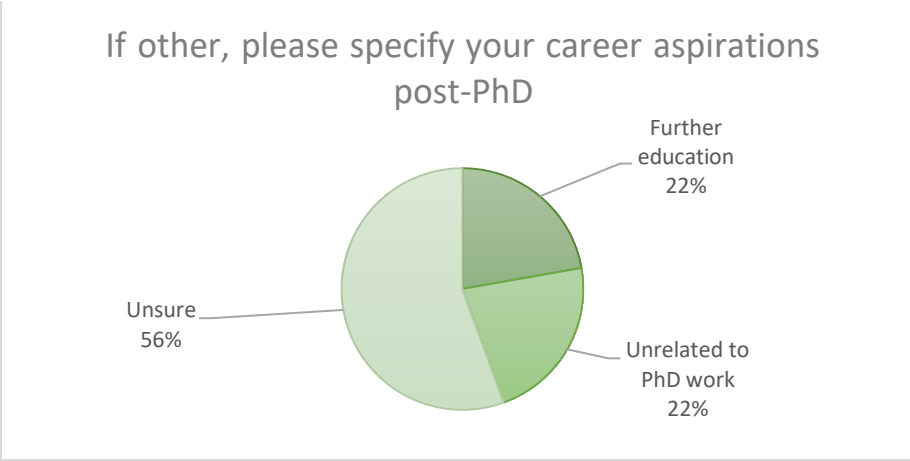


Academic Writing and Publishing	199
Advanced Research Methodologies	190
Career Development and Planning	117
Data Management and Statistical Analysis	11
Ethics in Research	82
Grant Writing and Funding Acquisition	148
Presentation and Communication Skills	136
Other	14

Q29- What are your career aspirations post-PhD? + "If **other**, please specify your career aspirations post-PhD".

(Many respondents indicated two or even three areas)





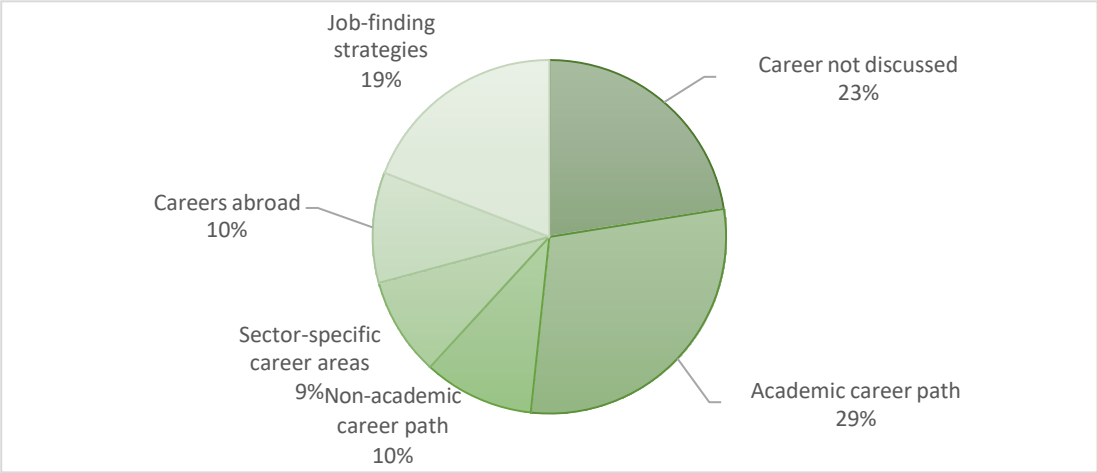
Academic	229
Entrepreneurship	49
International Organizations/NGOs	84
Private Sector	100
Public Sector	123
Other	9

Q31- Are there specific areas where you feel there is a lack of information regarding the post-PhD career options?

No response – 5

NO – 180

YES – 114 of whom **89** comment on follow-up question - "**If yes, please specify**".

