

Perspectives from Young Scientists

RECFA visit to Sweden

16 May 2024

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Introduction - ECR survey

- Survey to collect the perspectives on our field from fellow young colleagues
- Themes such as working conditions, career prospects and future colliders!
- Consisted of 23 questions, and was designed to take a maximum of 10 minutes to complete
- Distributed via the national elementary particle physics mailing lists, and to local contacts at major universities

Early career researchers' perspective

This survey aims to gather valuable insights from early career researchers, including bachelor/master students, PhD students, and postdoctoral researchers, regarding their experiences, interests, and perspectives in academia and research. Your participation will help us better understand the challenges, aspirations, and preferences of the next generation of researchers.

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* Anger obligatorisk fråga

What is your current academic status? *

BSc/MSc student

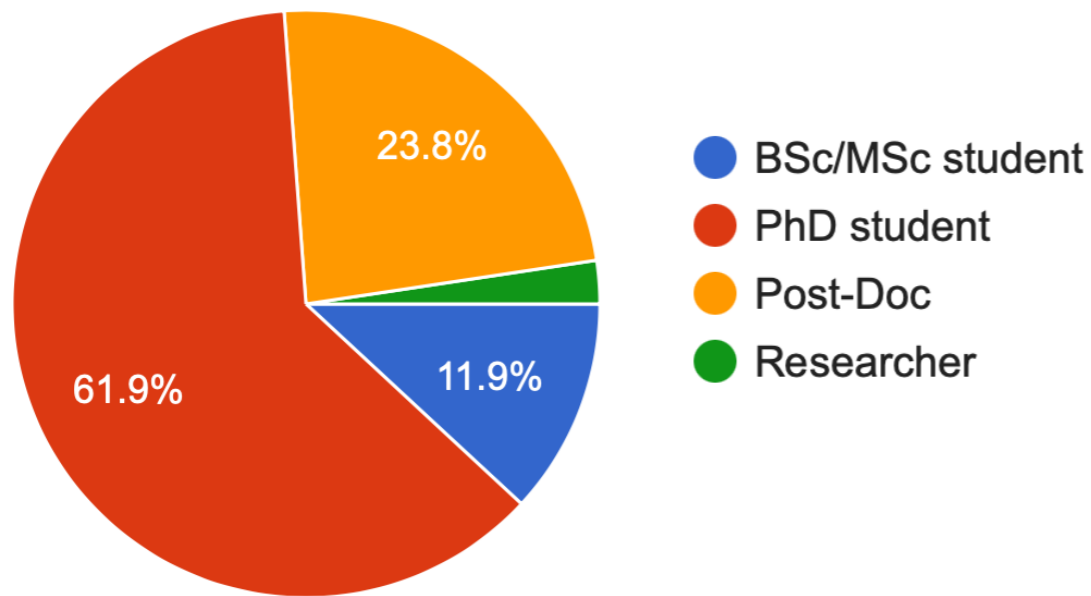
PhD student

Post-Doc

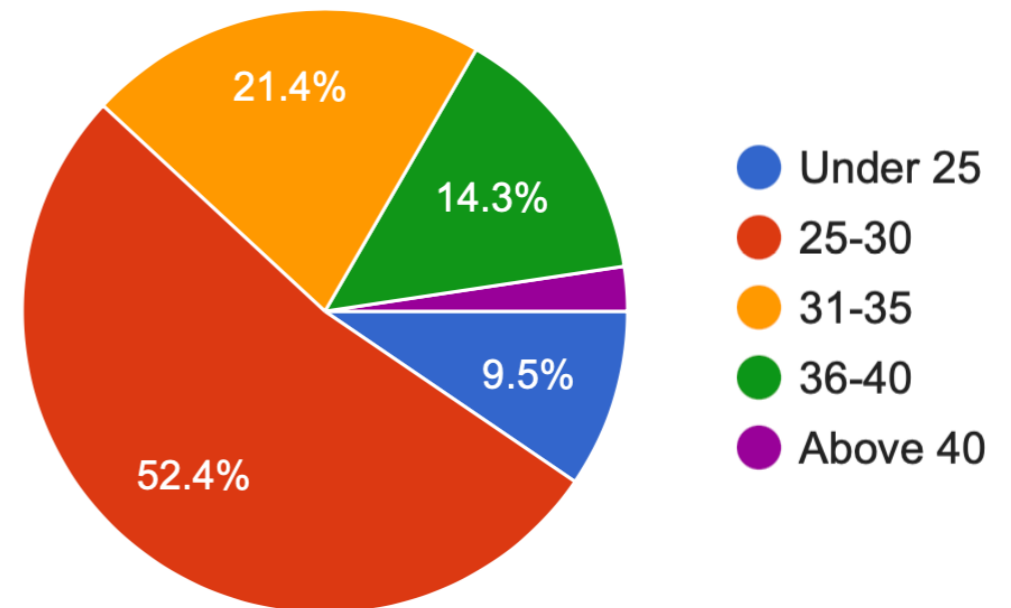
Övrigt: _____

Survey demographics

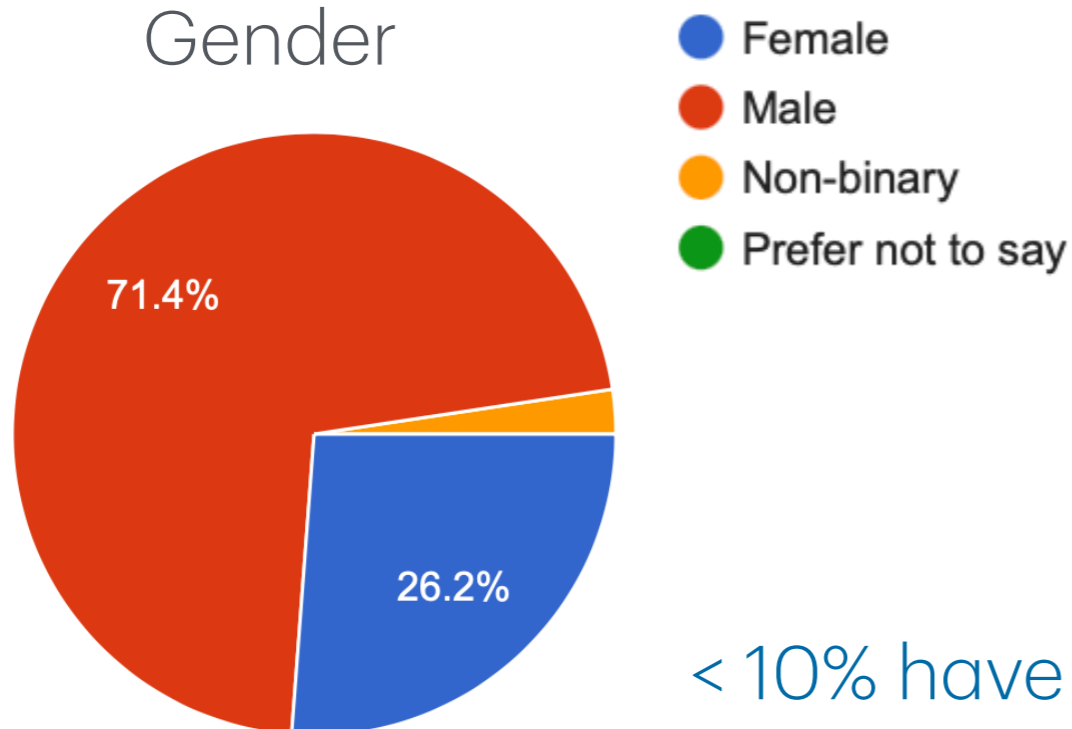
Academic status



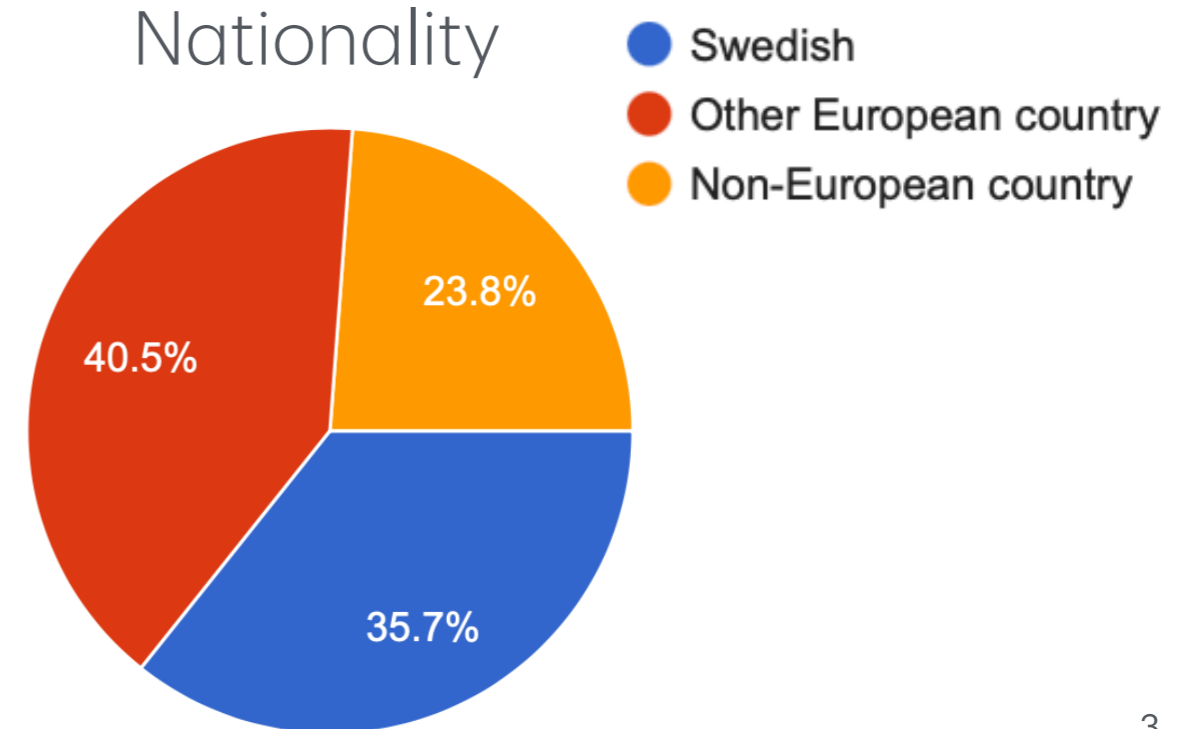
Age range



Gender



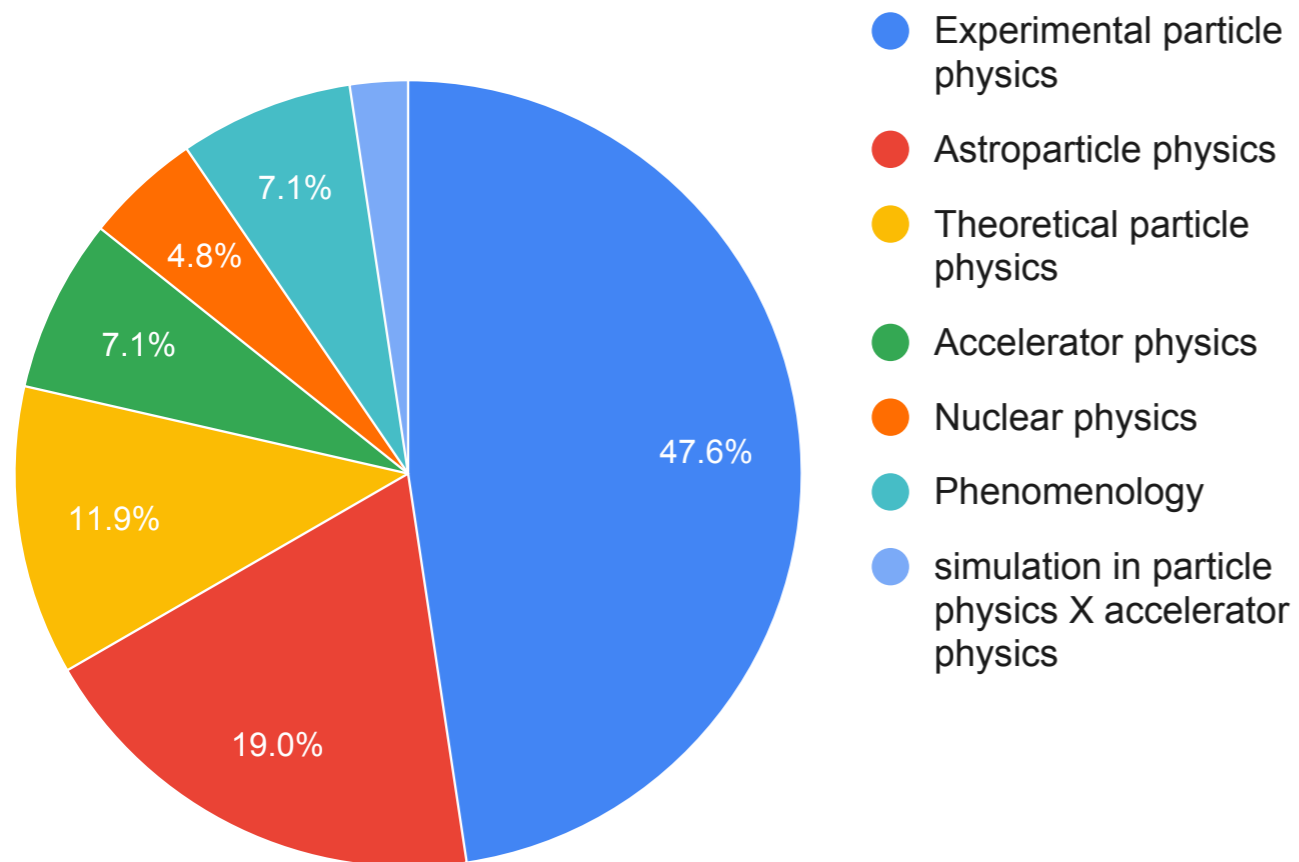
Nationality



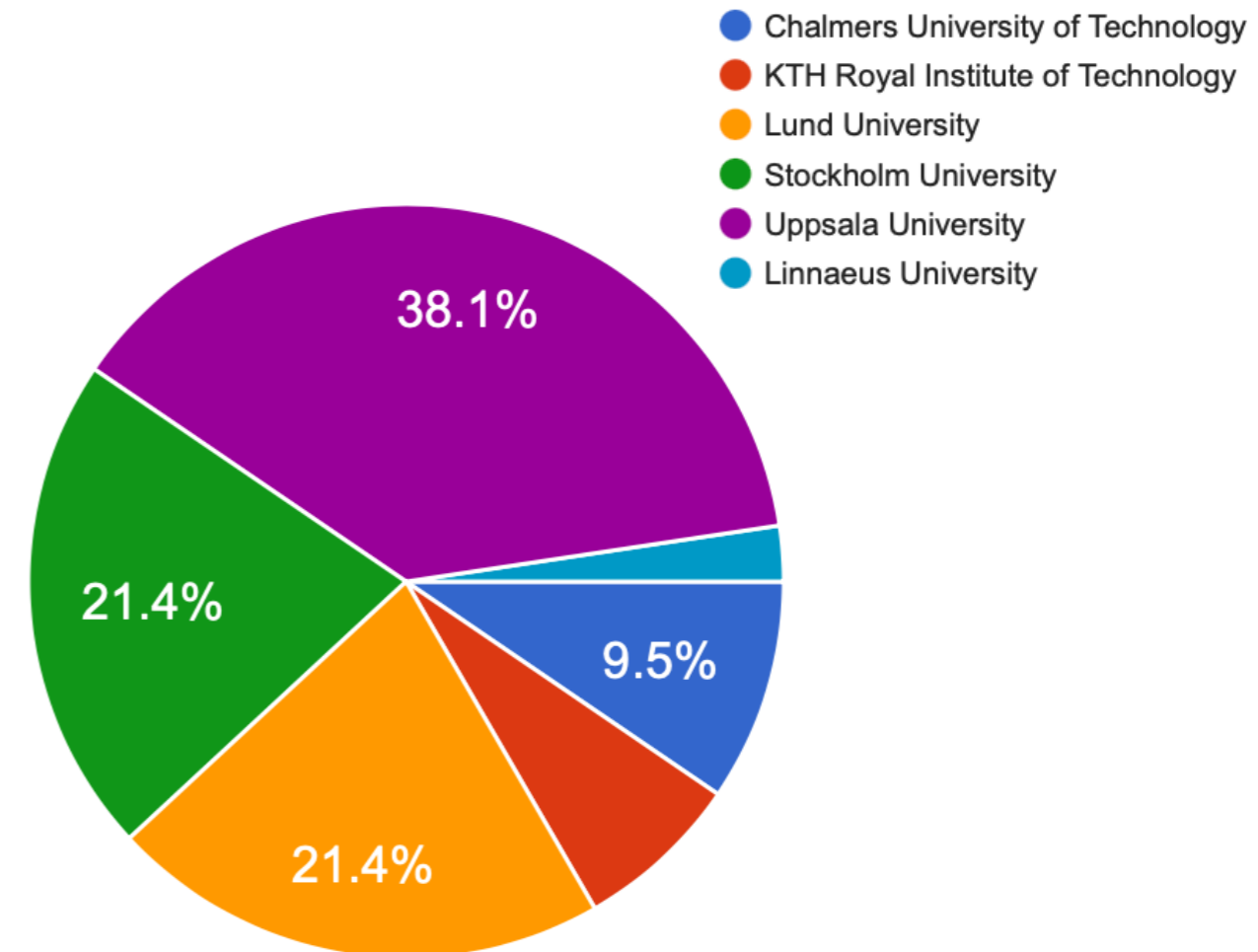
