Insights from the software creation process within German academia
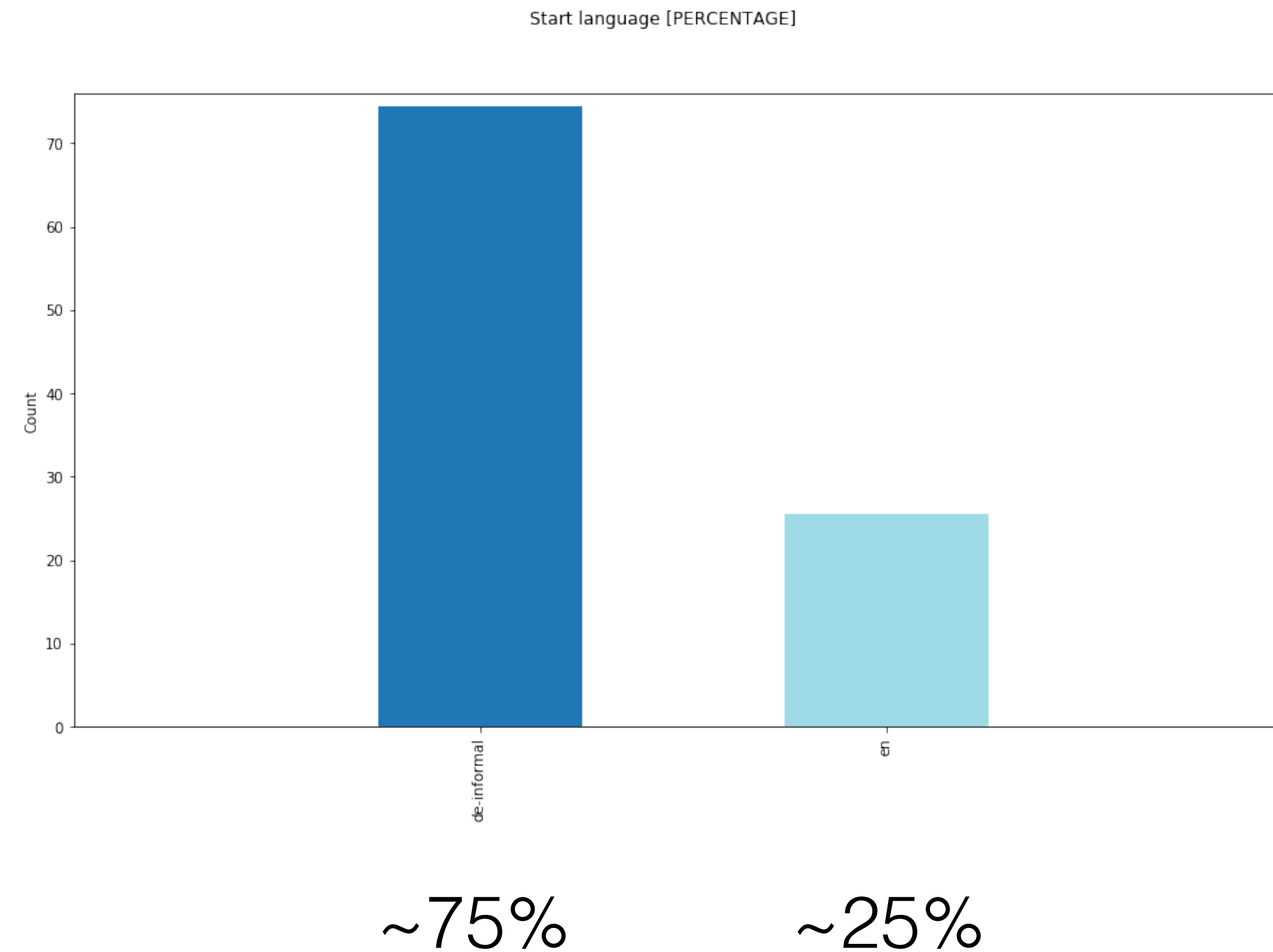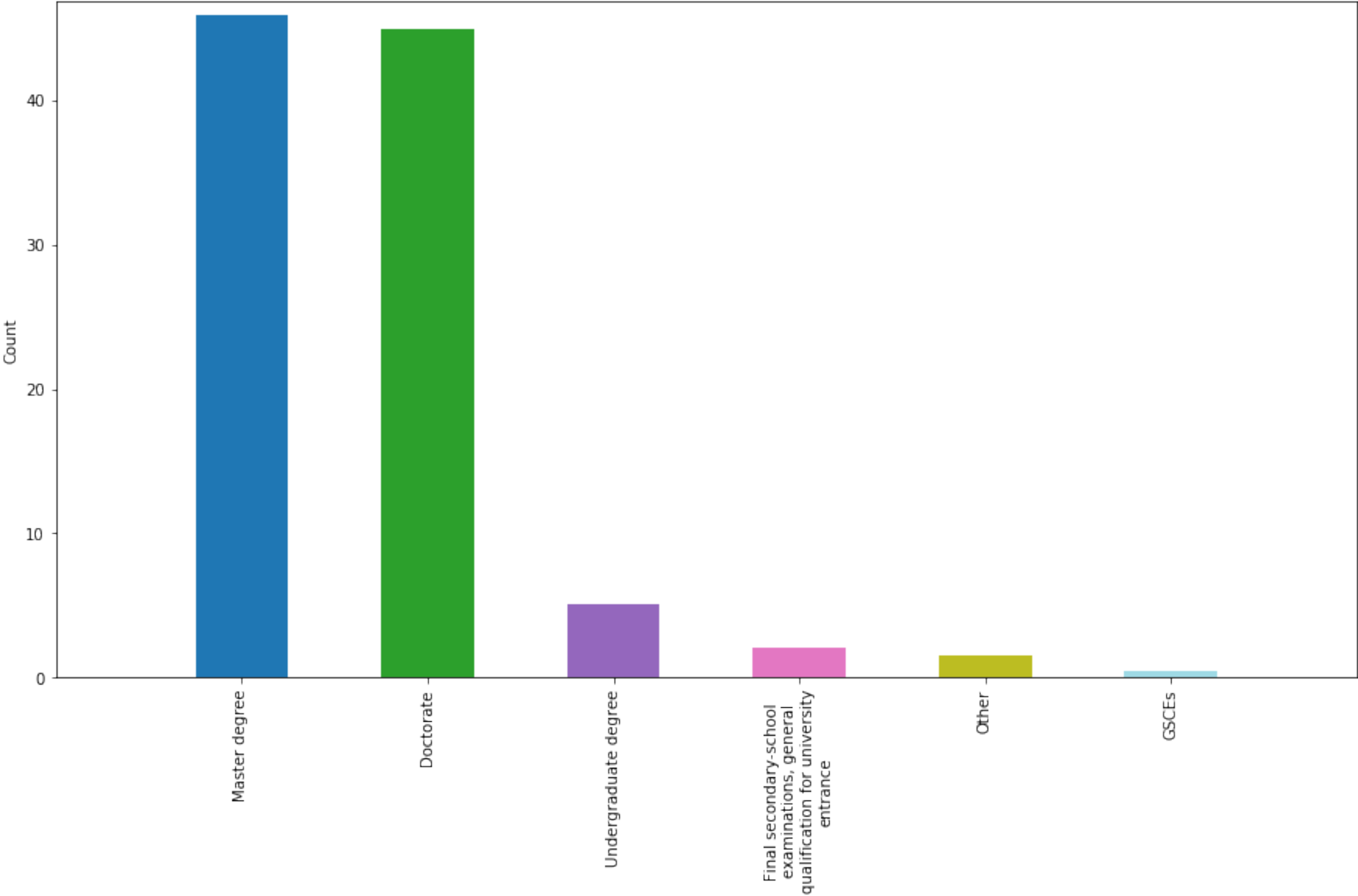
#deRSEsurvey2017 - Stephan Janosch, de-RSE.org

Deutsch or English?

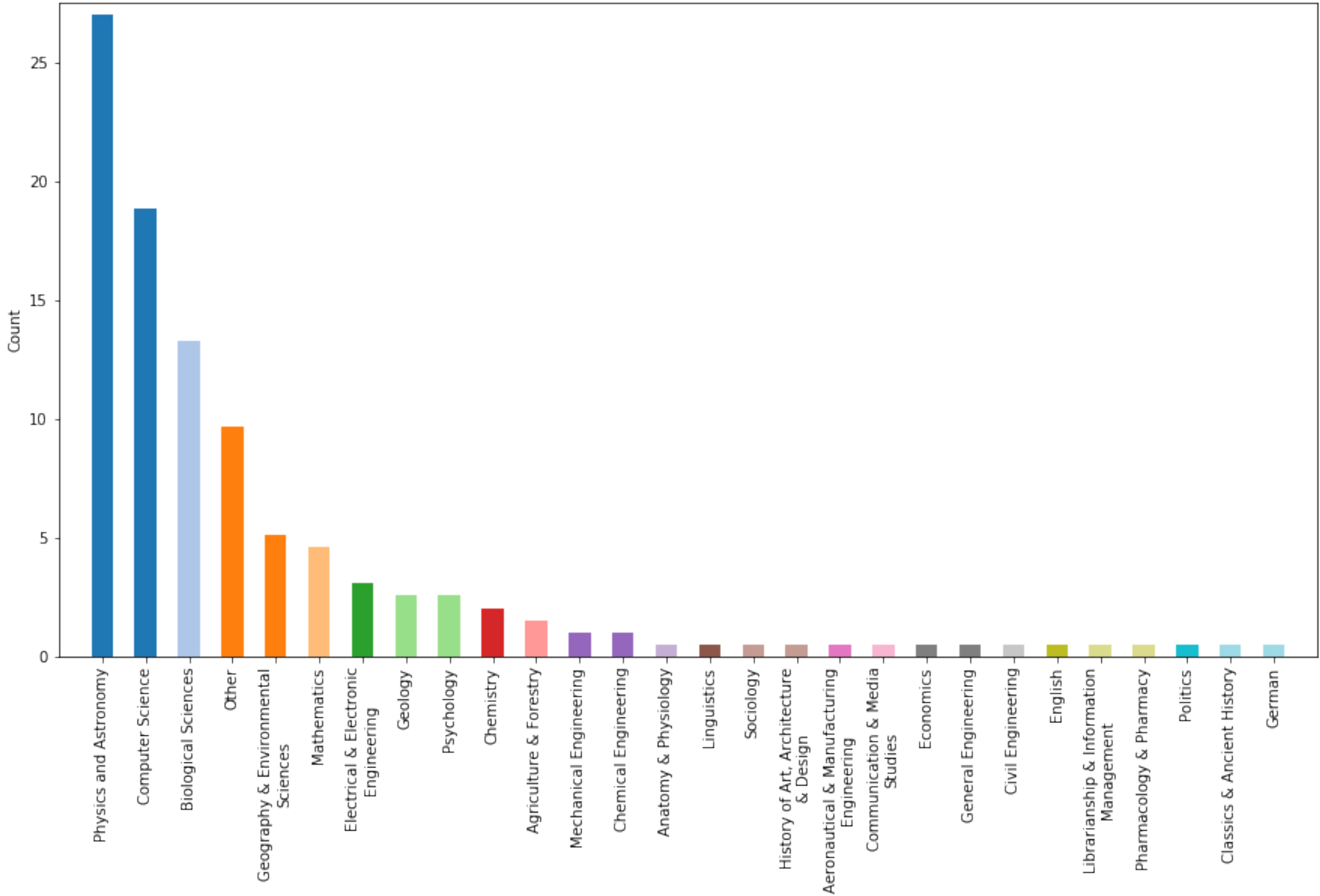Start language [PERCENTAGE]

~75%   ~25%

Who has a 🎓 ?

What is the highest qualification you have obtained? [PERCENTAGE]

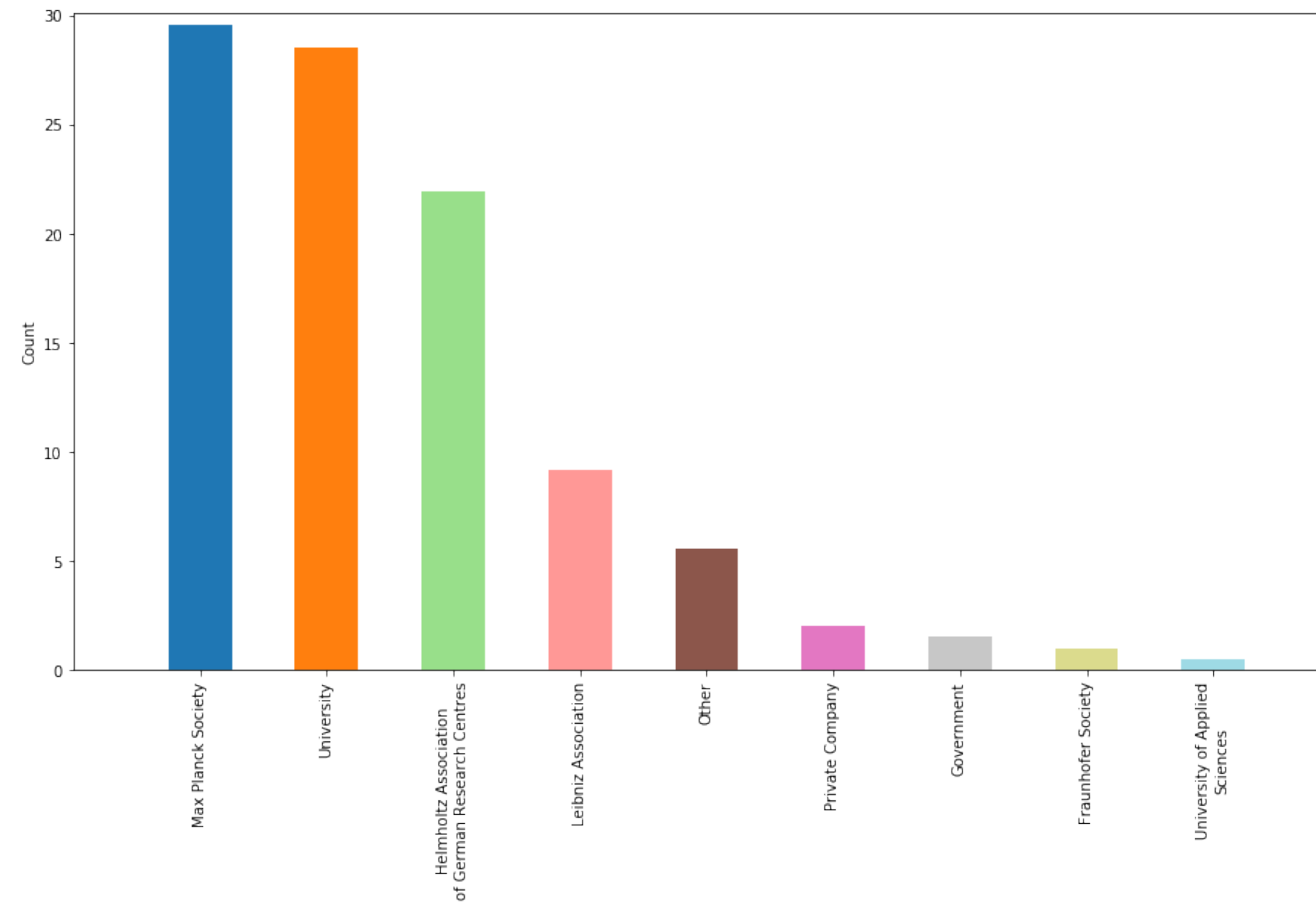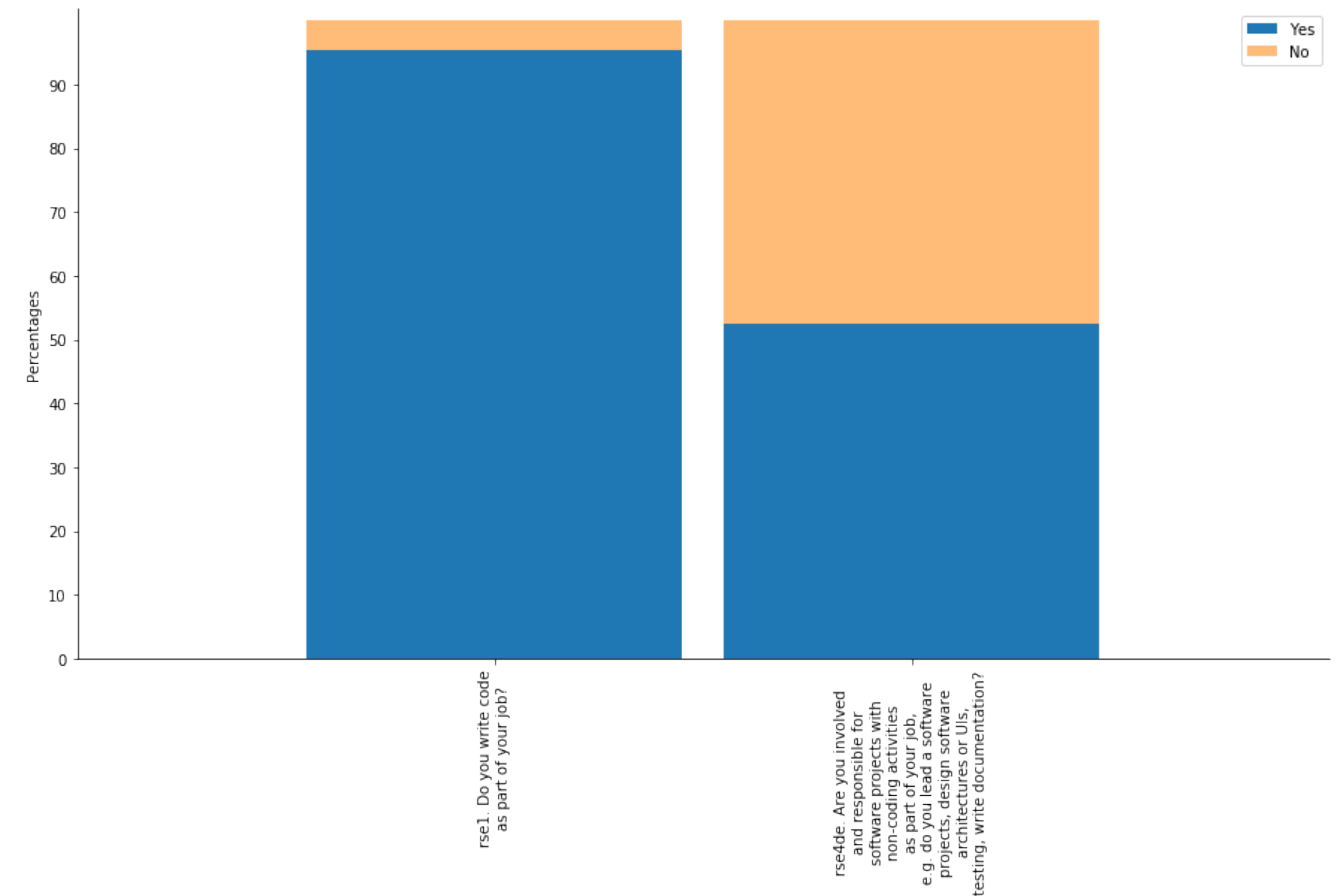In which subject is your highest academic qualification? [PERCENTAGE]

Where from ?