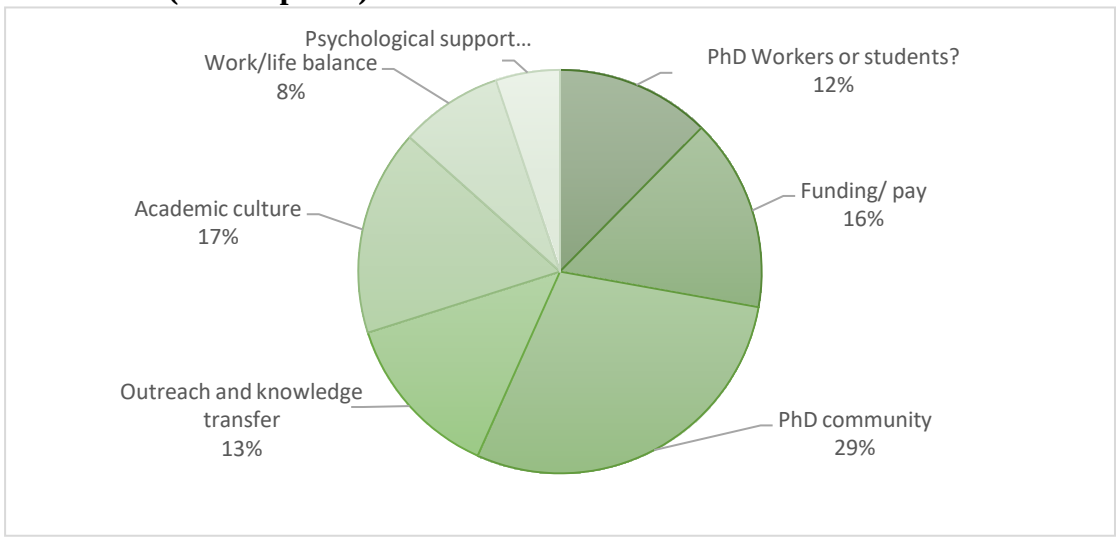


Career is not discussed	Academic career path	non-academic career path	Sector-specific career areas	Careers abroad	Job-finding strategies
20	**26**	**9**	**8**	**9**	**17**
I did not find any information regarding the post-PhD options and the whole idea of being post-PhD	*career planning, planning the post-doc period, how to habilitate, what employment conditions exist at universities,*	*non-academic options are not too much discussed*	*Non- academic career paths for non-EU nationals in Arts and Humanities*	*The differences between countries, and what do you have to do to move from one to another*	*Information on how what one is doing during the PhD can influence prospective career options.*

	how to aim for a professorship				

Q32- Do you have any suggestions on how doctoral students can be better recognized and valued across various sectors?

No response – 190
NO – 31
YES (free response) – 78



Employment status		Interpersonal and communication			Personal/ health	
PhD Workers or students?	**Funding/pay**	**PhD community**	**Outreach and knowledge transfer**	**Academic culture**	**Work/life balance**	**Psychological support**

12	**15**	**28**	**13**	**16**	**8**	**5**
PhD students should be recognized much more as workers than only a student	*the salary is too low to make a living*	*Organize events for PhD students to exchange knowledge and experience.*	*Creating mentorship programs that connect students with professionals*	*academics tend to brush struggles aside: "why change the system?"*	*better support in case of pregnancy and parenting to reduce gender gap*	*Who is responsible for arbitrating when conflict management mechanisms are not respected?*

In summary, while most respondents did not report issues with English proficiency, of the 63 individuals who experience challenges, 46 cited difficulties with English writing and scientific language, which impact their ability to discuss research interests and present at academic conferences. Among those who did not yet presented on international platforms such as conferences or symposiums, reasons included being in the early research stages, lack of confidence, and financial constraints.

Additionally, some PhD candidates note difficulties in finding conferences aligned with their thesis topics and staying informed on conference schedules, suggesting limited awareness of such opportunities. Regarding international networking, responses indicate that these connections are often formed and sustained through doctoral seminars and international conferences. For academic mobility, respondents report benefiting from EU-funded programs, including COST Action, TRUST (Horizon 2020), MSCA (Marie Skłodowska-Curie Actions), and RISE (Research and Innovation Staff Exchange), as well as support from the ERUA Network and some national initiatives.

Feedback on supervisor relationships highlight several challenges: many PhD candidates reported that their supervisors were insufficiently involved in the thesis process, lacked expertise in relevant areas, or provided limited guidance in critical areas such as academic writing, publishing, and career planning. We observe that inadequate support and guidance during the PhD journey, combined with feelings of social and professional isolation, can lead to significant psychological difficulties.

Mental health concerns are widespread, with the majority of PhD students experiencing stress and anxiety, which affect their productivity, triggered feelings of guilt, and fuelled pessimism about future career prospects. Some students also report struggling with imposter syndrome, feelings of inadequacy, and vision-related health issues.