< 10% have kids

Survey demographics

Primary field of research

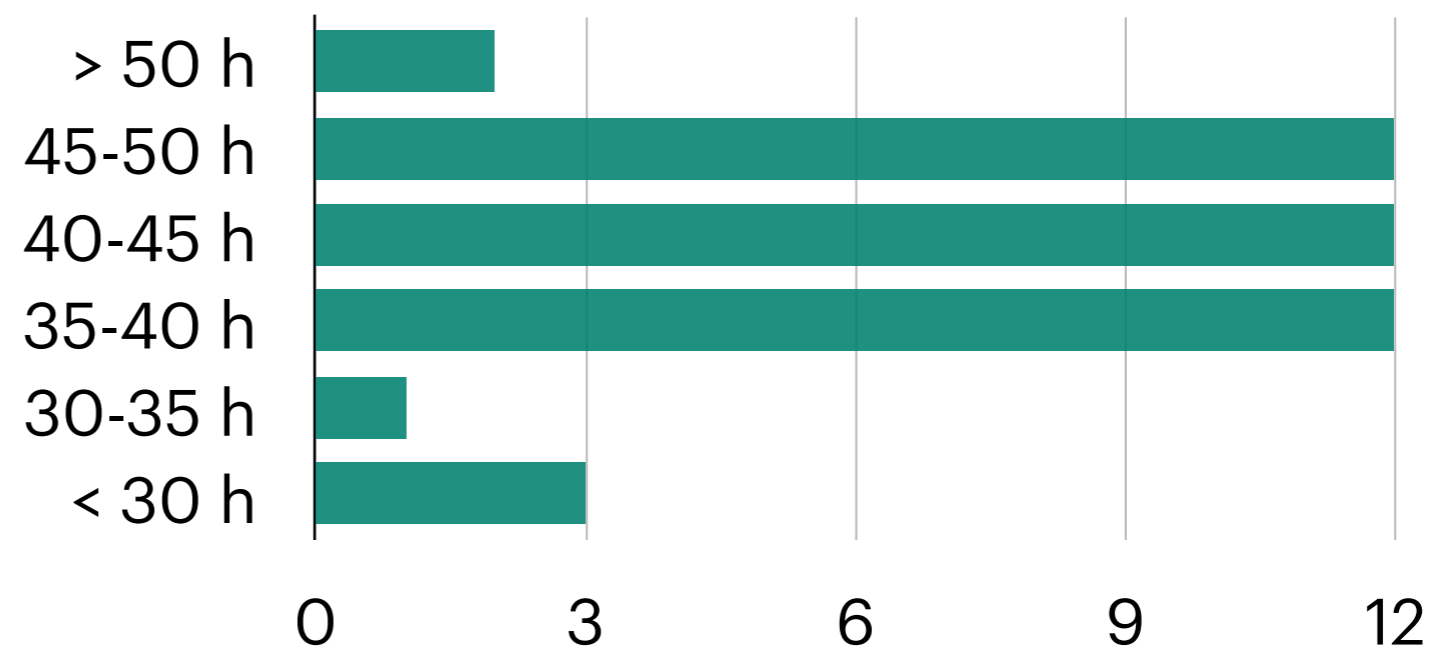


Affiliation

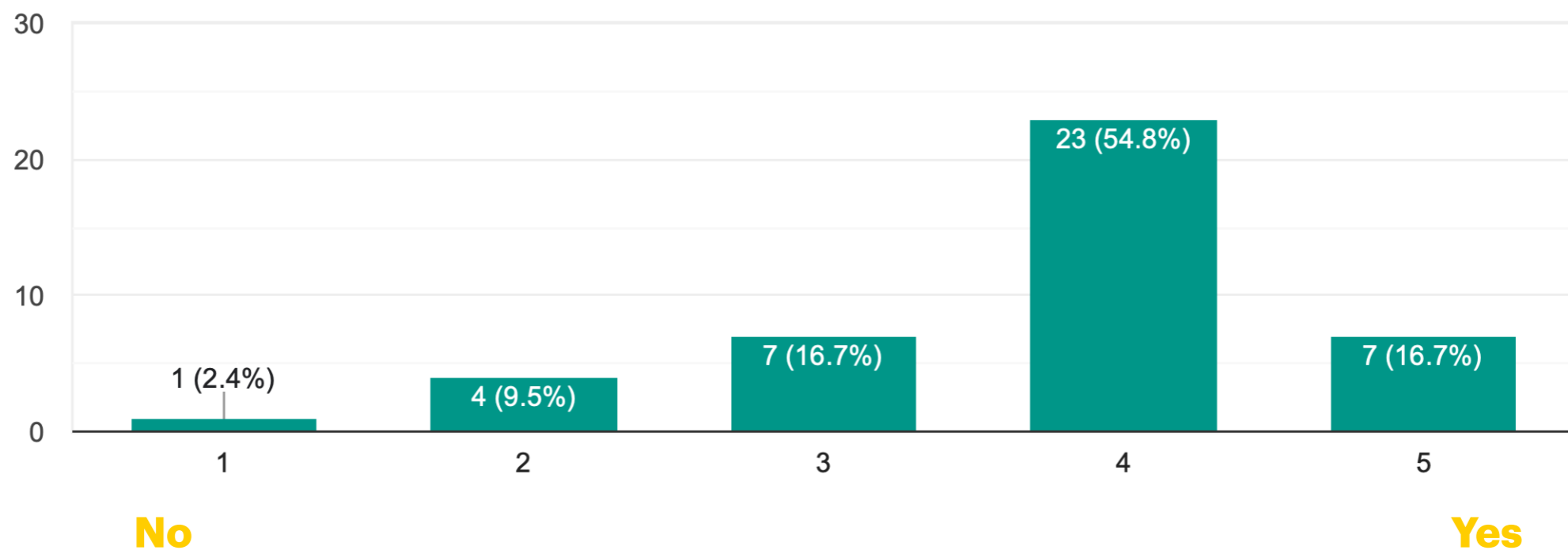


Work conditions

Average work hours/week



Are you satisfied with your work/studies?



Q: What factors contribute the most to your satisfaction or dissatisfaction?

Many ECRs quote their research topic as the source to their satisfaction!

Satisfaction: research!

"The pleasure of doing physics everyday!"

"The subject! I'm getting to do what I want to do"

"Fun subject, motivating work, good supervising"

"Flexibility, exciting work versus mobility requirement, enthusiasm"

"Science is frickin' awesome"

"Interesting stuff"

"Interesting subject, lovely colleagues"

"Working on research that is interesting"

"To work with something I am really interested in, the autonomy and nice colleagues!"

"To my satisfaction: Being able to contribute to the most wonderful science."

"The ability to have autonomy over my research and the collaborative nature of it"

Q: What factors contribute the most to your satisfaction or dissatisfaction?

The main cause for dissatisfaction among the ECRs is the excessive workload and the challenge to manage the work within regular working hours

Dissatisfaction: excessive workload and time management

"I've got a lot of work which is good cause I get to do things but it's a tight balance and can easily become too much."