What type of organisation do you work for? [PERCENTAGE]

Professional ?

Do you consider yourself a professional software developer? [PERCENTAGE]

Coding since … ⌛

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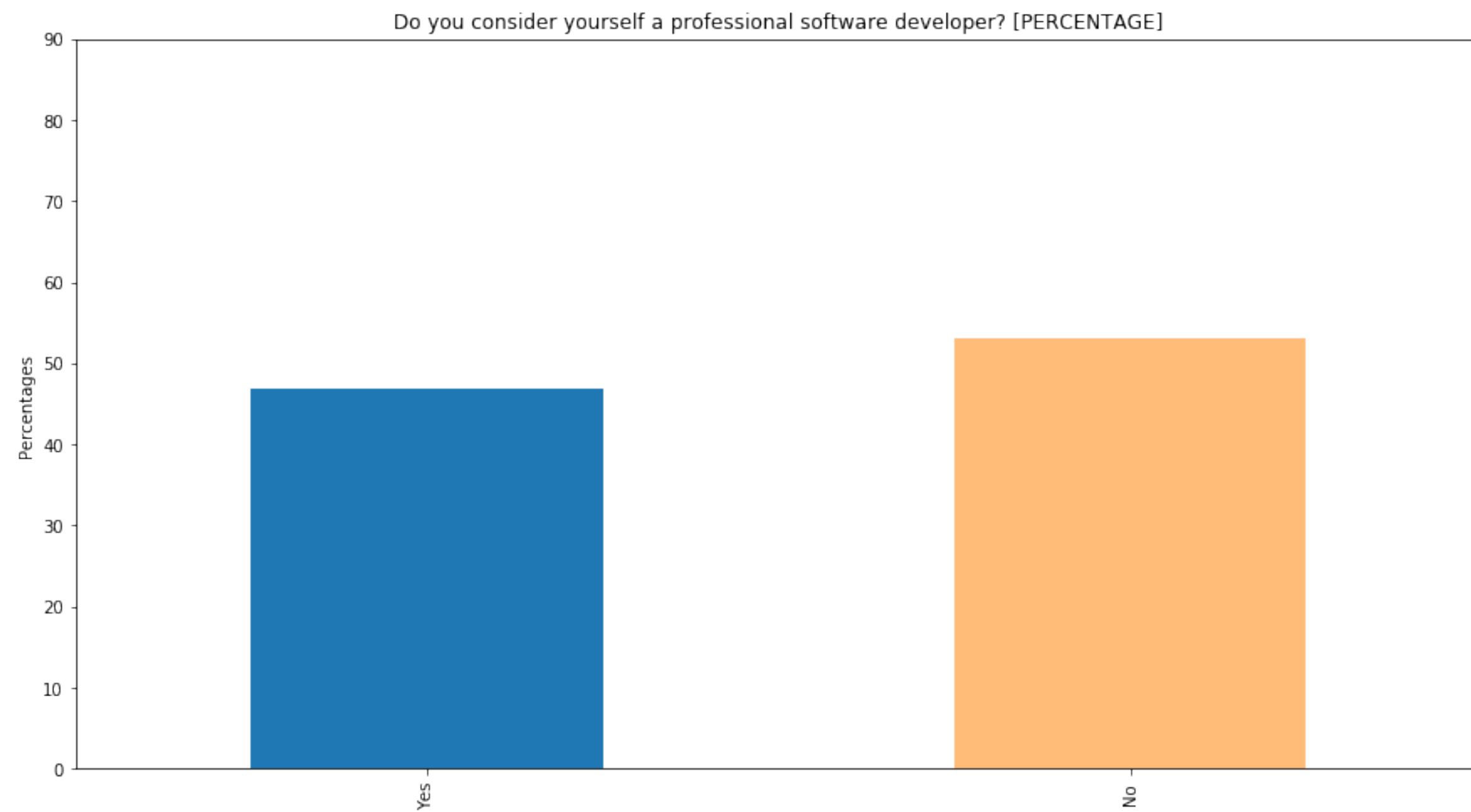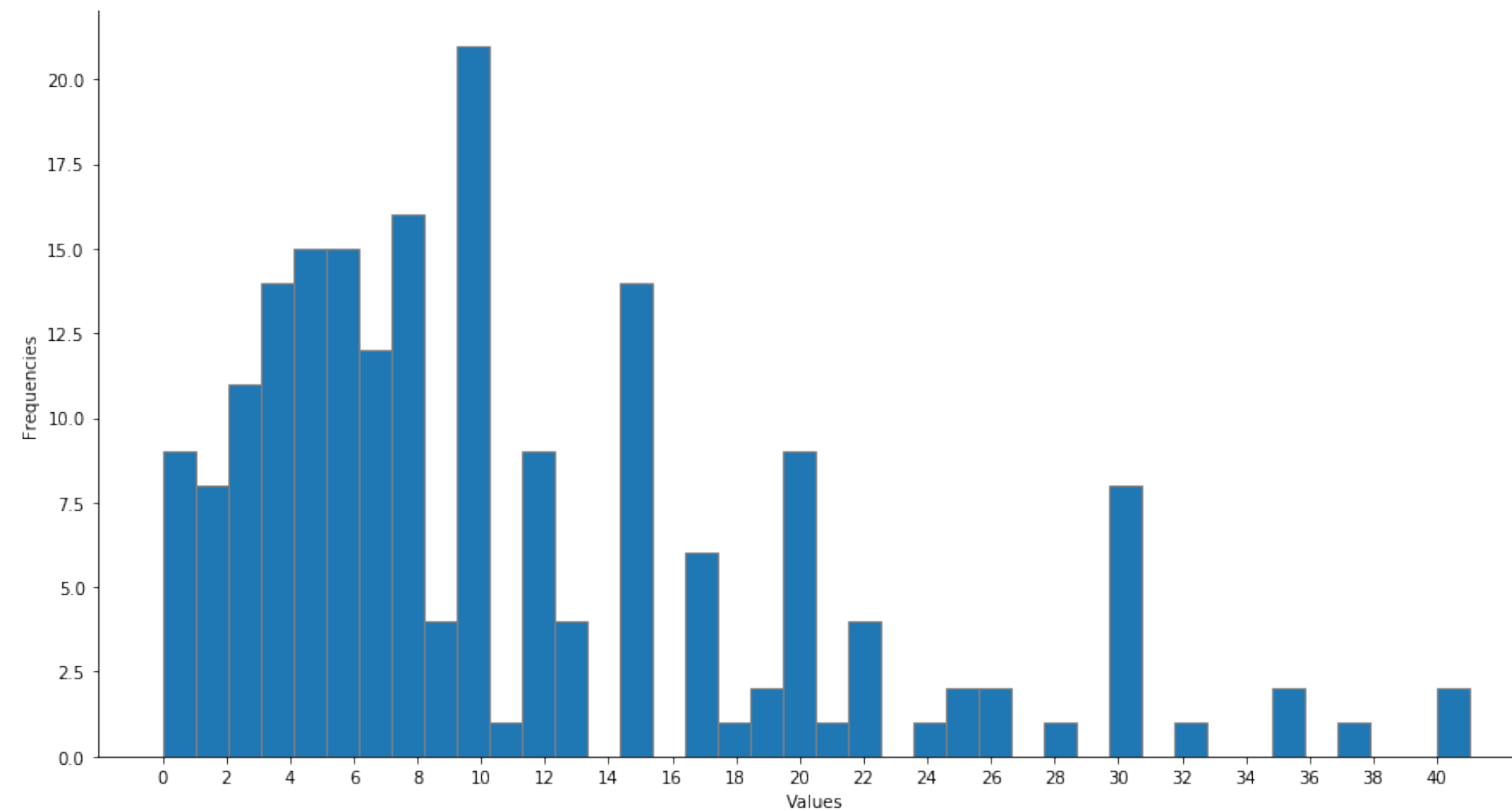
Job Titles

Wissenschaftlicher Mitarbeiter	**25**
Doktorand	**15**
wissenschaftlicher Mitarbeiter	**8**
PhD student	**6**
PostDoc	**5**
Postdoc	**4**
Studentische Hilfskraft	**4**
Professor	**3**
wiss. Mitarbeiter	**3**
Postdoctoral researcher	**2**
Programmierer	**2**
Softwareentwickler	**2**
Systemadministrator	**2**
postdoc	**2**

Contract Type

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What type of contract are you employed on? [PERCENTAGE]
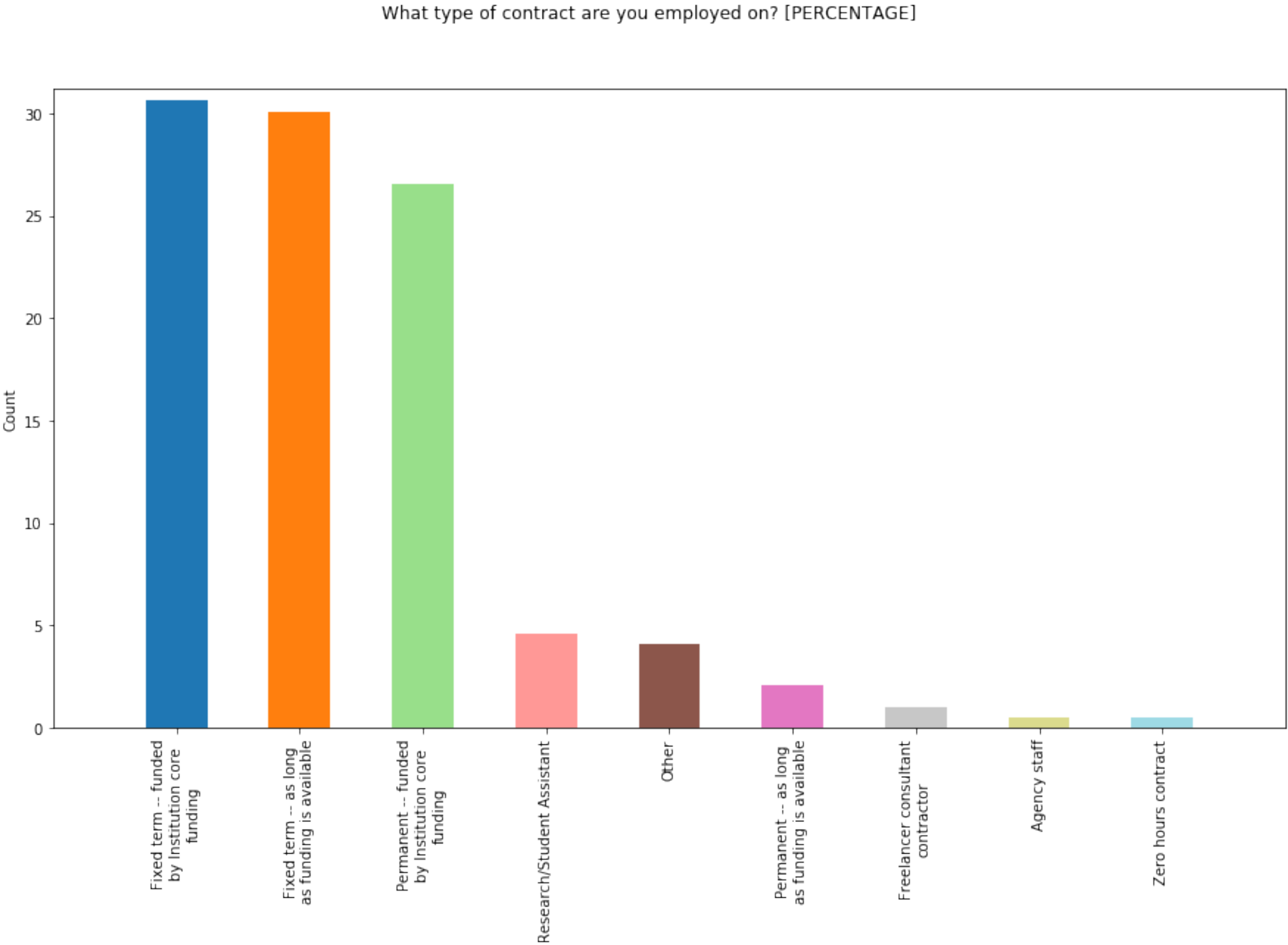
type	%
Fixed term -- Institution core funding	30.61
Fixed term -- as long as funding is available	30.10
Permanent -- Institution core funding	26.53
Research/Student Assistant	4.59
Other	4.08
Permanent -- as long as available	2.04
Freelancer consultant contractor	1.02
Agency staff	0.51
Zero hours contract	0.51

3.0	36
2.0	31
1.0	27
0.5	13
5.0	10
4.0	9
0.0	7
99.0	7
0.25	5
100.0	5
7.0	4
9.0	4

Disciplines ?
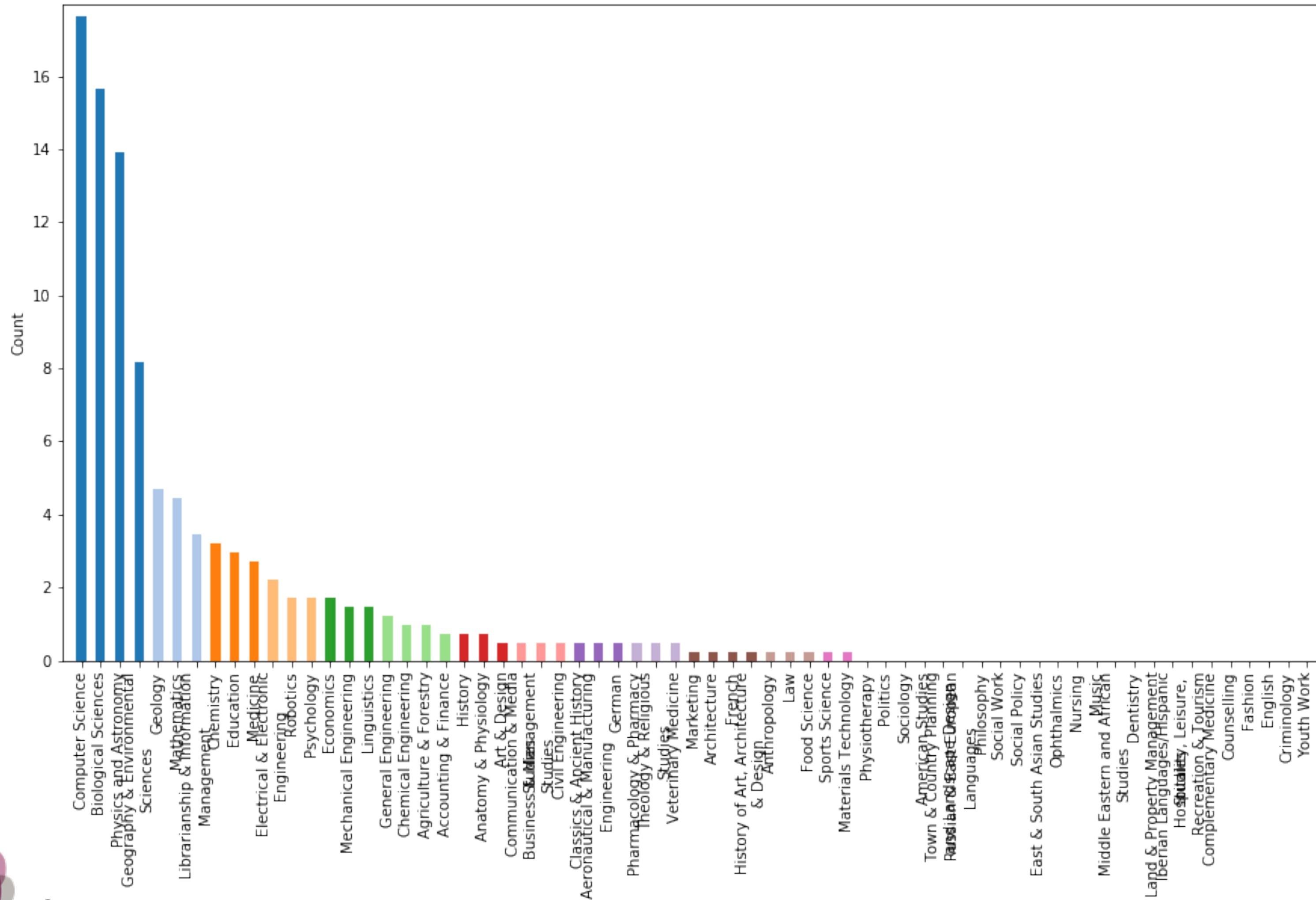
	Count
Computer Science	17.62
Biological Sciences	15.63
Physics and Astronomy	13.90
Geography & Environmental	8.19
Geology	4.71
Mathematics	4.47
Librarianship & Information	3.47
Chemistry	3.23
Education	2.98
Medicine	2.73
Electrical & Electronic	2.23
Robotics	1.74
Psychology	1.74
Economics	1.74
Mechanical Engineering	1.49
Linguistics	1.49
General Engineering	1.24