PhD students express a strong need for training programs focused on Academic Writing and Publishing, Presentation and Communication Skills, and Advanced Research Methodologies. Additional suggestions included mental health support, time management training, general guidance on the research process, and foundational research skills training.

Career aspirations post-thesis are primarily in academia or the public sector, though some respondents humorously mentioned alternatives such as "opening a bakery" or "retiring to a remote place." There is frustration over limited guidance on non-academic career options and a lack of awareness regarding the applicability of a PhD in the private sector. Participants suggest a digital aggregator to present career options based on PhD specializations and EU employment opportunities.

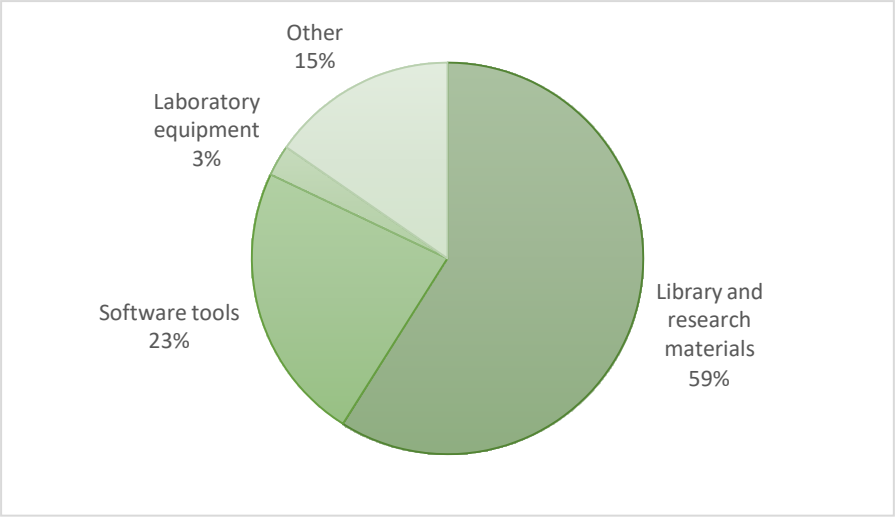
To improve recognition and support across sectors, participants recommend several measures. They advocate for PhD students to be recognized as professionals rather than students, viewing the PhD journey as work experience. Additional teaching and seminar organization opportunities with adequate recognition are also suggested. Participants emphasize the need for dedicated research time, increased financial support, and greater access to scholarships. Other suggestions included forming a union, organizing knowledge-sharing events, establishing an appreciation festival, providing more mentorship, offering regular presentation opportunities, and improving administrative transparency on funding, deadlines, and thesis completion processes.

4.2. SUMMARY OF CATEGORIES/RESPONSES FOR R2 RESEARCHERS

Q7- How would you rate the availability of resources and facilities in your research environment? Such as library and research materials, software tools, laboratory equipment, etc.)

Very good 10
Good 89
Poor 14
Neutral 2
Very poor 3

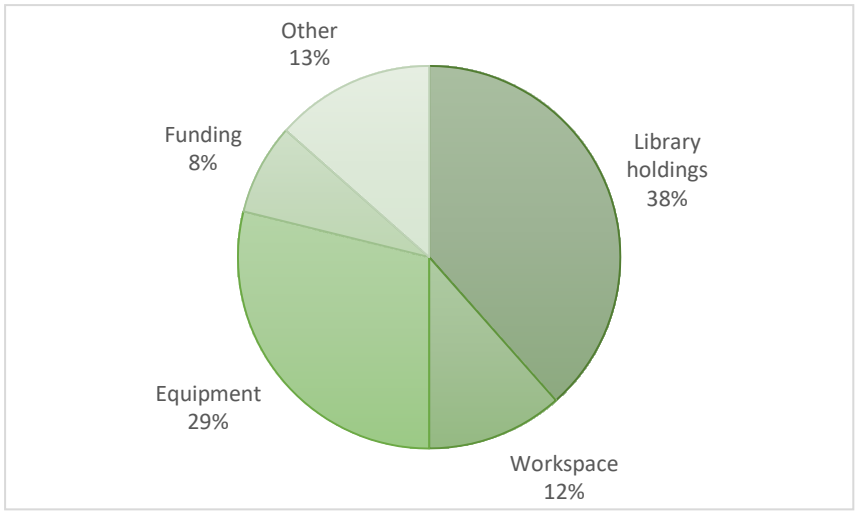
- **Please share your development suggestions, if any:** No responses from any who answered “very good”; **37** respondents provided details



Library and research materials	Software tools	Laboratory equipment	Other
23	**9**	**1**	**6**
Poor access to international publication databases	*More workshops concerning new software solutions in humanities.*		*My university does not provide rooms for academic employees*

Q8- Are there any specific resources or facilities lacking in your research environment?