"Unhealthy work-life balance."

"I'm satisfied with my ideas but I don't complete the work needed to implement them"

"The irregular working hours make it very hard to combine this career with family life. Meetings outside regular Swedish working and child care hours are very common and hard to avoid. Most important conferences also happen in the middle of the summer during the standard Swedish vacation period. The limited duration of the postdoc employment and the insecurity about the future steps in the career is also an important negative aspect of my work."

Q: What factors contribute the most to your satisfaction or dissatisfaction?

The social environment at the workplace, colleagues and supervision can evoke both dissatisfaction and satisfaction for the ECRs

Dissatisfaction

"The psychosocial work-environment"

"Dissatisfied with my progress in work and social work environment"

"Poor supervision"

"Lack of recognition, lack of guidance"

"I love research. I do not like the structure/pressure of academia"

Satisfaction

"Interesting subject, lovely colleagues"

"High quality office space, considerate coworkers"

"Scientific environment, technology, colleagues with experience"

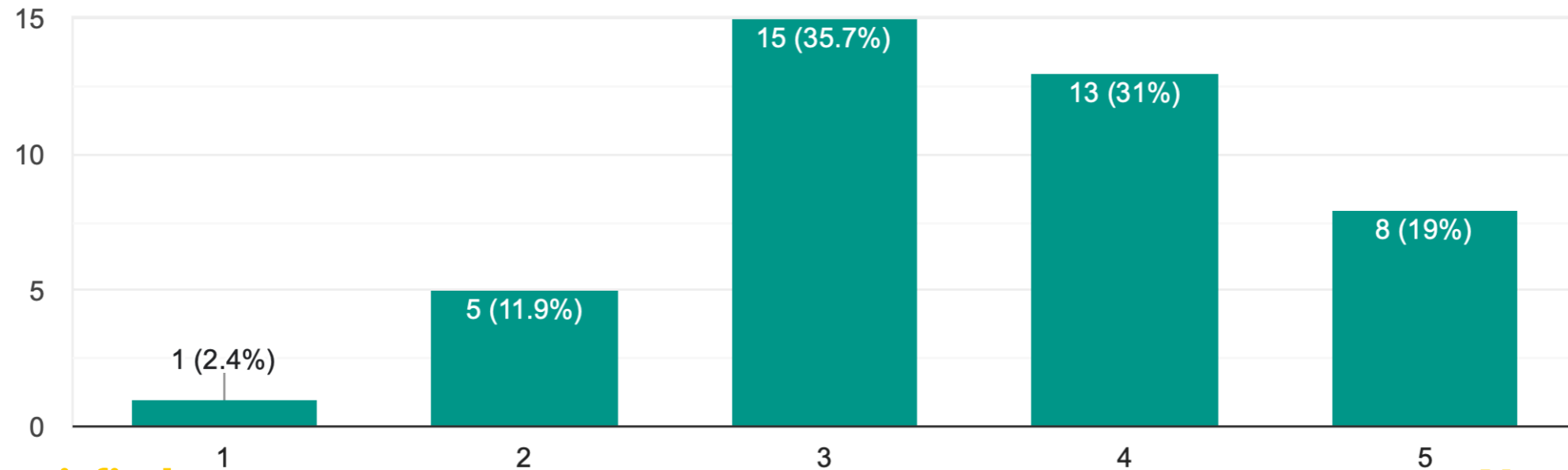
"Research topics (and partially research freedom) and working environment"

"My supportive supervisor"

"Environment, supervisor, my work progress"

Work-life balance and stress

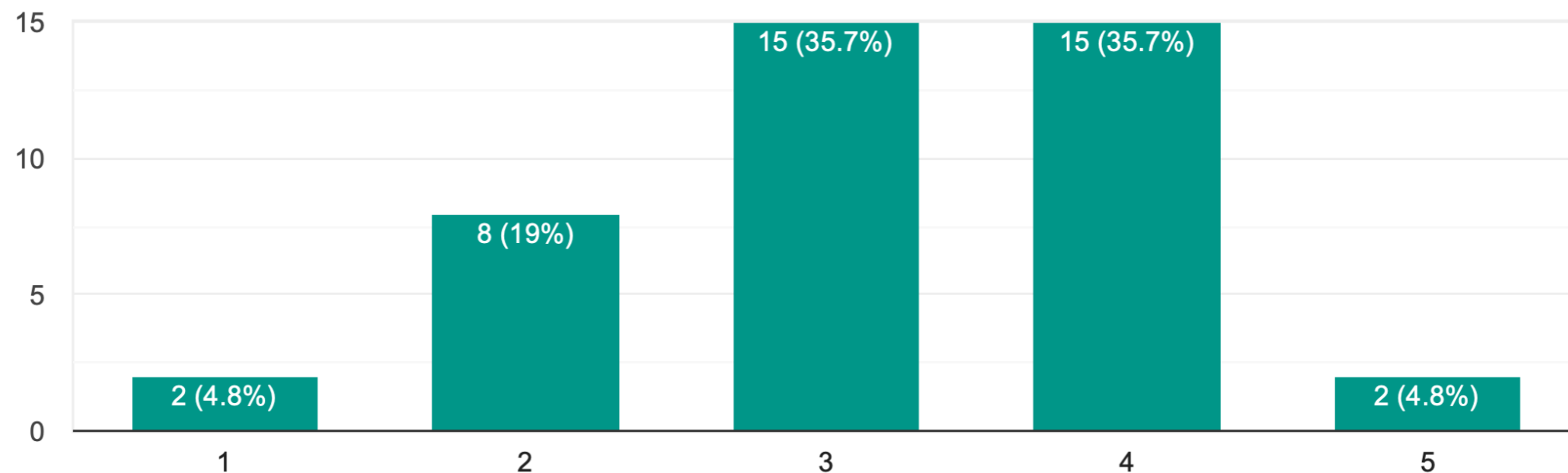
How satisfied are you with your work-life balance?



Very dissatisfied

Very satisfied

How would you rate your current stress level related to your work/studies?



Very stressed

Not stressed at all

Q: What are the main sources of stress for you in your work?