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9

💾 Research Software Group

Do you work for a Research Software Group? [PERCENTAGE]
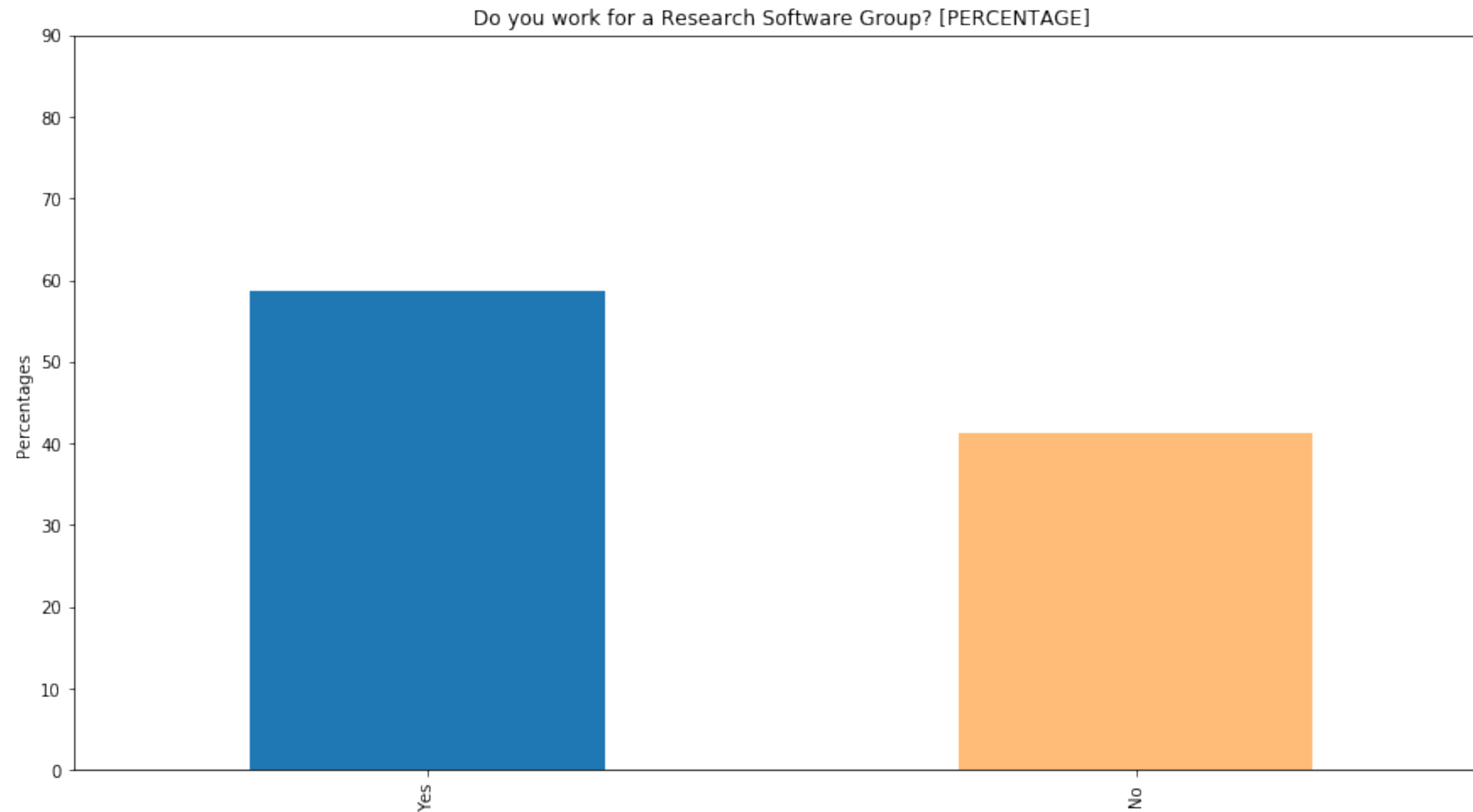
Yes	No
58.66	41.34

How Many 👥 & projects

How many software developers typically work on your projects? [PERCENTAGE]
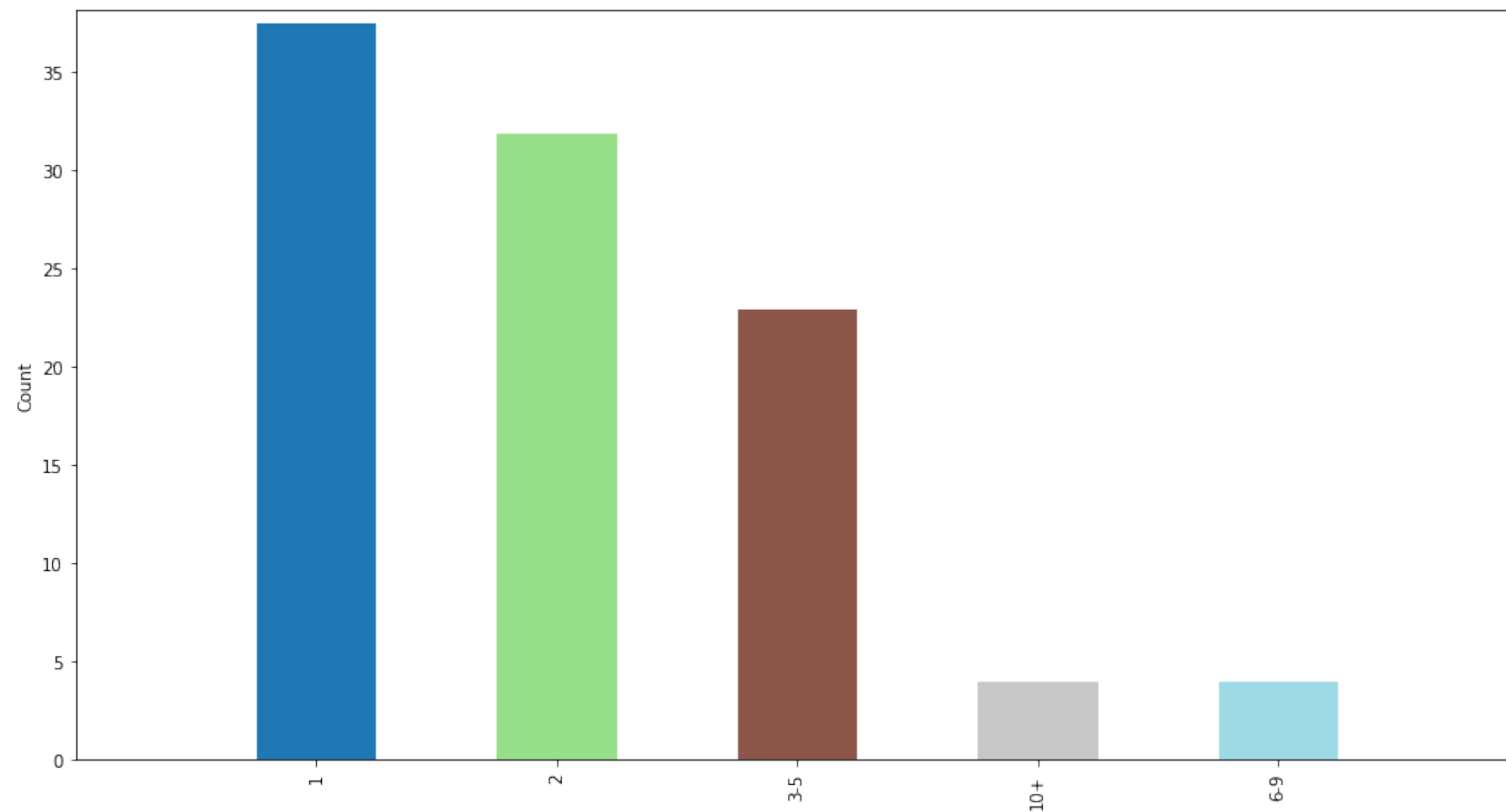
	How many in %
1	37.43
2	31.84
3-5	22.91
10+	3.91
6-9	3.91

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11
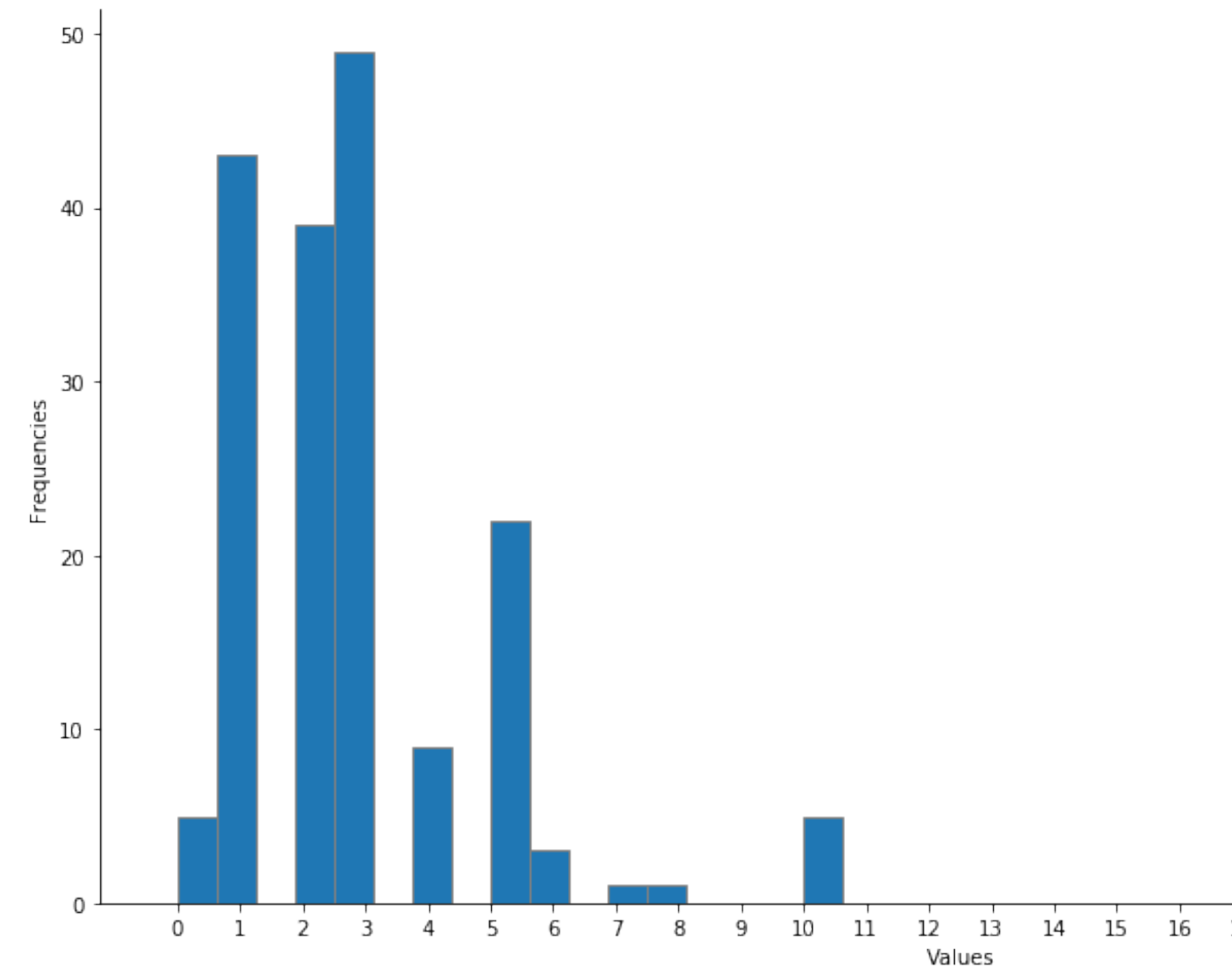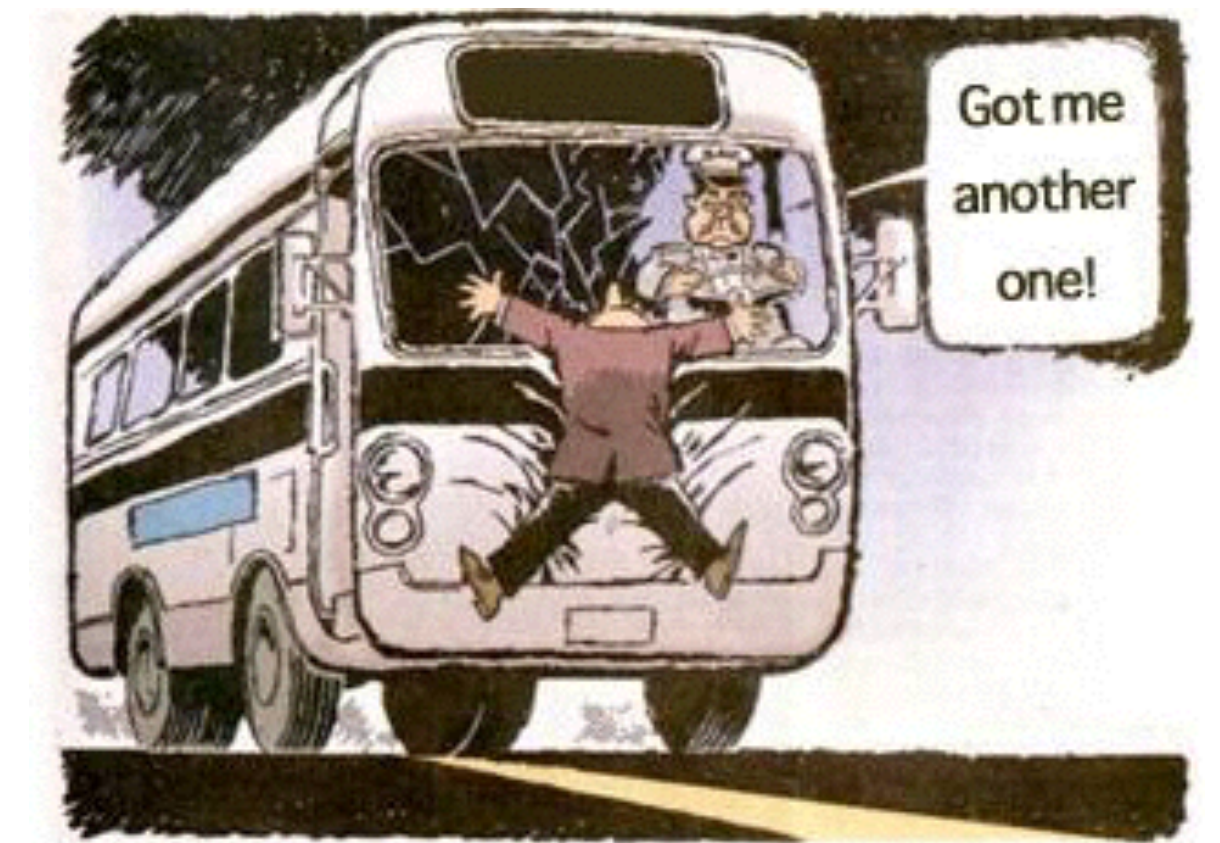
Bus Factor