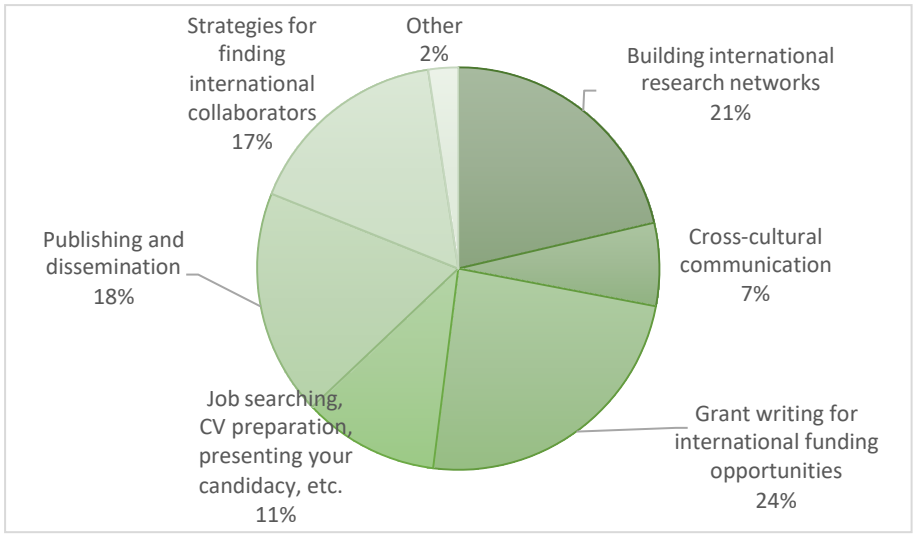
No response – 5
NO – 62
YES – 51, of whom **49** provide details in the follow-up question "**If yes, please specify**", often reiterating comments provided in response to Q7.



Library holdings	Workspace	Equipment	Funding	Other
20	**6**	**15**	**4**	**7**
Access to scientific journals and databases	*Lack of offices/personal space*	*Some specialized software is available, but only on campus.*	*No support of the uni to getting outside grants.*	

Q10- What specific topics or skills would you like to see covered in training programs designed for early career researchers by ERUA? (Select all that apply)

No response – 2



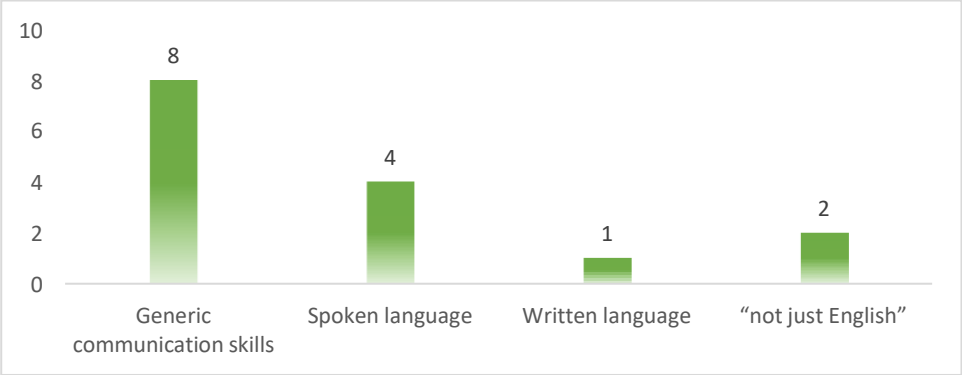
Building international research networks	80
Cross-cultural communication	25
Grant writing for international funding opportunities	90
Job searching, CV preparation, presenting your candidacy, etc.	41
Publishing and dissemination	68
Strategies for finding international collaborators	62
Other	9

Only **3** provide additional details in the follow-up "If other, please specify"

- *Languages classes, especially academic English*
- *A plan for the university to support researchers in obtaining the necessary merits for the* [national accreditation system].
- *Research methodology. This skill seems to be taken for granted, while proper training in this area is lacking at all levels of university education.*

Q17- Do you face any barriers in networking or collaborating internationally due to language proficiency?