The majority of the ECRs mention heavy workload, combined with unrealistic timelines and deadlines as their main source of stress

Heavy workload and overtime

"Lots of things to do in only 40 hours"

"Overwhelm due to large amount of work to get done in a short period of time"

"Lack of control over timelines"

"The work constantly hanging over you when at home"

"Unclarities, large workload"

"Overwork"

"Lack of time"

"That I procrastinate"

Deadlines

"Deadlines! Especially when they are not very clear"

"The unpredictability of the work and deadlines that keep shifting makes it very hard to plan my time well and makes work stressful."

"Meeting deadlines, working on PhD while working"

"As someone working with hardware: Project deadlines."

"Deadlines"

"Deadlines, teaching"

Q: What are the main sources of stress for you in your work?

Other sources of stress mentioned by the ECRs are the uncertain career prospects, balancing multiple tasks, feeling pressure to perform well and estrangement in the working environment

Uncertain career prospects

"Limited term contract/job security"

"Too many projects/too much work; less so career prospects"

"The desire to do enough good quality work, and thinking about the future (post docs)."

"Insecurities for the future"

"Deadlines, working overtime, uncertainty about career prospects"

Balancing multiple responsibilities

"Large number of simultaneous projects"

"Overwork, lack of longterm planning and hard to juggle research, teaching and doing course work"

"Multiple simultaneous tasks"

Imposter syndrome and academic pressure

"Feel like I don't do and understand things good and fast enough."

"Academic pressure, pressure to perform well, uncertainty after PhD"

Isolation, unpredictability, administrative work, feeling unsafe in the working environment

"Working alone. Unenthusiastic boss. Useless physics."

"The remote nature of work"

"Poor supervision"

"Things not working as expected"

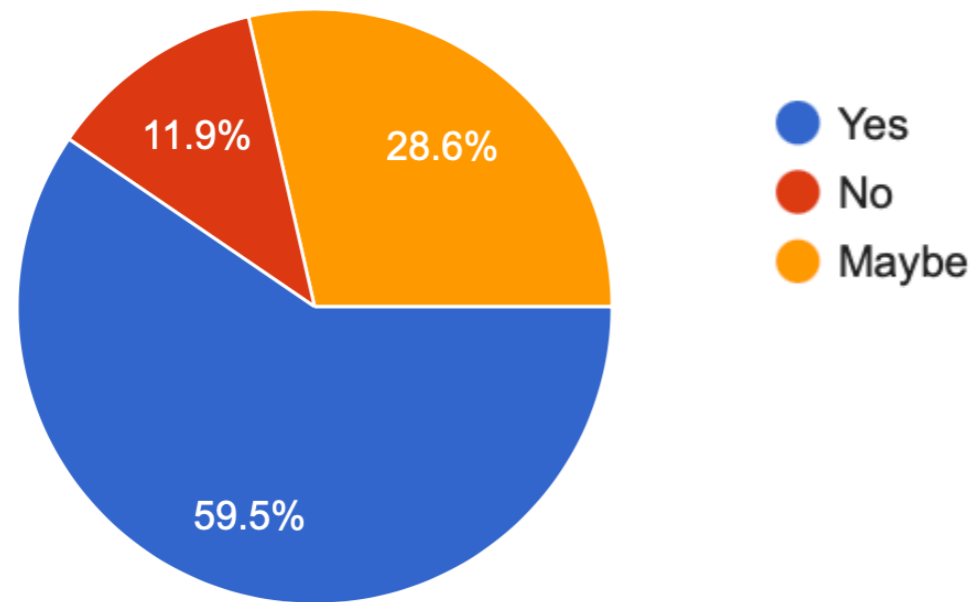
"Occasional slowness of progress"

"Feeling unsafe in the climate of HEP"

"Bad coffee + a lot of paperworks"

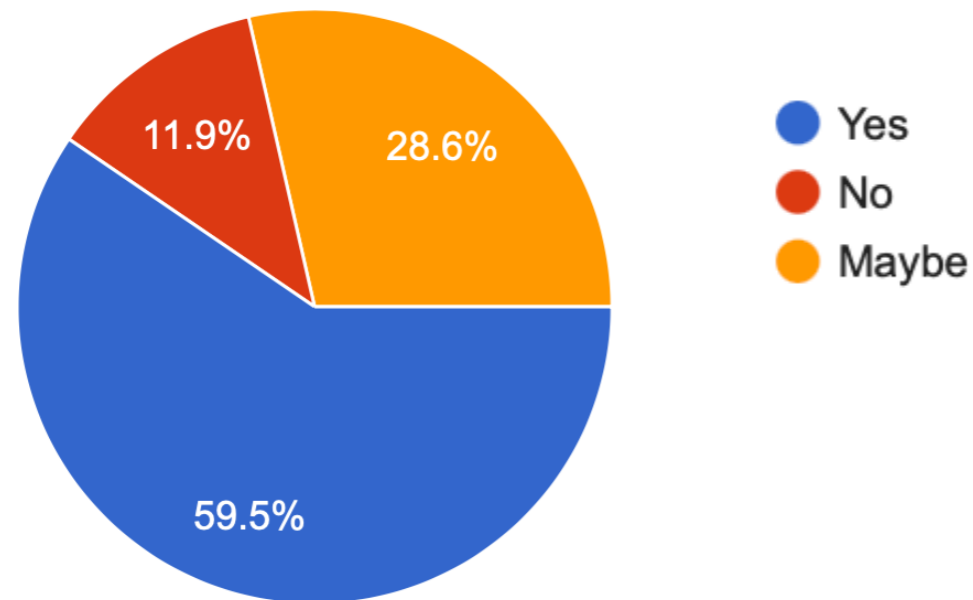
Future plans

Do you want to stay in academia?