What is the bus factor of your most important software project? [PERCENTAGE]
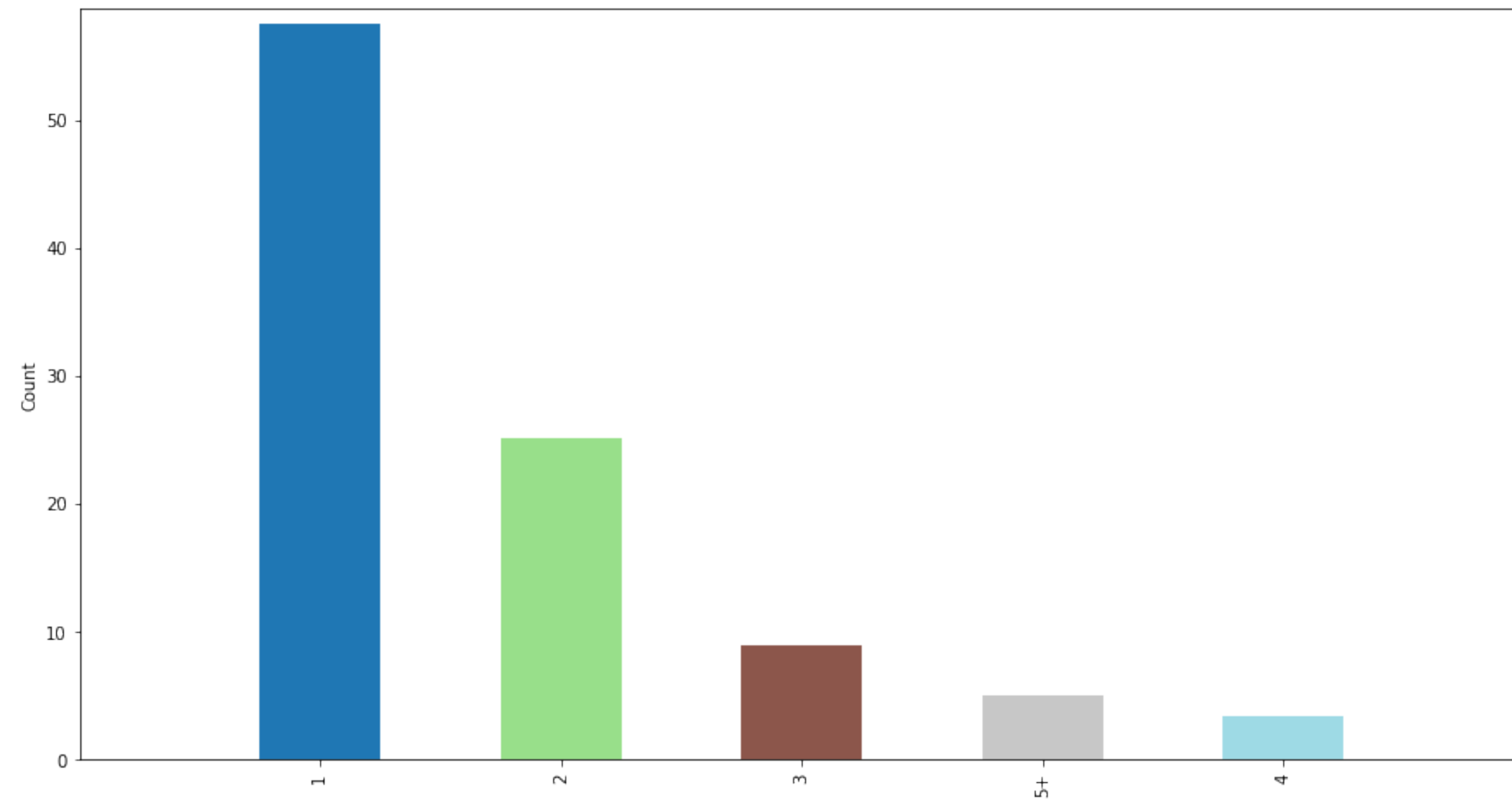
	bus factor %
1	57.54
2	25.14
3	8.94
5+	5.03
4	3.35

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https://dingyichen.wordpress.com/2017/01/31/1753/

Technical Handover Plan

Is there a technical hand-over plan for your most important software project? [PERCENTAGE]
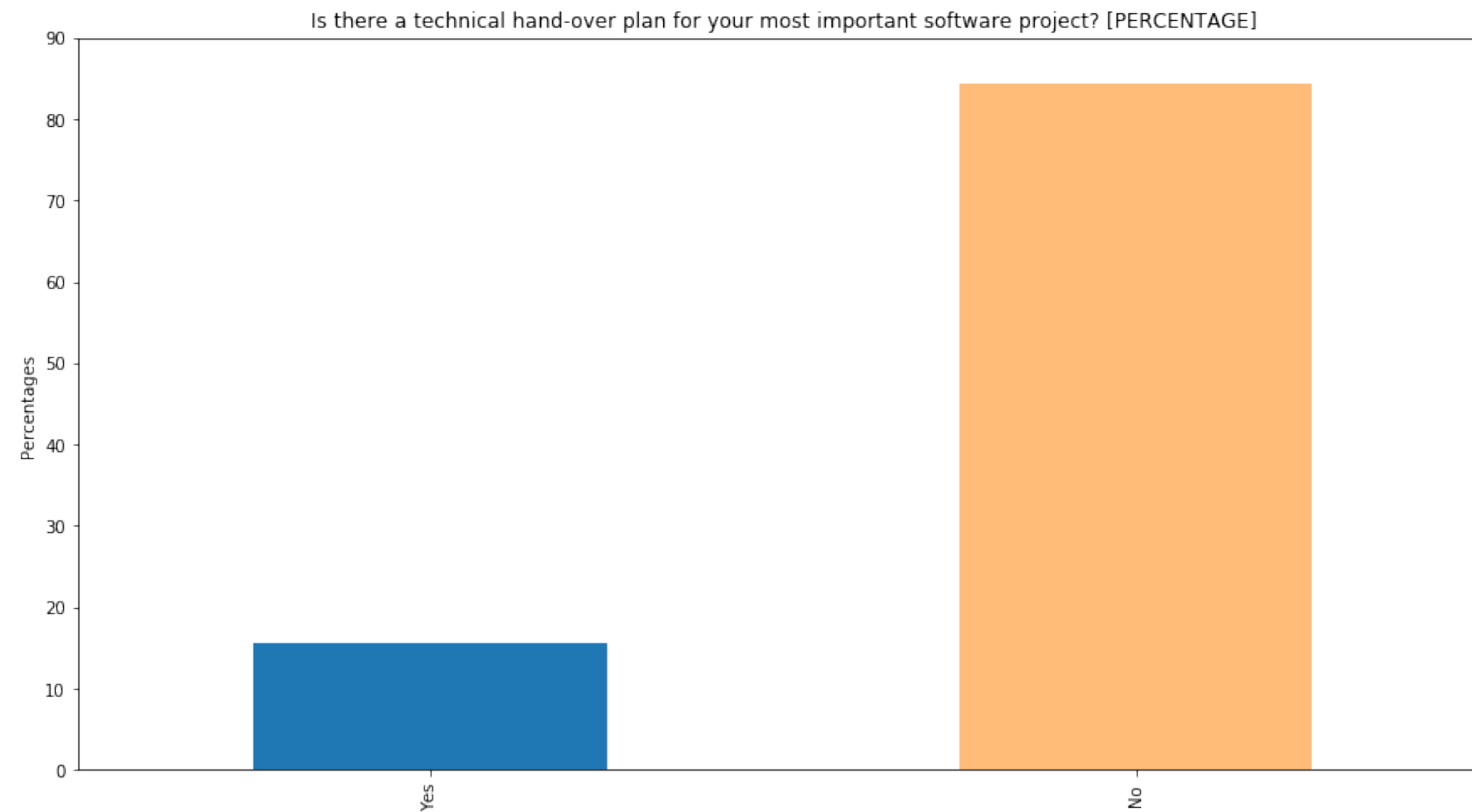
Yes	No
15.64	84.36

Open source & DOI

Have you ever released your software under an open-source licence? [PERCENTAGE]

Have you ever used a Digital Object Identifier (DOI) to identify your software? [PERCENTAGE]
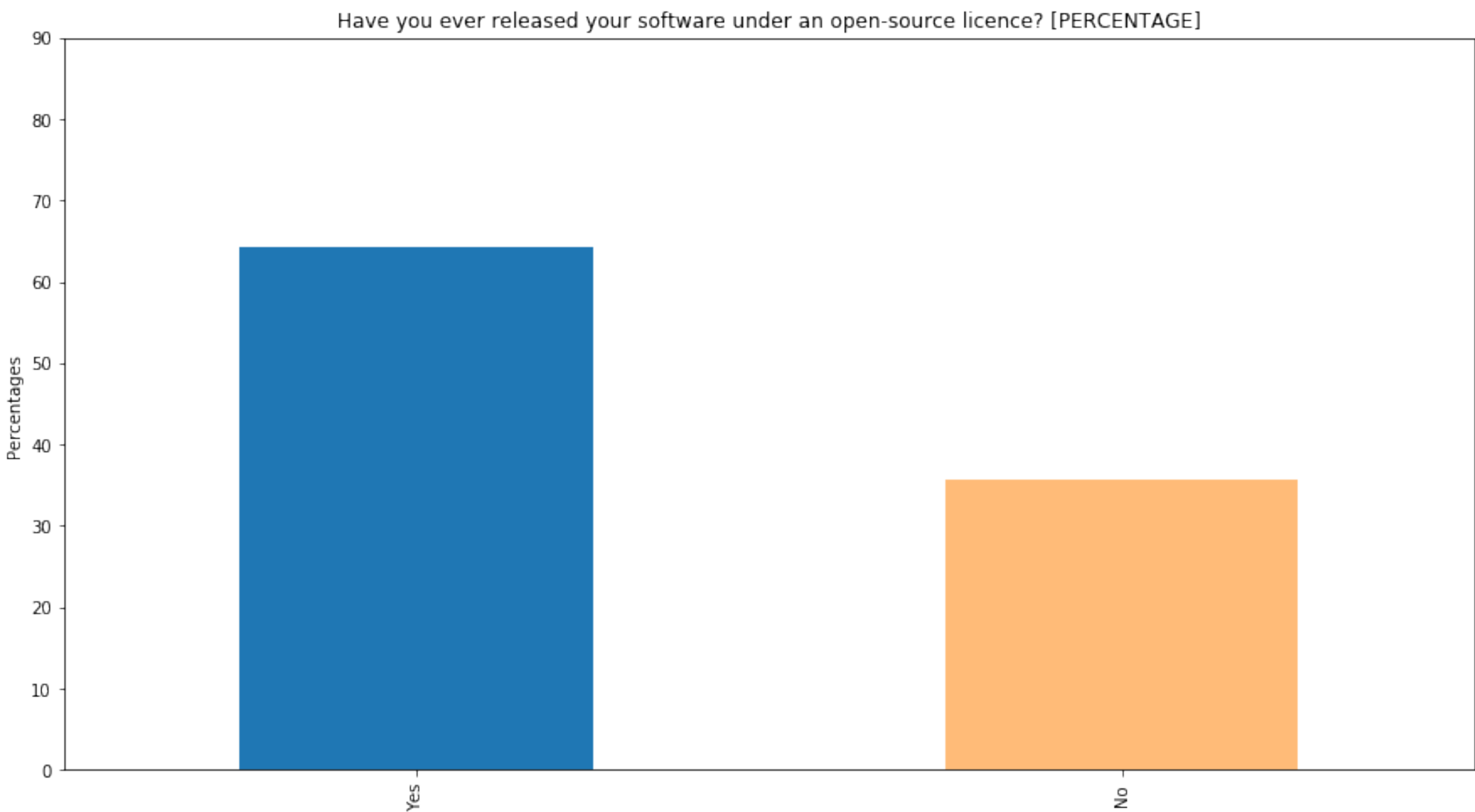
	Yes	No
open-source licence? %	64.25	35.75
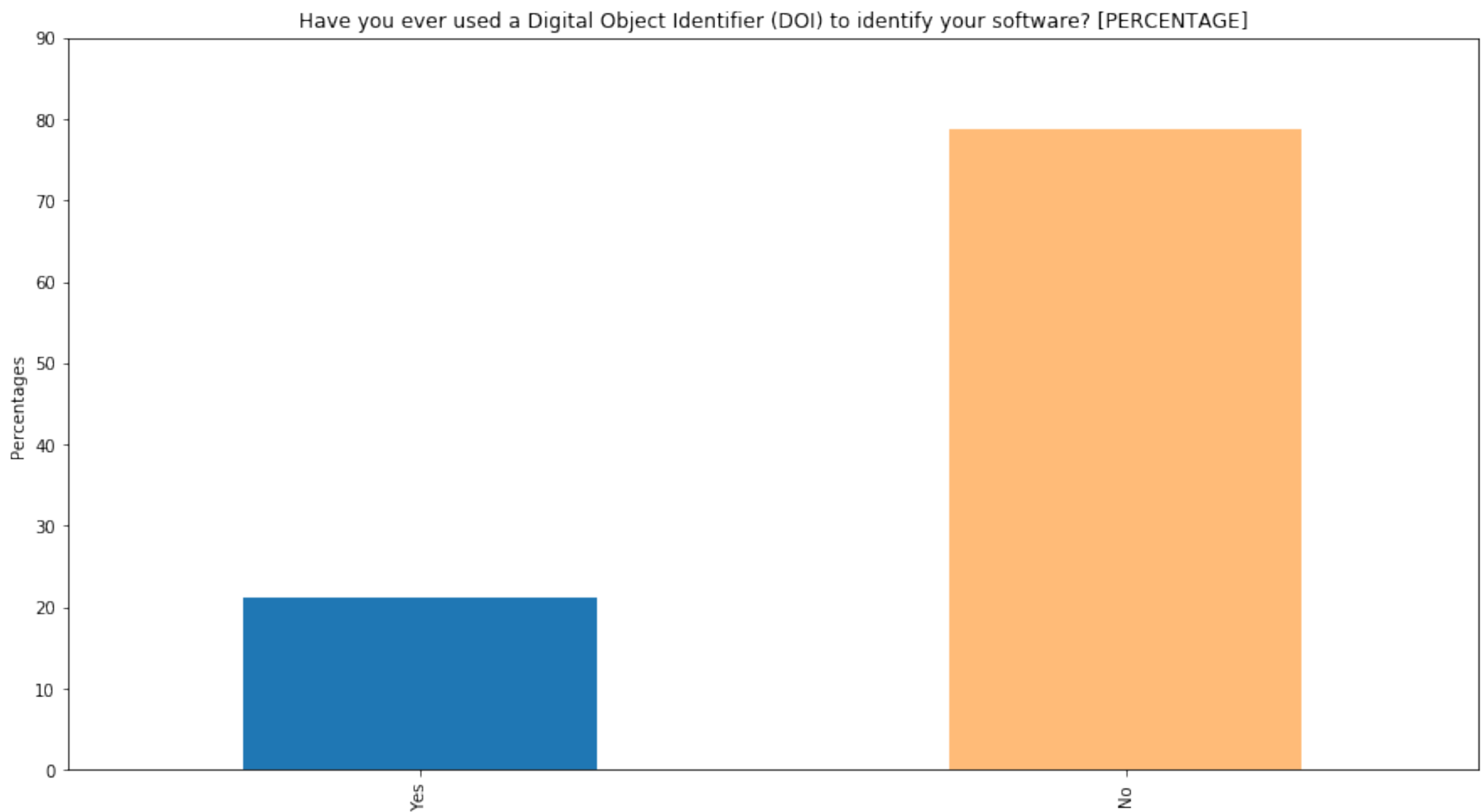
	Yes	No
Digital Object Identifier (DOI)? %	21.23	78.77

Zenodo!!!