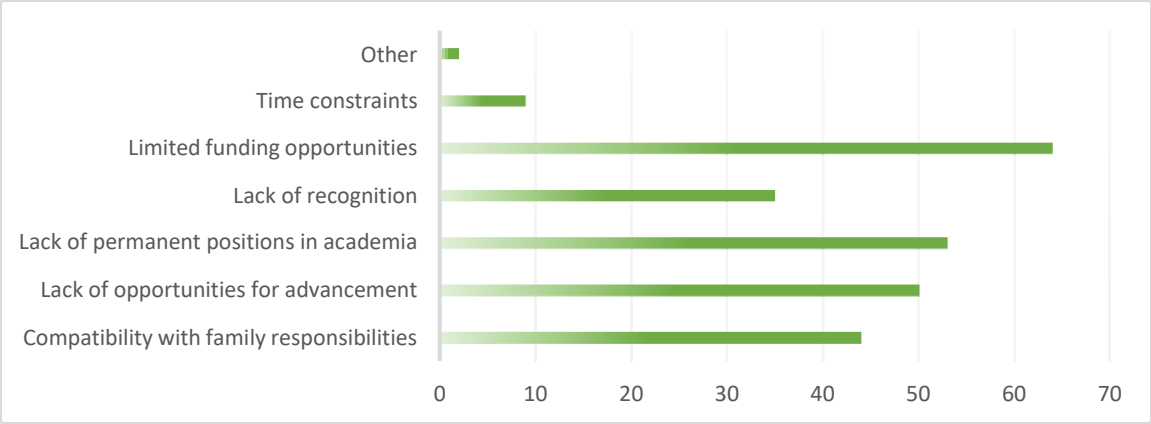
No response – 2
NO – 96
YES – 20, of whom **15** specify why



Participants who provided more detailed responses on language proficiency barriers reported experiencing general communication difficulties, particularly when expressing themselves in spoken language, responding to questions during scientific presentations, and engaging in spontaneous discussions. Although English was identified as the most common language where challenges were encountered (7 participants), there were also participants who indicated difficulties in other scientific contexts outside of English. The additional languages and the number of participants who reported challenges were as follows: German (2), Spanish (2), and French (1).

Q22- What are the main barriers you face in advancing your career? (Select all that apply)

No response – 4
Most respondents cite multiple barriers
20 provide further details: The main additional barrier is **lack of time** (9) particularly due to teaching commitments and administrative responsibilities.



Compatibility with family responsibilities	**Lack of opportunities for advancement**	**Lack of permanent positions in academia**	**Lack of recognition**	**Limited funding opportunities**	**Time constraints**	**Other**
44	**50**	**53**	**35**	**64**	**9**	**2**
having a small child is another source of feeling overworked	*lack of success in applying for international scholarships*			*I need to look for some additional job, which consumes my time, and doesn't let me focus 100% on research*	*Teaching and other jobs (which I need for a living) and responsibilities are so time-consuming that I do not have time for research work*	*Lack of researchers in my research area at my university*

In conclusion, responses to the question, "How would you rate the availability of resources and facilities in your research environment?" reveal several critical issues. Key challenges include limited access to international online journals and a lack of private office spaces conducive to focused research. Some early career researchers also report a lack of awareness regarding the tools available within their institutions. Additionally, they call for more workshops on new software applications in the humanities and seek funding support to cover licensing and software costs.

Post-doctoral researchers suggest that training programs include regular language courses particularly in academic English and immersive experiences in English-speaking environments. They emphasize the need for institutional support in helping researchers obtain relevant certifications and accreditations. A notable concern is the gap in research methodology training, a competency often presumed but insufficiently addressed across educational levels.

Participants also point to language barriers that impede effective English conference presentations and fluent communication in international collaborations. Some respondents observe that not all research contexts operate in English, suggesting the need for training in additional key languages, such as German, French, and Spanish. Family obligations, particularly childcare, emerge as career progression barriers for some post-doctoral researchers. Additional challenges include inadequate compensation, limited time due to heavy teaching loads, time management difficulties, and the pressure to engage in self-promotion, all of which negatively impact career development.

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