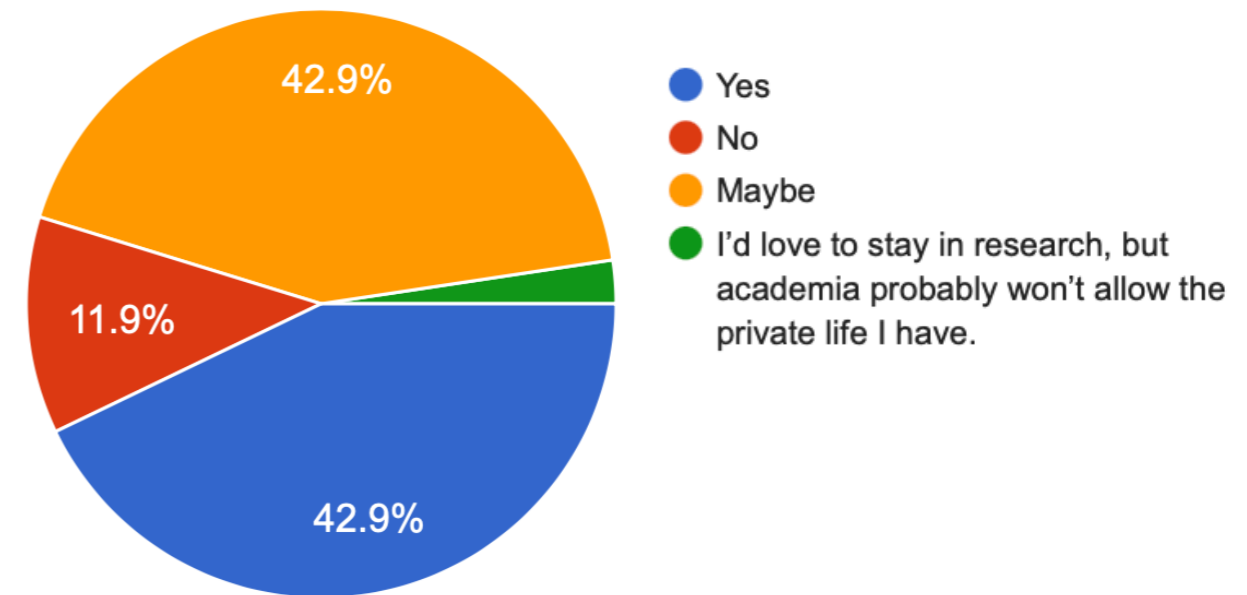


Future plans

Do you want to stay in academia?



Do you plan to stay in academia?



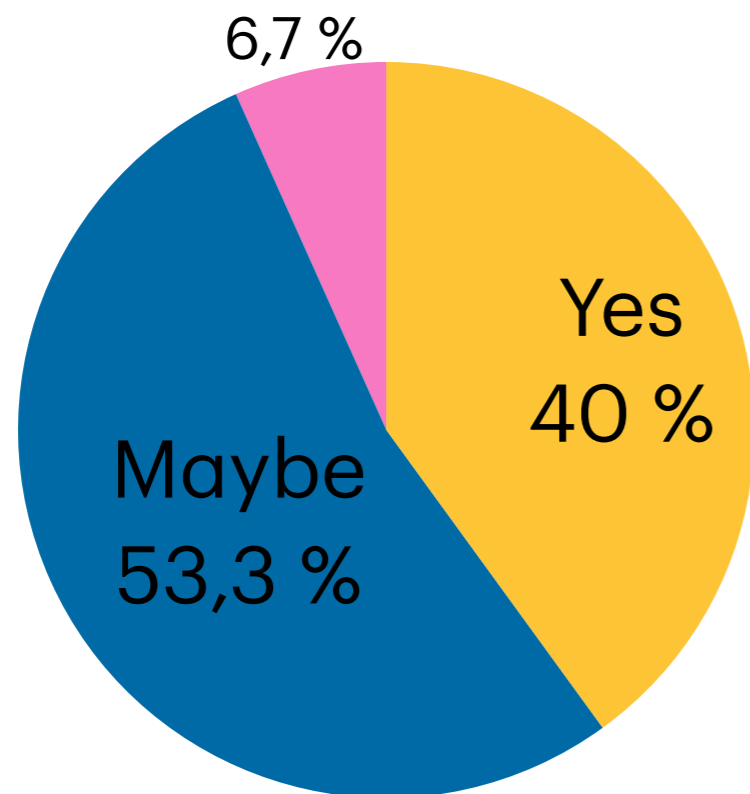
High desire to stay in academia, but not quite as many plan to stay.

Future plans

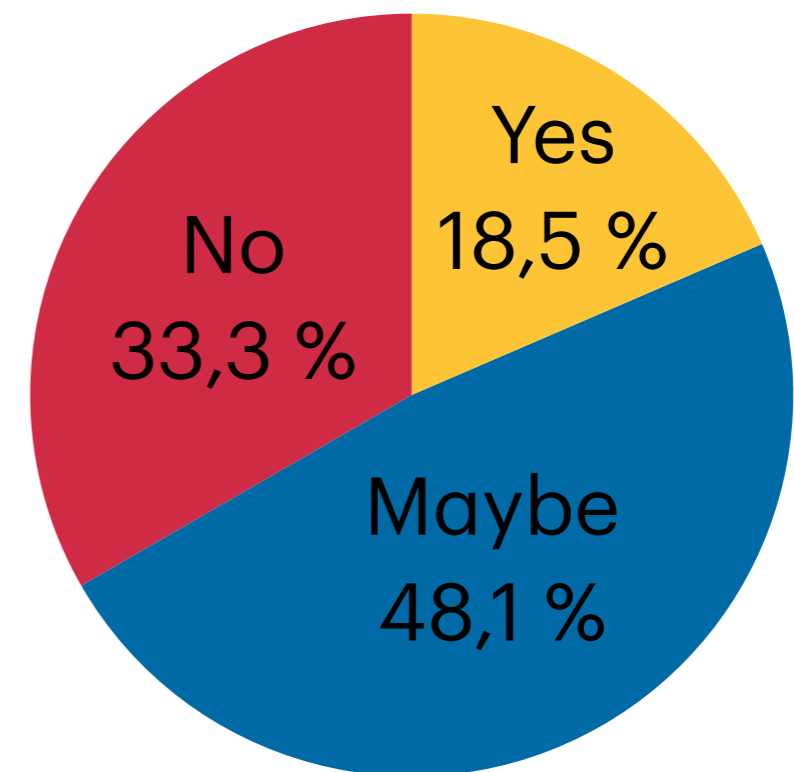
Do you plan to stay in Sweden?