ORC iD

Do you have an ORCID ID? [PERCENTAGE]

Funding ? 💰

Do you know the source of the funding used to support you and your current, largest project? [PERCENTAGE]
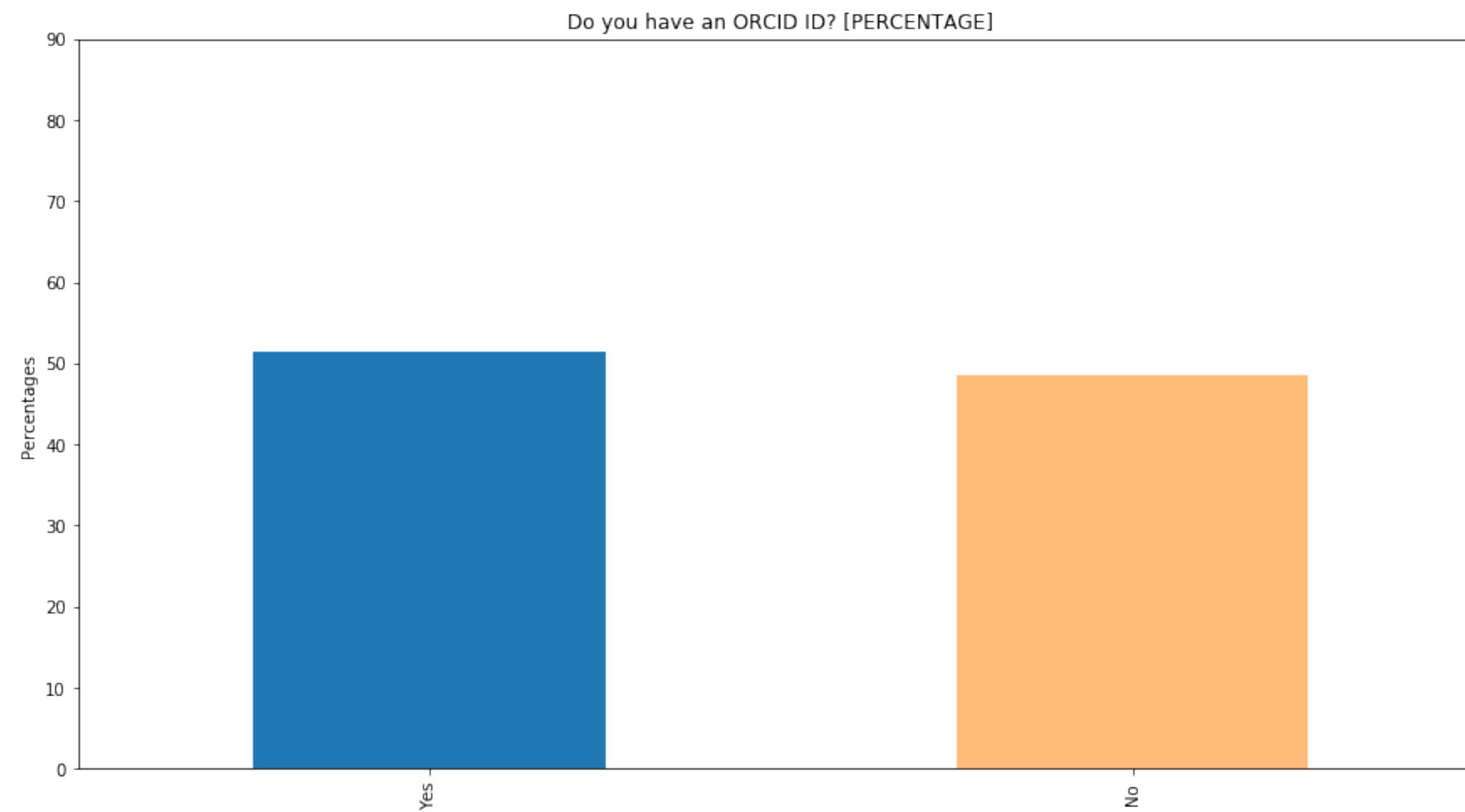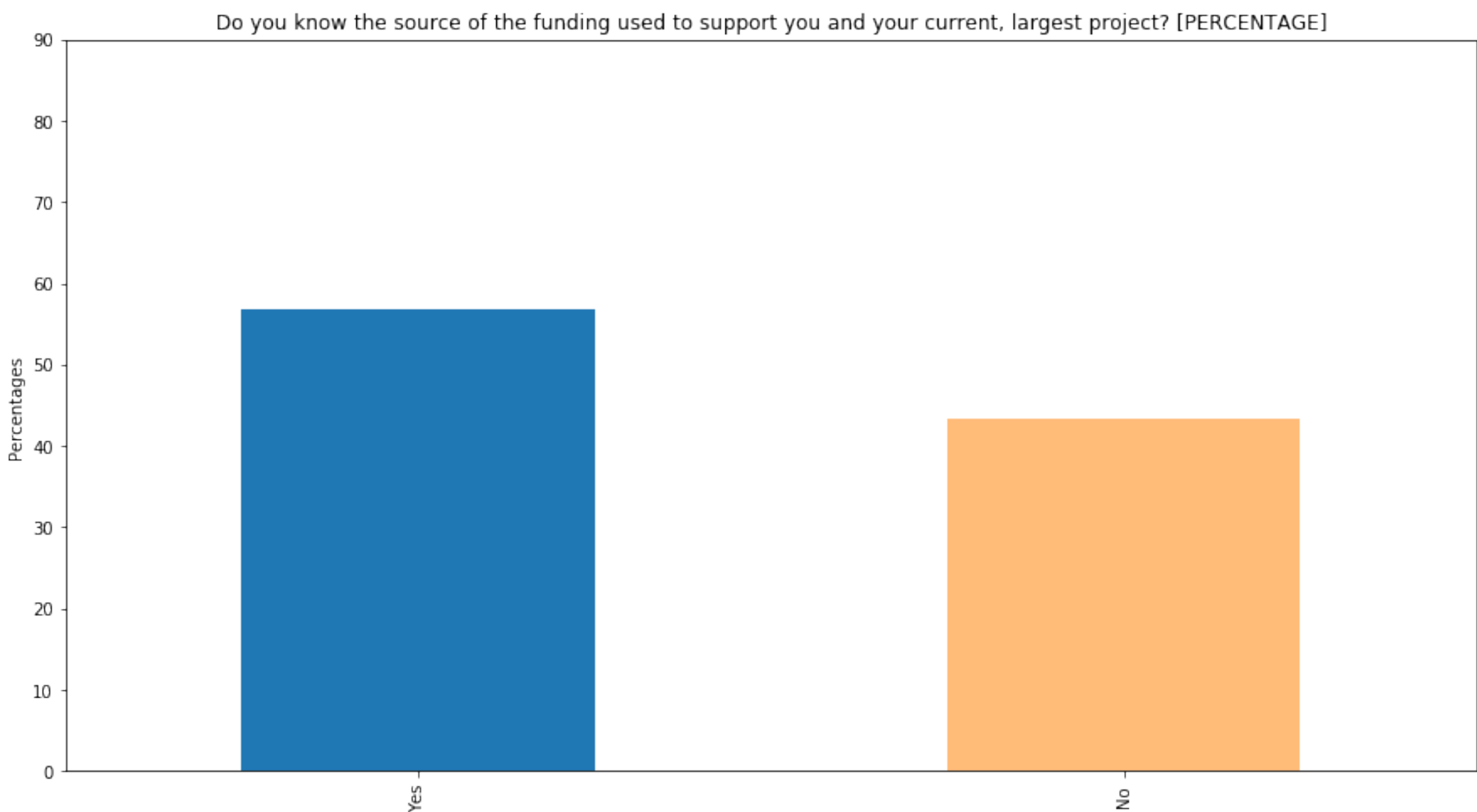
	Count
Federal and state governments (BMBF, BMWi, BMVg and	58
DFG, German Research Foundation	49
European Union (e.g. H2020, COST, EUREKA)	19
I volunteer my time	11
Foundations and conveyors (public and private, e.g.	6
Industry support	5
Consulting & services	3
Membership	2
Stifterverband	1
Venture capital	1

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Performance

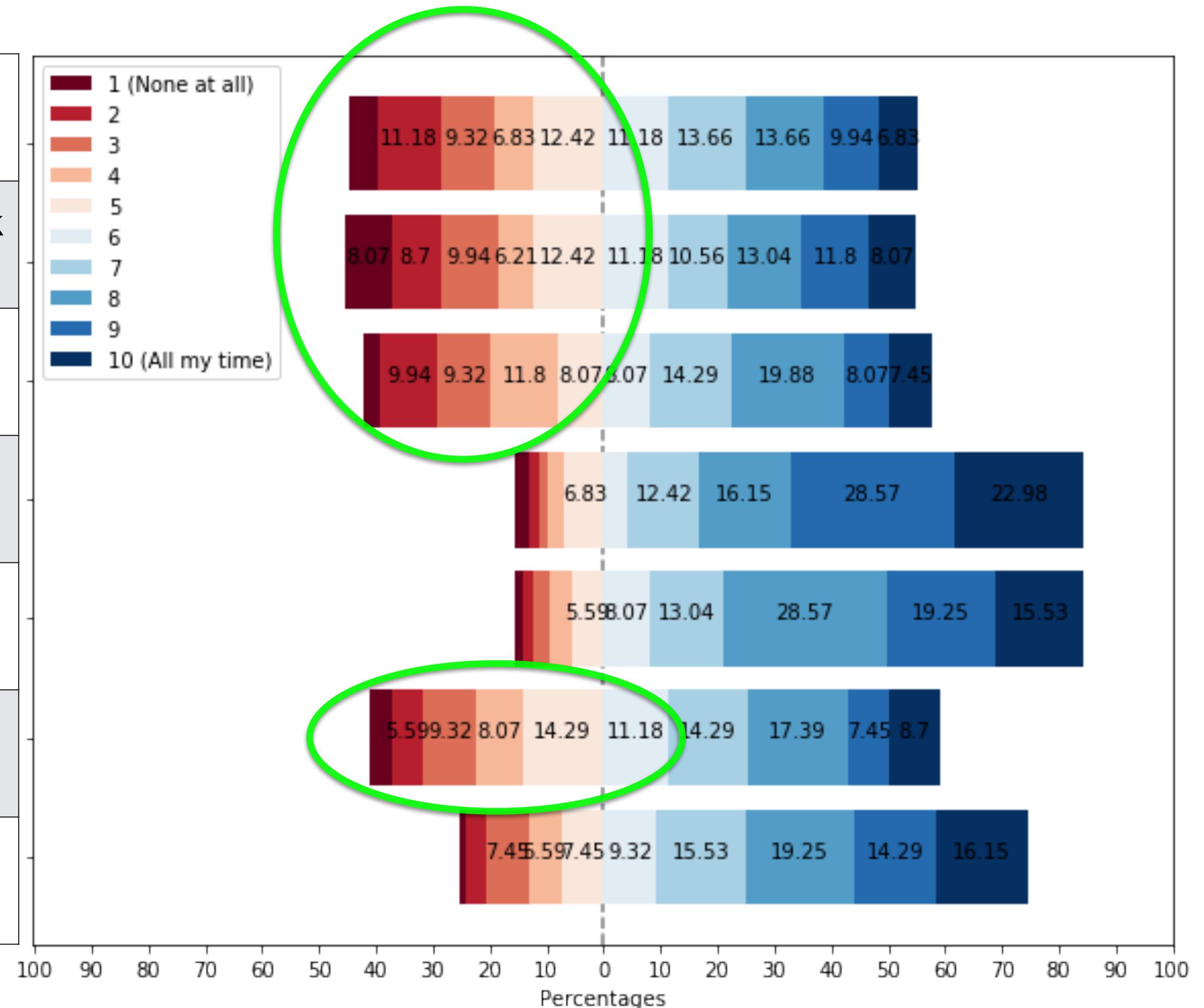| Question	Response distribution
Do you receive sufficient information on the results of your work?	11.18 9.32 6.83 12.42 11.18 13.66 13.66 9.94 6.83
Does your work give you the opportunity to check on how well you are doing your work?	8.07 8.7 9.94 6.21 12.42 11.18 10.56 13.04 11.8 8.07
In your work, do you have access to sufficient data and information?	9.94 9.32 11.8 8.07 3.07 14.29 19.88 8.07 7.45
Do you receive sufficient information on the purpose of your work?	6.83 12.42 16.15 28.57 22.98
Does your work provide you with direct feedback on how well you are doing your work?	5.59 8.07 13.04 28.57 19.25 15.53
Does your supervisor/line manager inform you about how well you are doing your work?	5.59 9.32 8.07 14.29 11.18 14.29 17.39 7.45 8.7
Do your colleagues inform you about how well you are doing your work?	7.45 5.59 7.45 9.32 15.53 19.25 14.29 16.15

Legend: 1 (None at all), 2, 3, 4, 5, 6, 7, 8, 9, 10 (All my time)

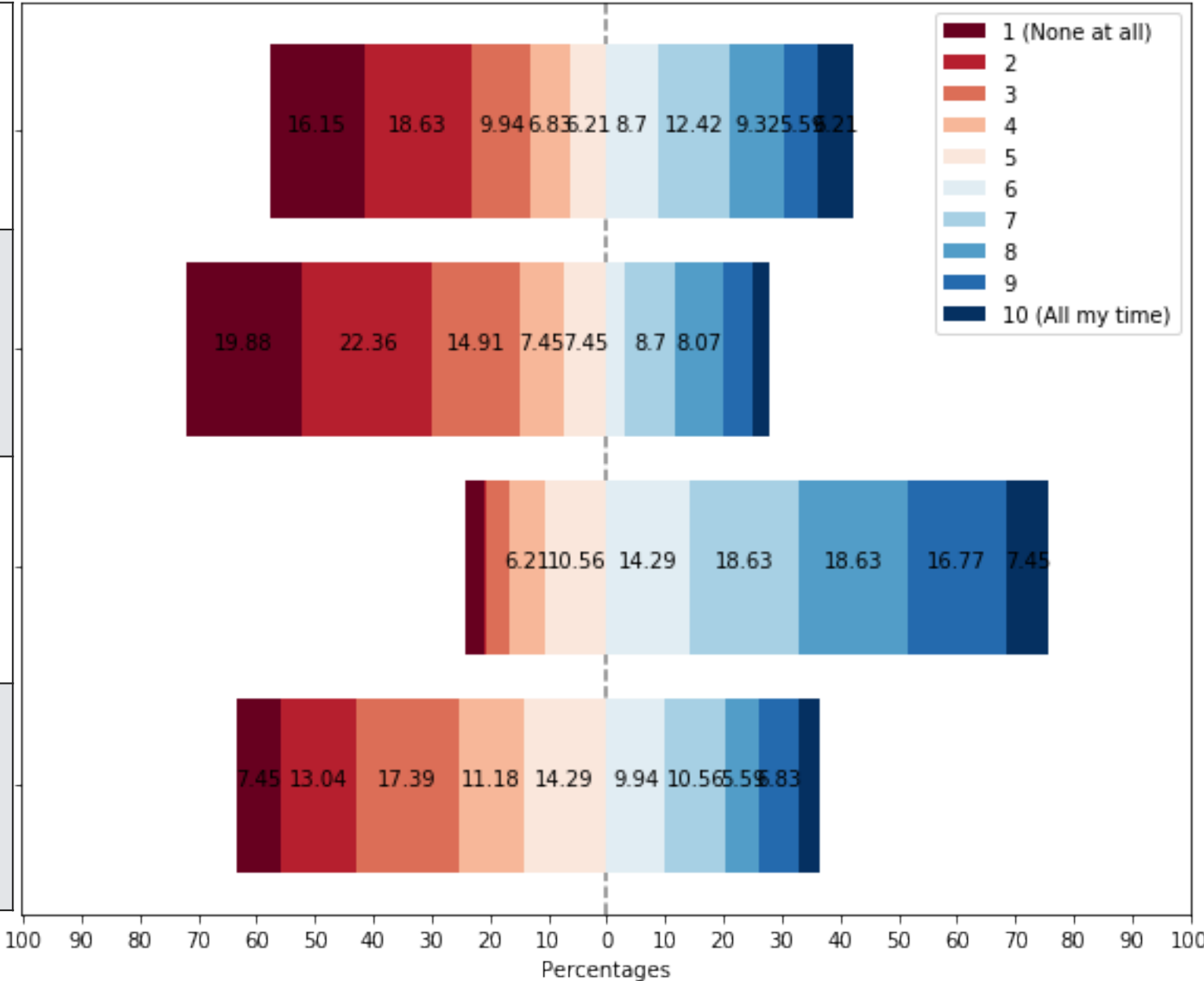Percentages

good vibes?

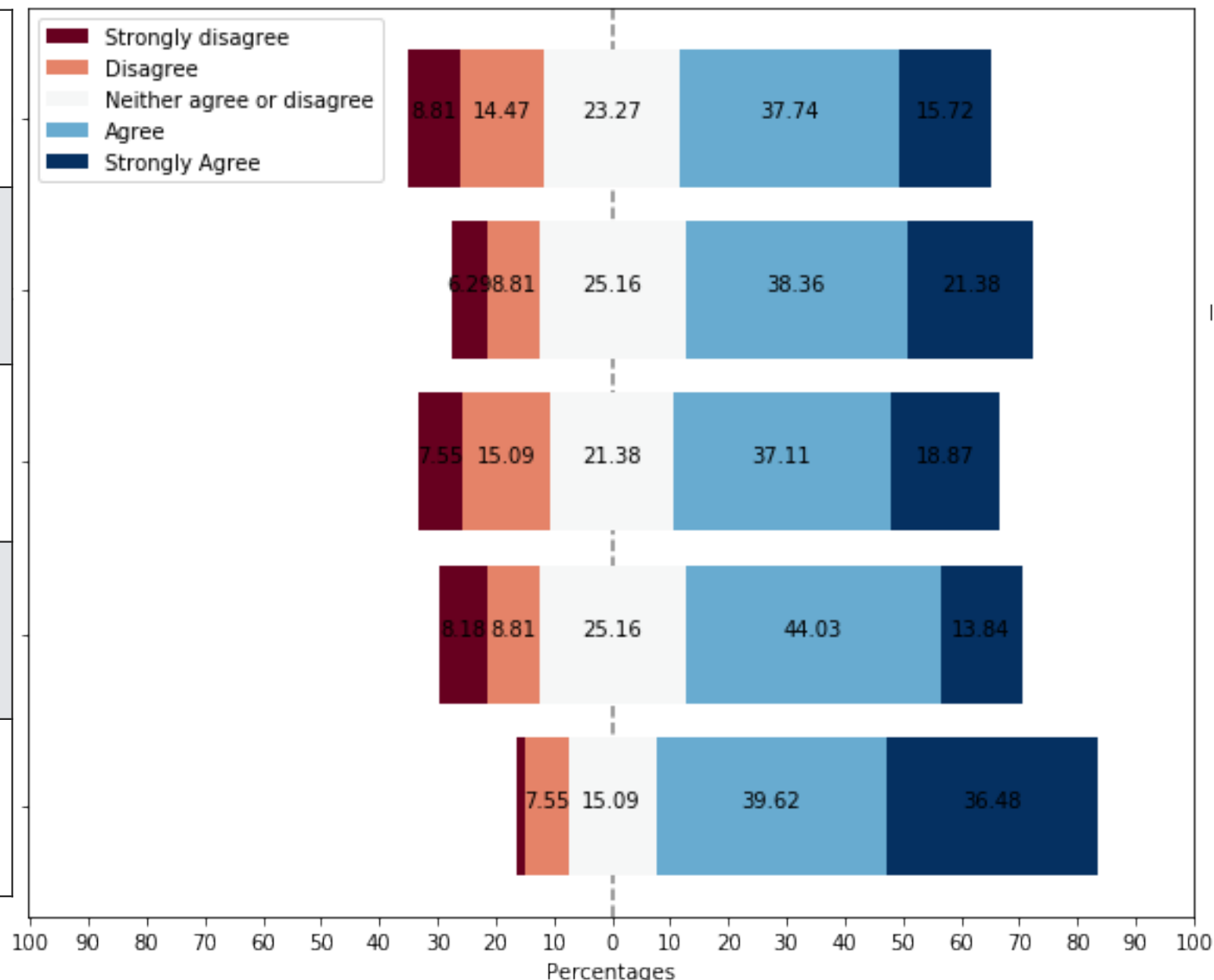|	
frustrated when not given the opportunity to achieve goals?	
How often do you look forward to another day at work?	
How often do you consider leaving your job?	
How often do dream about getting another job?	

Legend: 1 (None at all), 2, 3, 4, 5, 6, 7, 8, 9, 10 (All my time)

Values: 16.15 18.63 9.94 6.83 5.21 8.7 12.42 9.32 5.59 5.2 | 19.88 22.36 14.91 7.45 7.45 8.7 8.07 | 6.21 10.56 14.29 18.63 18.63 16.77 7.45 | 7.45 13.04 17.39 11.18 14.29 9.94 10.56 5.59 5.83

confidence in me	
word of thanks	
recognition I receive	
compliments	
encouragement	

Legend: Strongly disagree, Disagree, Neither agree or disagree, Agree, Strongly Agree

Values: 8.81 14.47 23.27 37.74 15.72 | 6.29 8.81 25.16 38.36 21.38 | 7.55 15.09 21.38 37.11 18.87 | 8.18 8.81 25.16 44.03 13.84 | 7.55 15.09 39.62 36.48

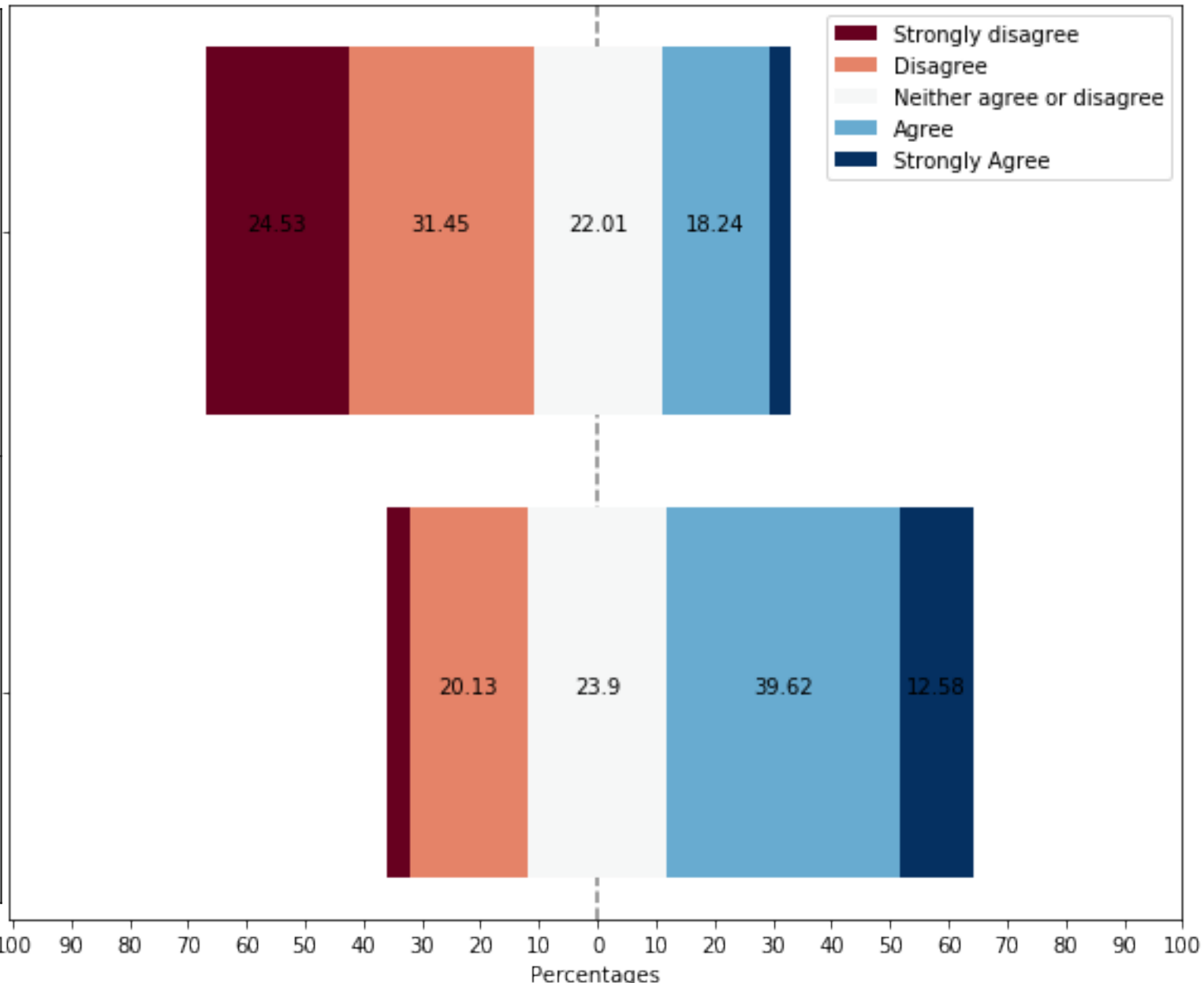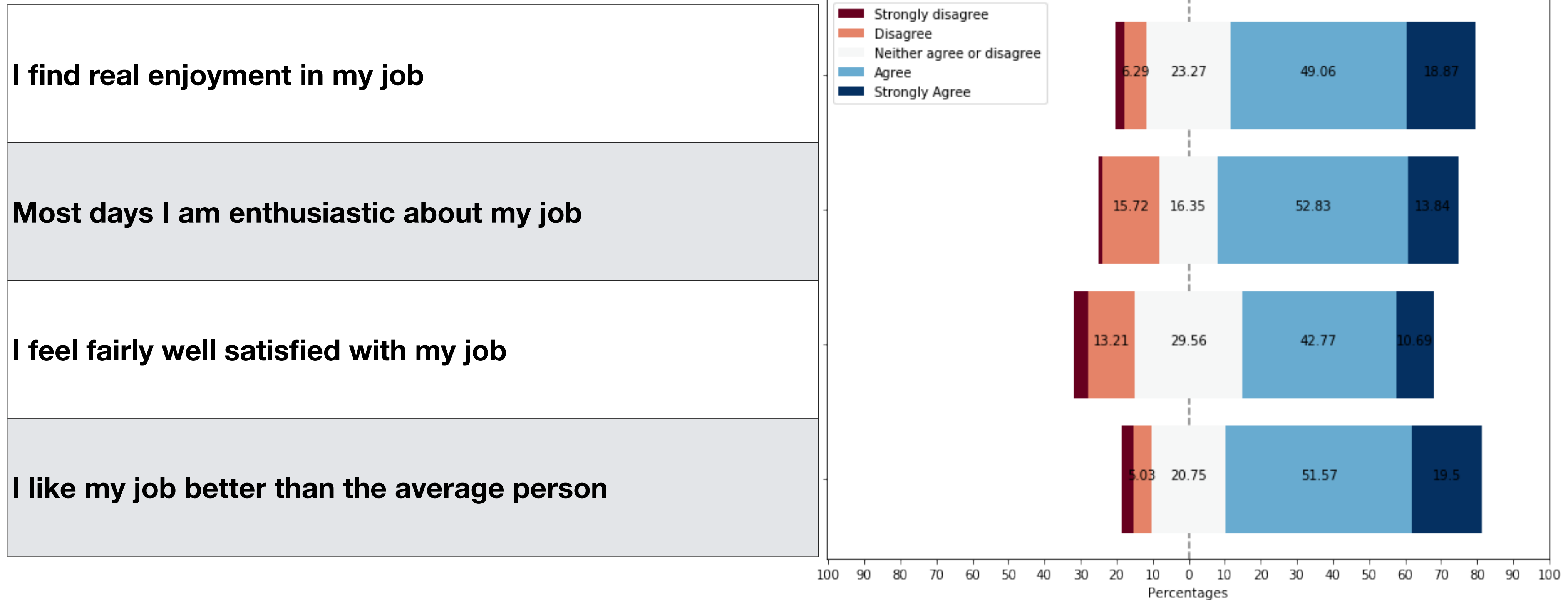|	
My current job satisfies my personal needs	
I would accept another job at the same compensation level if I was offered it	

Legend: Strongly disagree, Disagree, Neither agree or disagree, Agree, Strongly Agree

Values: 24.53 31.45 22.01 18.24 | 20.13 23.9 39.62 12.58

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RSE

Satisfaction 💋

I find real enjoyment in my job	
Most days I am enthusiastic about my job	
I feel fairly well satisfied with my job	
I like my job better than the average person	

Legend:
- Strongly disagree
- Disagree
- Neither agree or disagree
- Agree
- Strongly Agree

I find real enjoyment in my job: 6.29 | 23.27 | 49.06 | 18.87

Most days I am enthusiastic about my job: 15.72 | 16.35 | 52.83 | 13.84

I feel fairly well satisfied with my job: 13.21 | 29.56 | 42.77 | 10.69

I like my job better than the average person: 5.03 | 20.75 | 51.57 | 19.5

Percentages

Career ⬆TOP

It is likely that I will gain a promotion within my current group	11.95 / 14.47 / 45.28 / 22.01 / 6.29
The process I have to complete to gain a promotion is clear and understandable	18.87 / 28.93 / 29.56 / 18.24
There are many opportunities within my chosen career plan	15.72 / 23.27 / 25.16 / 28.93 / 6.92
My current position is an integral part of my career plan	29.56 / 22.01 / 26.42 / 15.09 / 6.92
It is likely that my next position will be an RSE role	35.22 / 28.3 / 27.67 / 5.66

Legend: Strongly disagree, Disagree, Neither agree or disagree, Agree, Strongly Agree — Percentages

gender 👫 & age ♿

Please select your gender [PERCENTAGE]
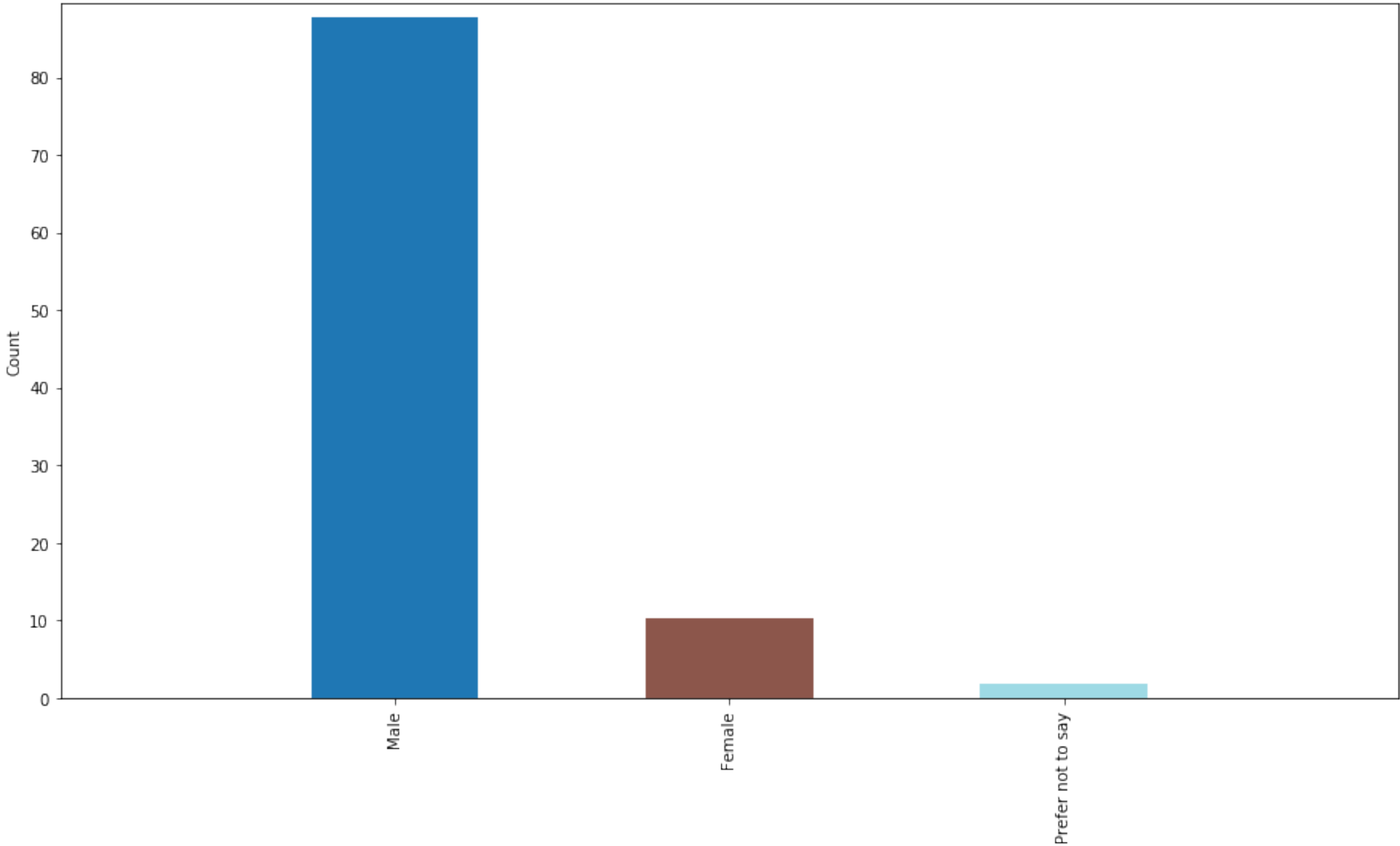
Please select your age [PERCENTAGE]
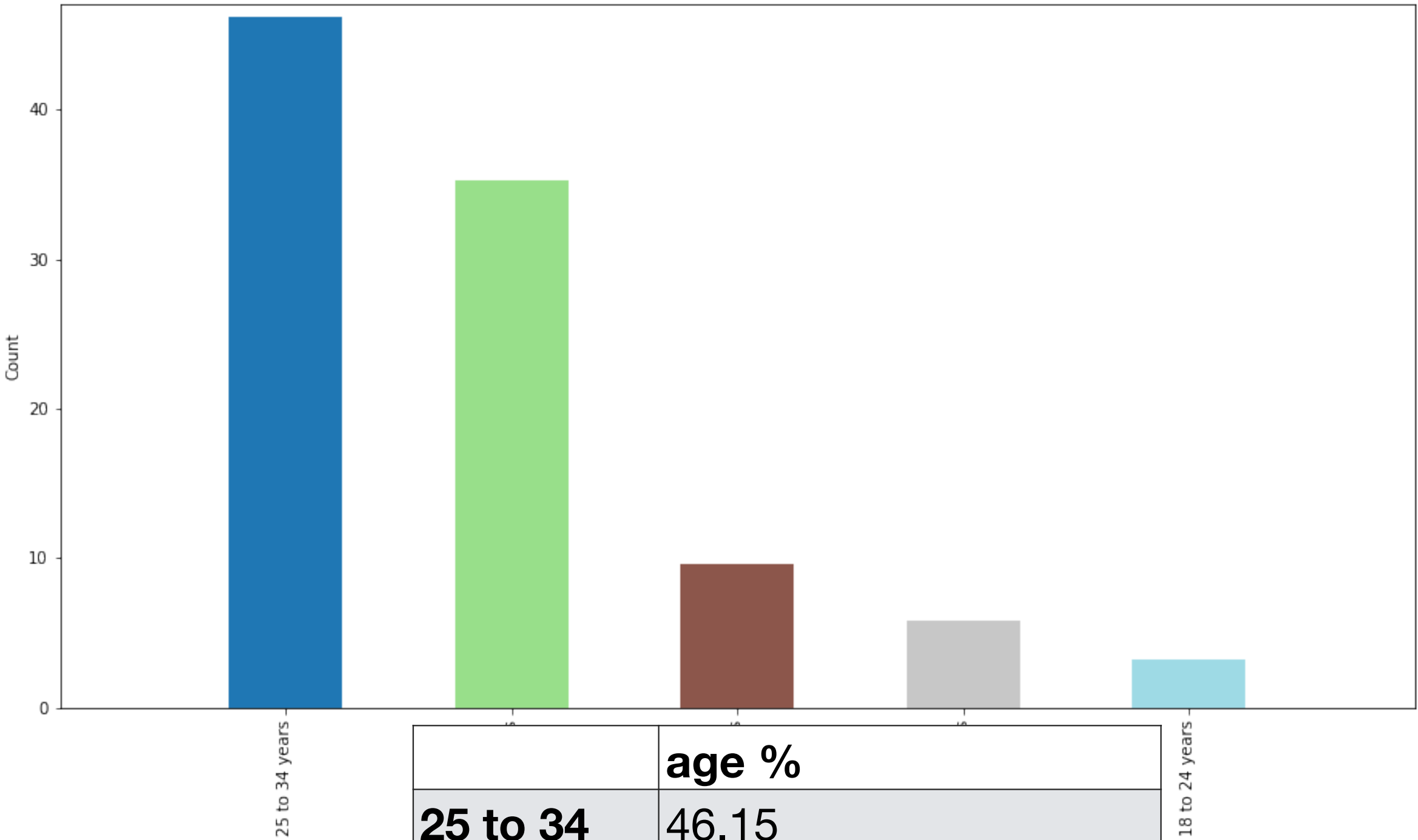
	age %
25 to 34	46.15
35 to 44	35.26
45 to 54	9.62
55 to 64	5.77
18 to 24	3.21

Salary 💰

Please select your renumeration group according to your collective bargaining agreement [PERCENTAGE]
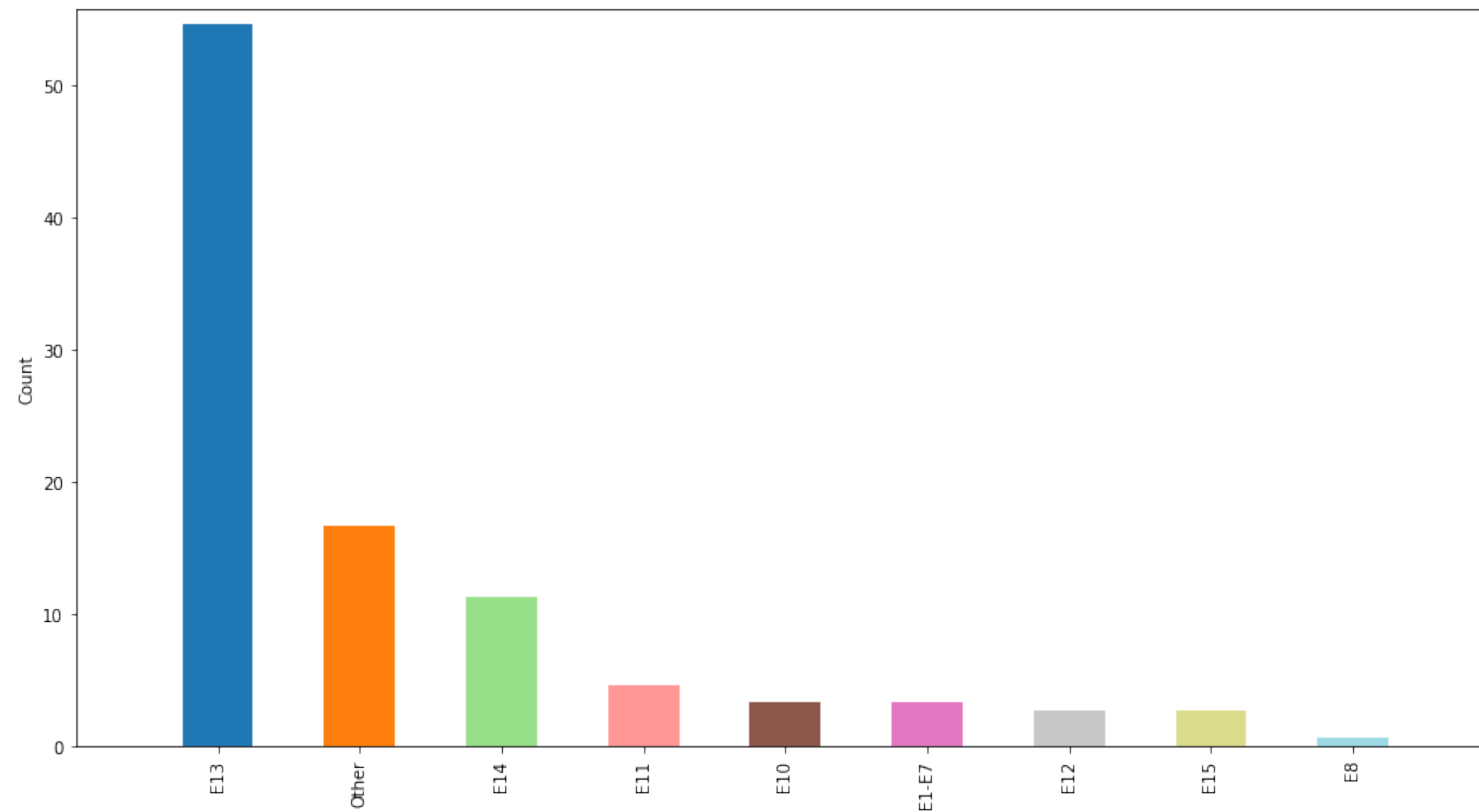
	renumeration group %
E13	54.67
Other	16.67
E14	11.33
E11	4.67
E10	3.33
E1-E7	3.33
E12	2.67
E15	2.67
E8	0.67

OS 🐧 💻 🖥

● GNU/Linux   ● Windows   ● OS X   ● Other
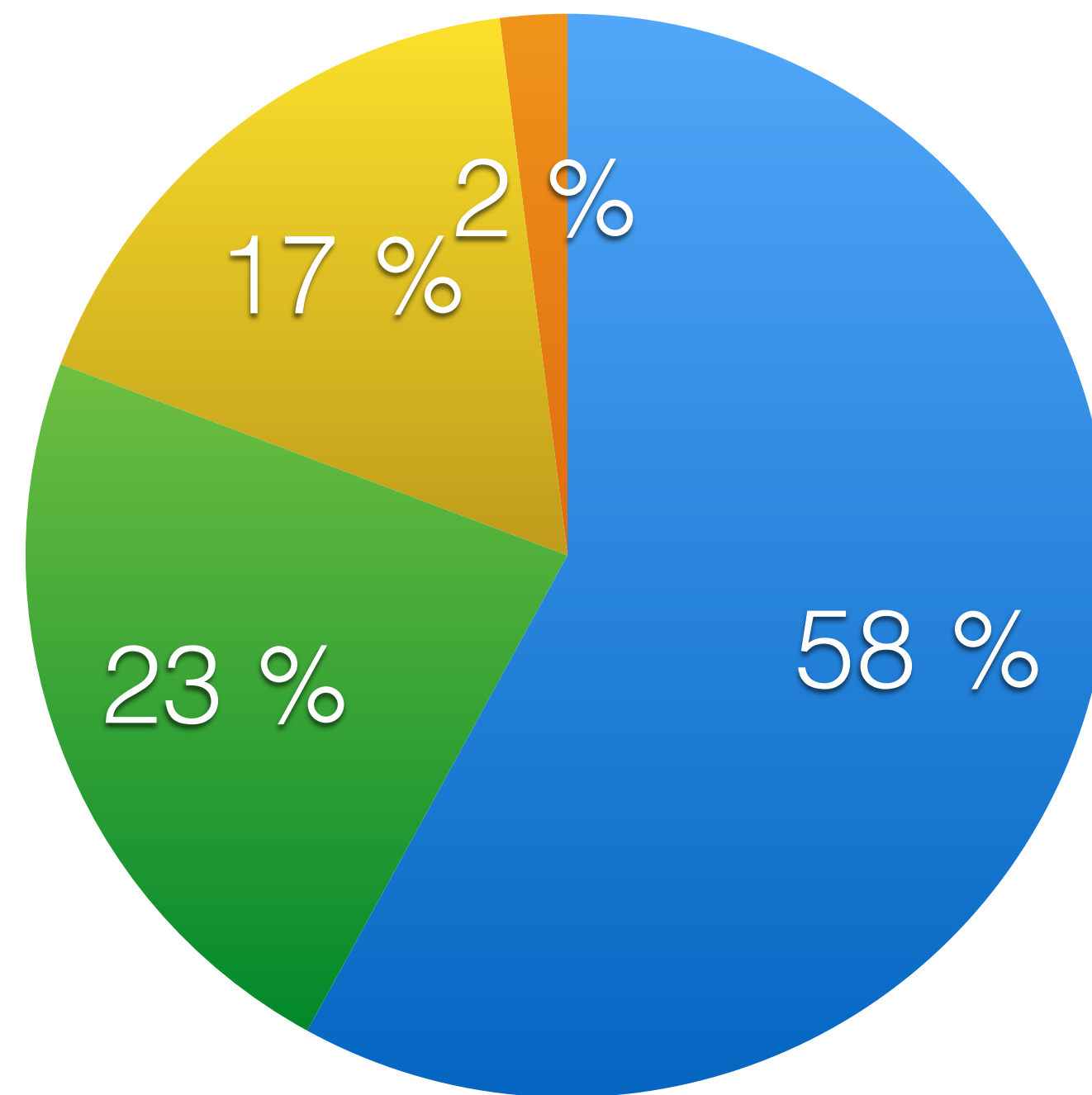
Language ⌨

Count [PERCENTAGE]
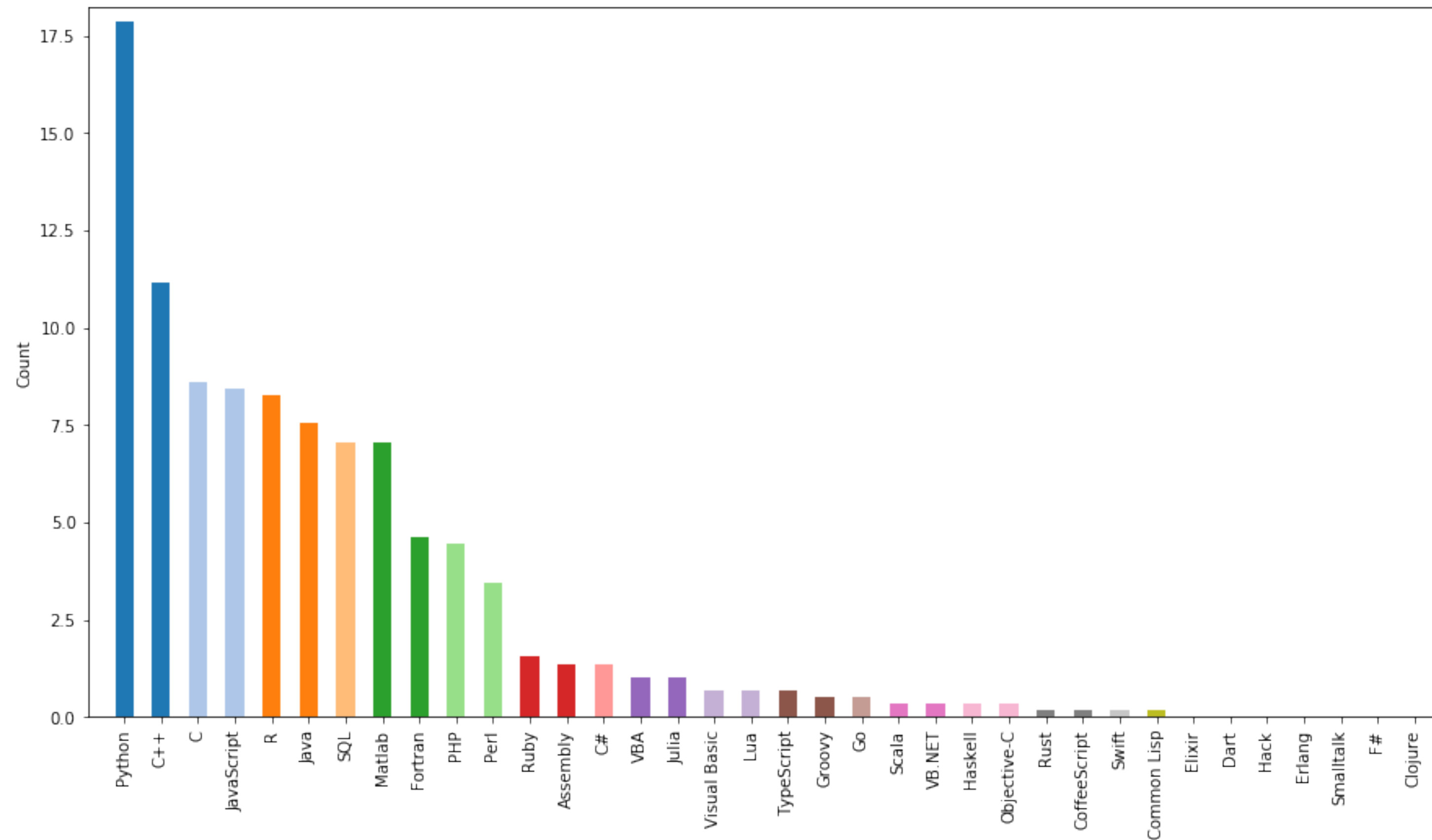
	Count
Python	17.87
C++	11.17
C	8.59
JavaScript	8.42
R	8.25
Java	7.56
SQL	7.04
Matlab	7.04
Fortran	4.64
PHP	4.47
Perl	3.44
Ruby	1.55
Assembly	1.37
C#	1.37
VBA	1.03
Julia	1.03

How learned?

Learning by doing	6
Autodidakt	4
learning by doing	4
Selbststudium	3
Autodidaktisch	2
Studium, Selbststudium	2
autodidaktisch	2
self-taught	2
trial and error	2
AUsbildung, Erfahrung	1
Ausbildung	1
Ausbildung, Praxiserfahrung aus der Industrie	1
Autodidaktisch und gelegenliche Kurse bei externen Schulungsanbietern	1
Autodidaktisch, Workshops	1
Autodidaktisch, Online Kurse, Fachhochschule	1
Autodidaktisch, wissenschaftliche Ausbildung im Bachelorstudium (Nebenfach Informatik)	1
By just doing it	1
By myself.	1
BÃ¼cher, Zeitschriften, Internet lesen, viel ausprobieren und spielerisch programmieren	1
BÃ¼cher, learning-by-doing	1
BÃ¼cher,Tutorials	1
Eigenstudium	1

RSE

community & conference

Are you a member of the de-RSE initiative? (Members are people who have signed up to the de-RSE mailing list, http://www.de-rse.org/en/join.html) [PERCENTAGE]
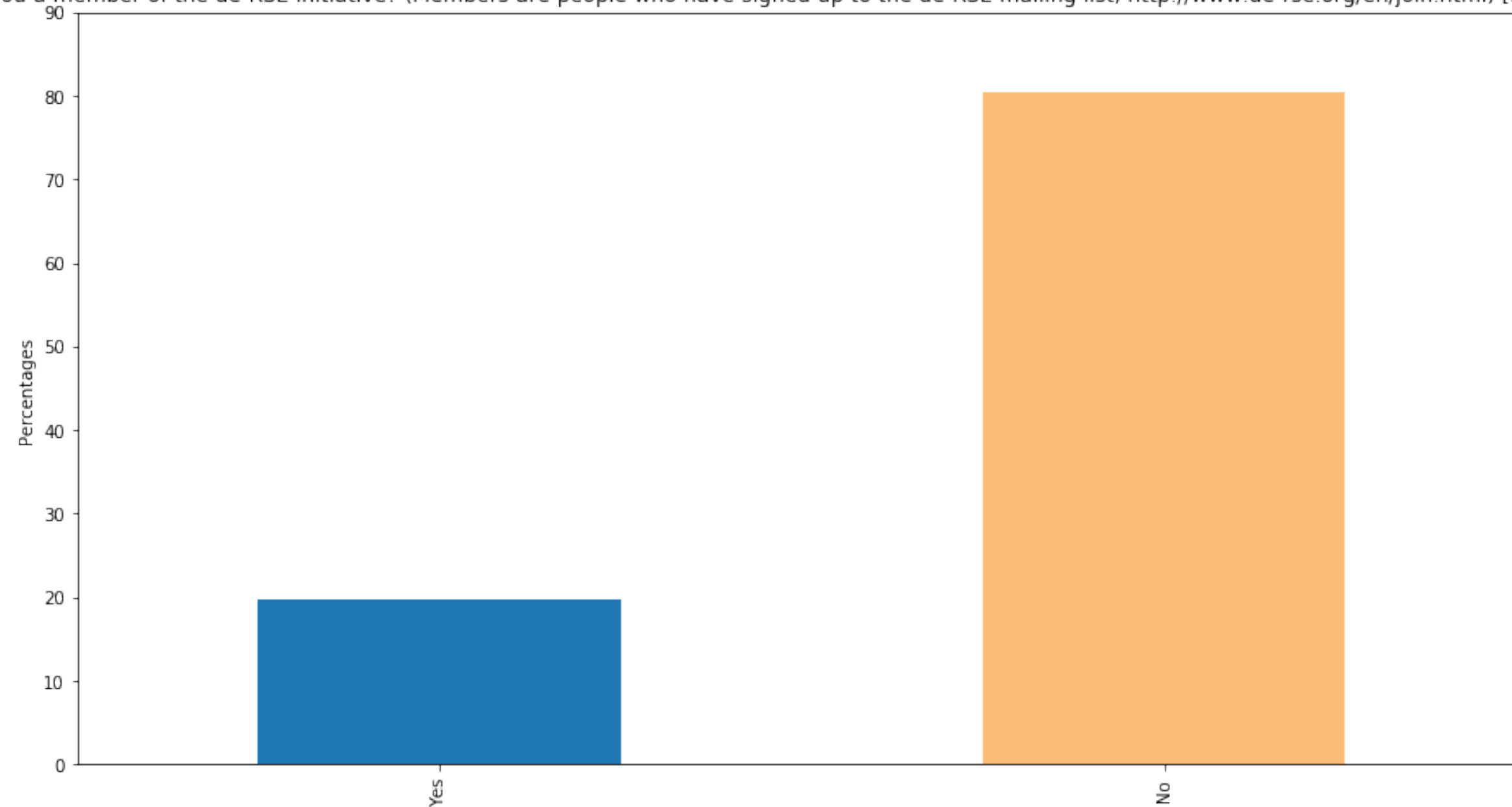
de RSE mailing list
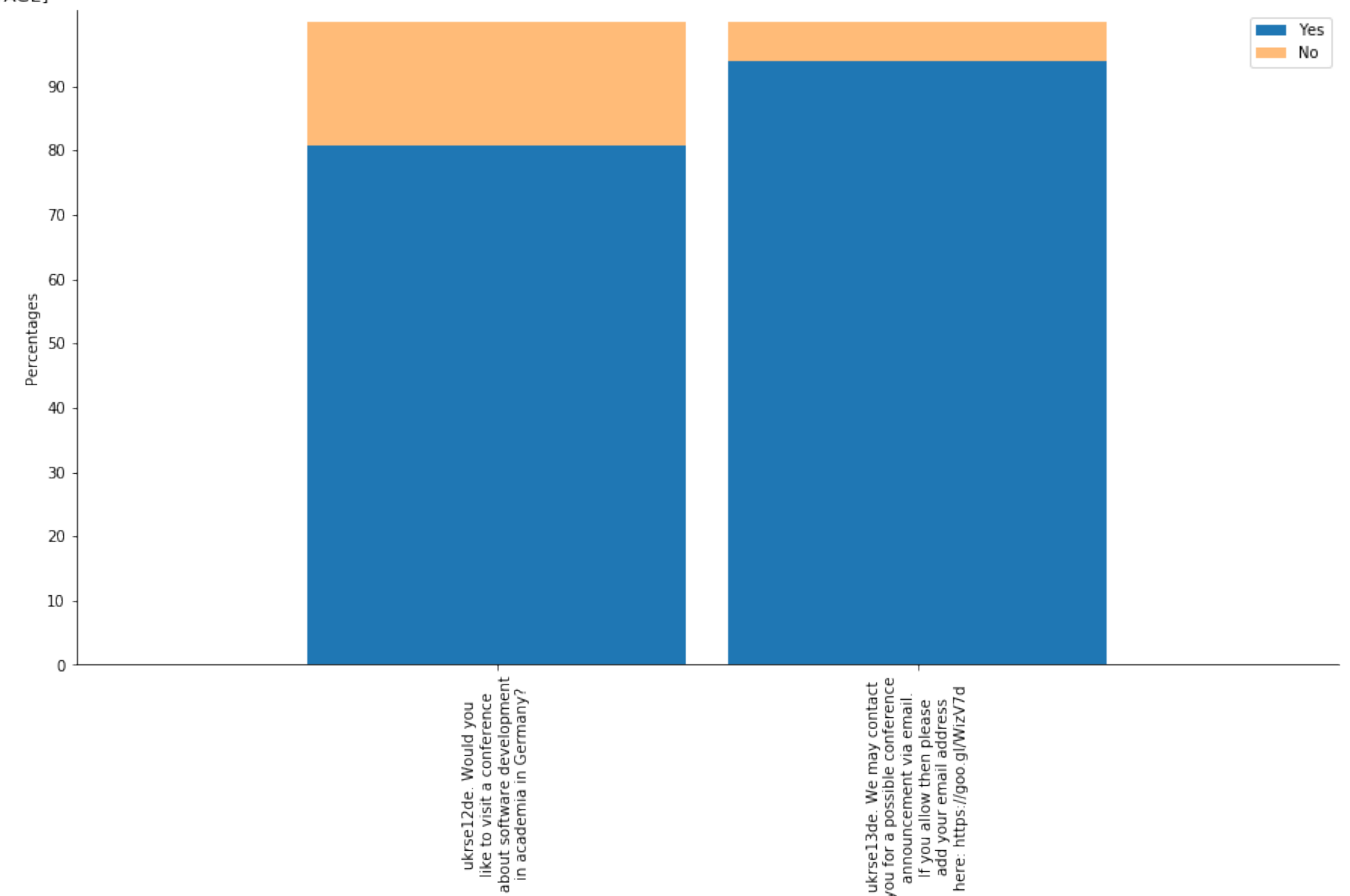
skill improvement wishes

Thank you!

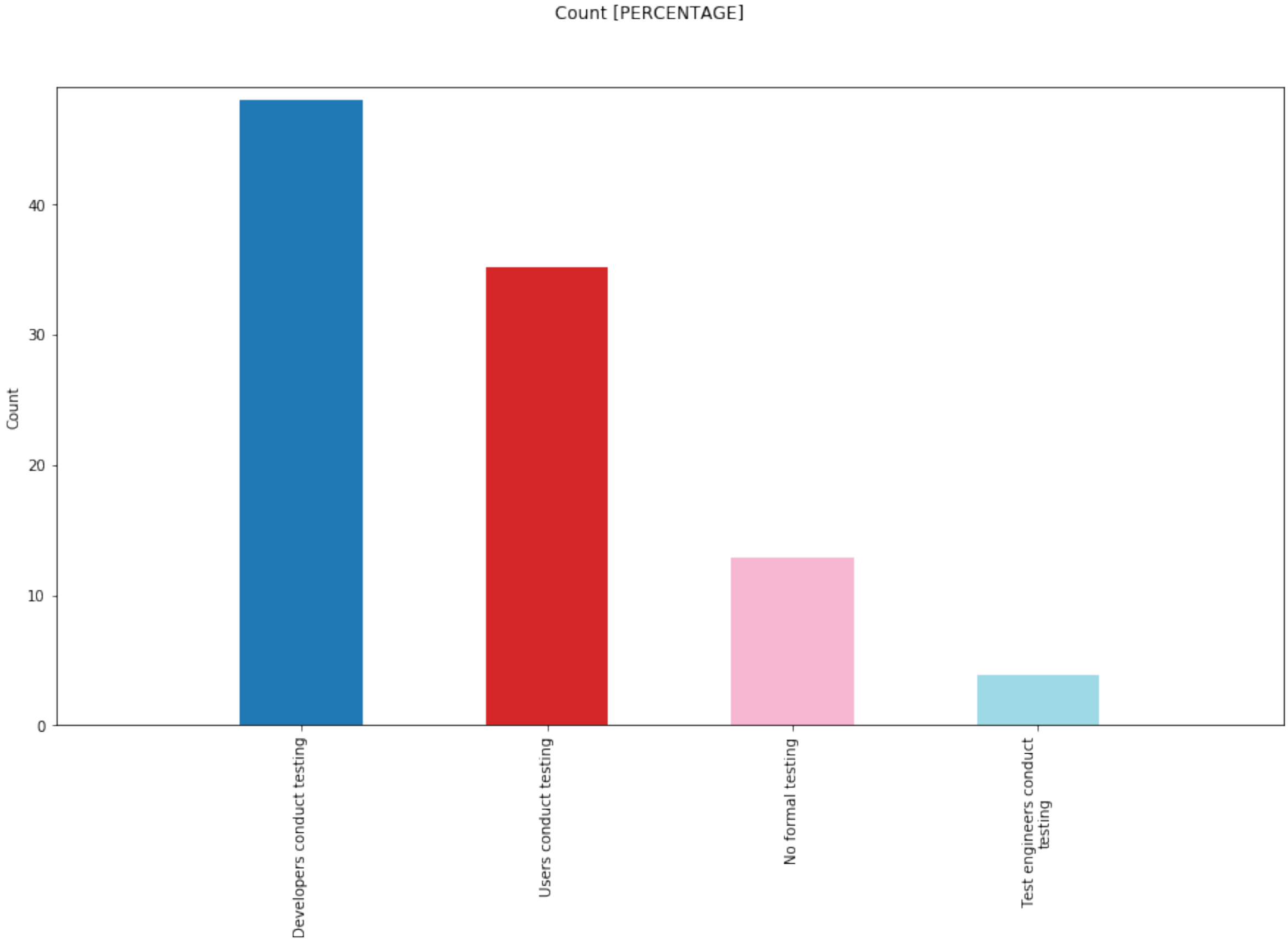

License: Creative Commons Attribution 4.0 license (CC-BY)

Bonus Author
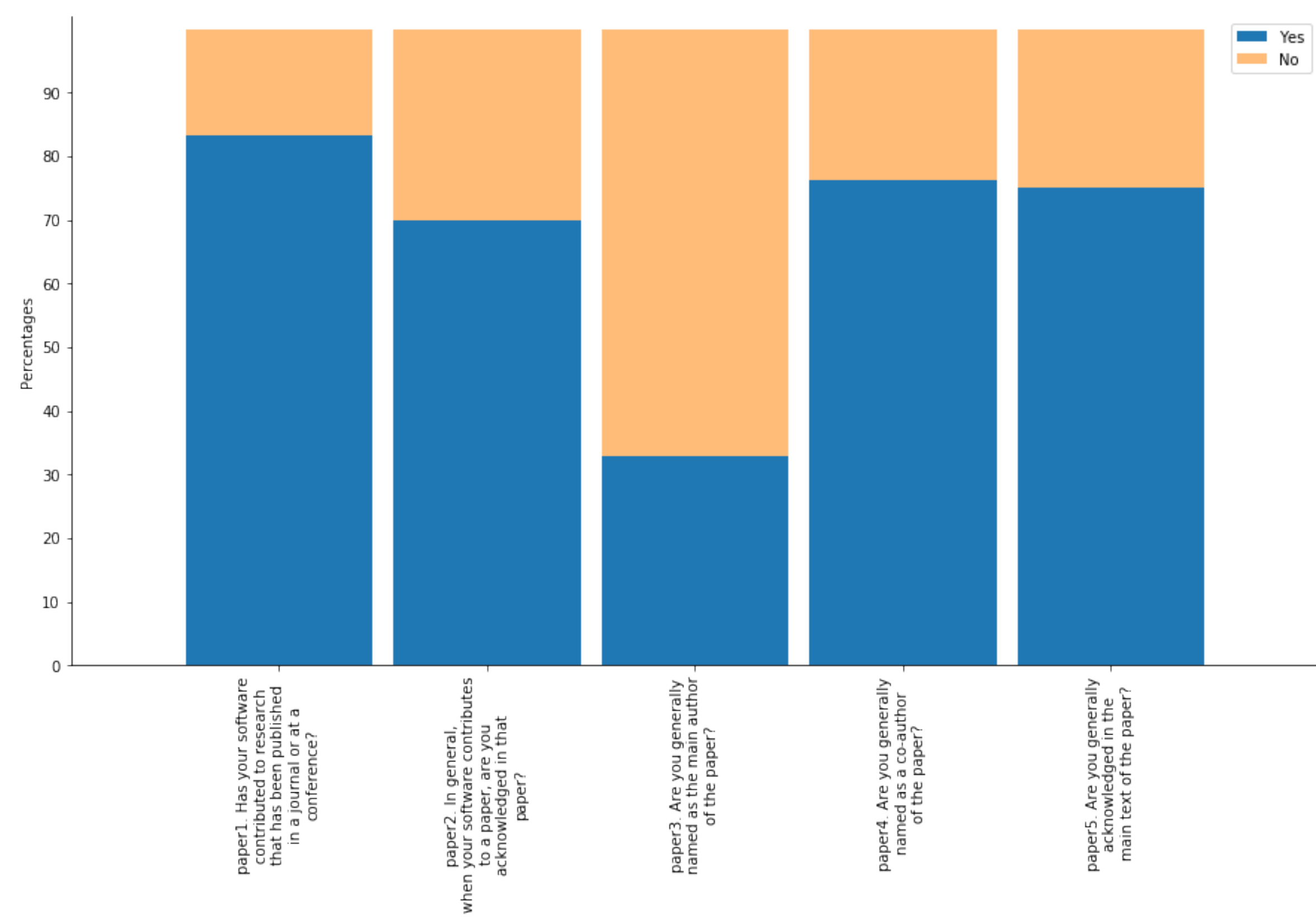
	Yes	No
contributed paper published in a journal or at a conf.	83.24	16.76
are you acknowledged in that paper?	69.83	30.17
named as the main author of the paper?	32.80	67.20
named as a co-author of the paper?	76.19	23.81
acknowledged in the main text of the paper?	75.00	25.00

Testing

	Count [PERCENTAGE]
Developers conduct testing	48.05
Users conduct testing	35.14
No formal testing	12.91
Test engineers conduct testing	3.90

Training 💊

Have you ever trained researchers in computational techniques? [PERCENTAGE]
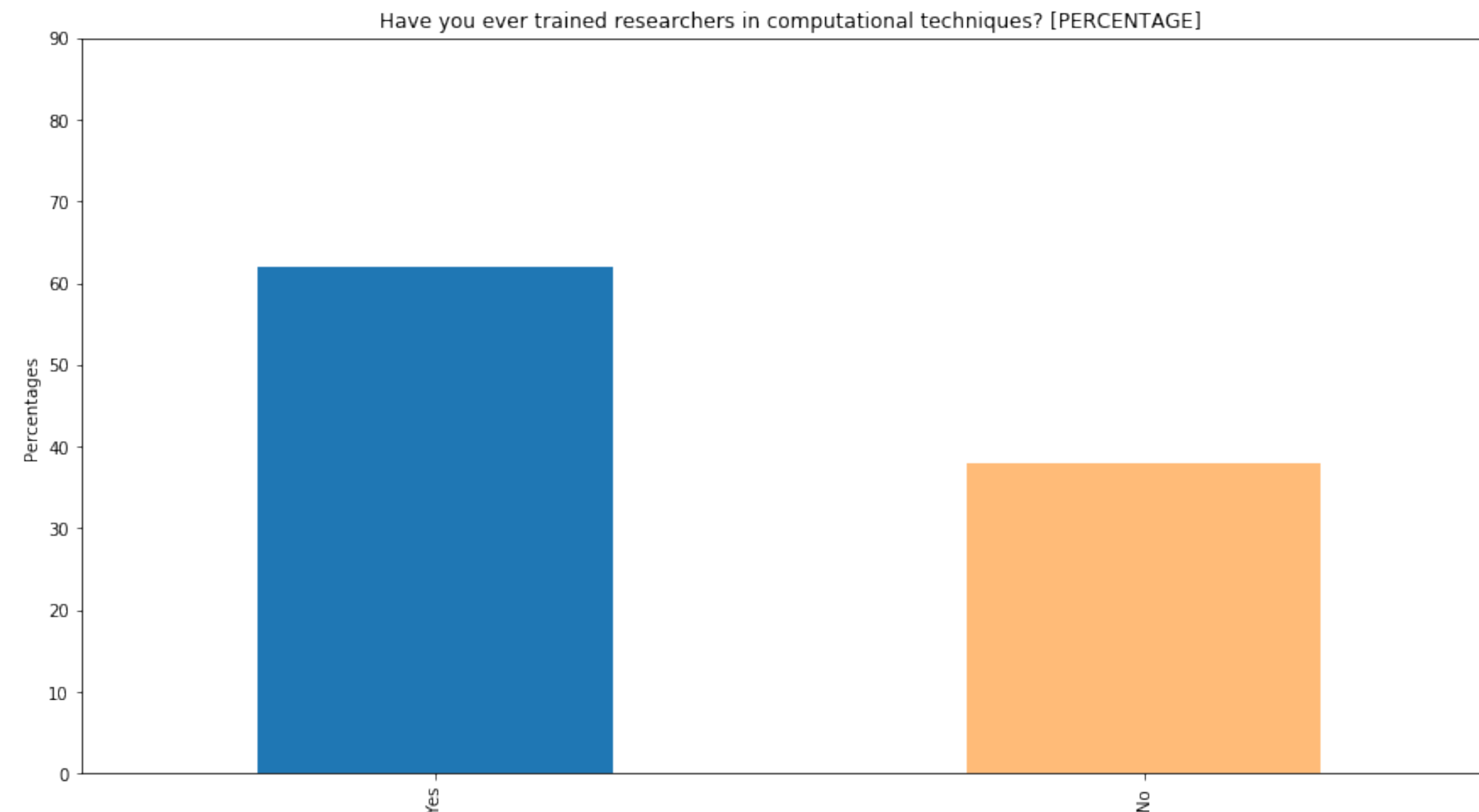
	Yes	No
trained researchers? %	62.01	37.99

Software Carpentry	**7**
Lehrgang an UniversitÃ¤ten	**4**
local university training	**2**
Lehrgang an UniversitÃ¤ten, Sage days, Pari ateliers	**1**
(nothing formal)	**1**
Cajal Workshop, Connectomics Workbench	**1**

Stephan Janosch