Swedish nationals

Just left, but planning to return



Non-Swedish nationals

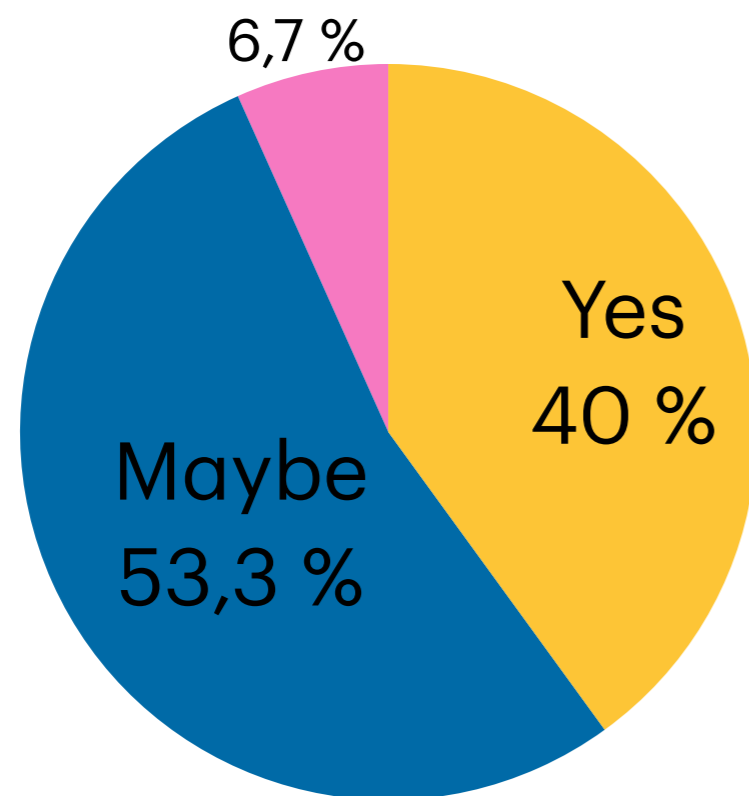


Future plans

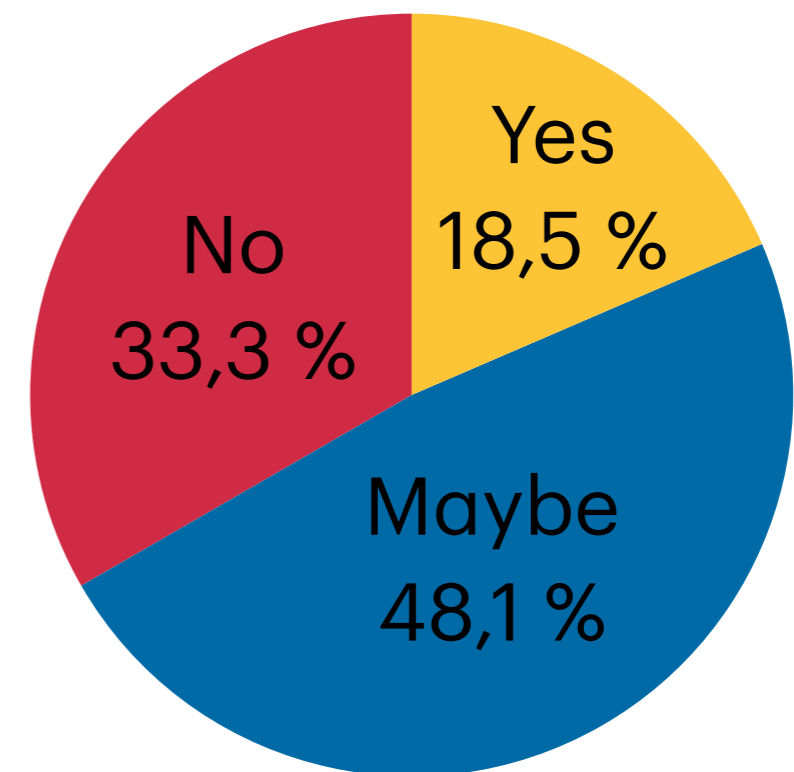
Do you plan to stay in Sweden?

Swedish nationals

Just left, but planning to return



Non-Swedish nationals



Also, out of the ECRs that plan to stay in academia 75% see a possible future career in Sweden

Q: If you don't plan to stay in academia and/or Sweden, what is your main reason?

Of the ECRs planning to leave academia the reasons are related to the lack of stable employment and the sacrifices academia expects of private life, for example leaving family behind to work in another country

Lack of positions and stable employment

"There are too few jobs"

"I will not continue in academia because i find the chances of stable employment to be low, and I might not stay in Sweden because I think there are better job opportunities elsewhere."

"Lack of stability in academia"

"Employment uncertainty, private life"

"Uncertain funding"

"Difficulty with career opportunities"

"Reality or restrictions on future jobs market"

Hard to combine academia and private life

"**The main reason for leaving academia would be the sacrifices which is expected of my private life.** I love research, but moving around a lot with no work guarantee and long working hours.. it is not a path which is good for my private life. This is the reason I have heard from many of my very skilled phd-friends who left academia."

"Employment uncertainty, private life"

"I could imagine doing a postdoc abroad, but I'm not sure I want to leave my life in Sweden."

"Do not want to move, don't feel like I fit in or belong, don't think I am good enough of a scientist."

"Depressing career prospects (more and more admin the higher up you go). No prospect of doing research as your main task. **Inhumane treatment of people, forcing adults to leave their family and security behind** and live in student housing/other short-term housing."

Q: If you don't plan to stay in academia and/or Sweden, what is your main reason?

Reasons mentioned by ECRs planning to leave Sweden included limited positions, the expectation within academia to move abroad, and wanting to see new places

Limited job opportunities

"I will stay in Sweden if given the chance. Not many positions available!"

"There are too few jobs"

"Postdocs in my field are only available outside of Sweden"

"I will not continue in academia because i find the chances of stable employment to be low, and I might not stay in Sweden because I think there are better job opportunities elsewhere."

"Reality or restrictions on future jobs market"

"If I don't get a good position in Sweden then we'll see"

"I plan to stay in academia, but looking for a phd subject that I want may bring me outside the borders of Sweden"

Want to explore new places

"Very few universities and also fun to live in different countries"

"Already living in another country"

"it may be nice to broaden my horizons and discover new places/fields"

"Experience new places"

"Depends on availability of post doc positions (if staying in academia), and I would like to experience living somewhere else."

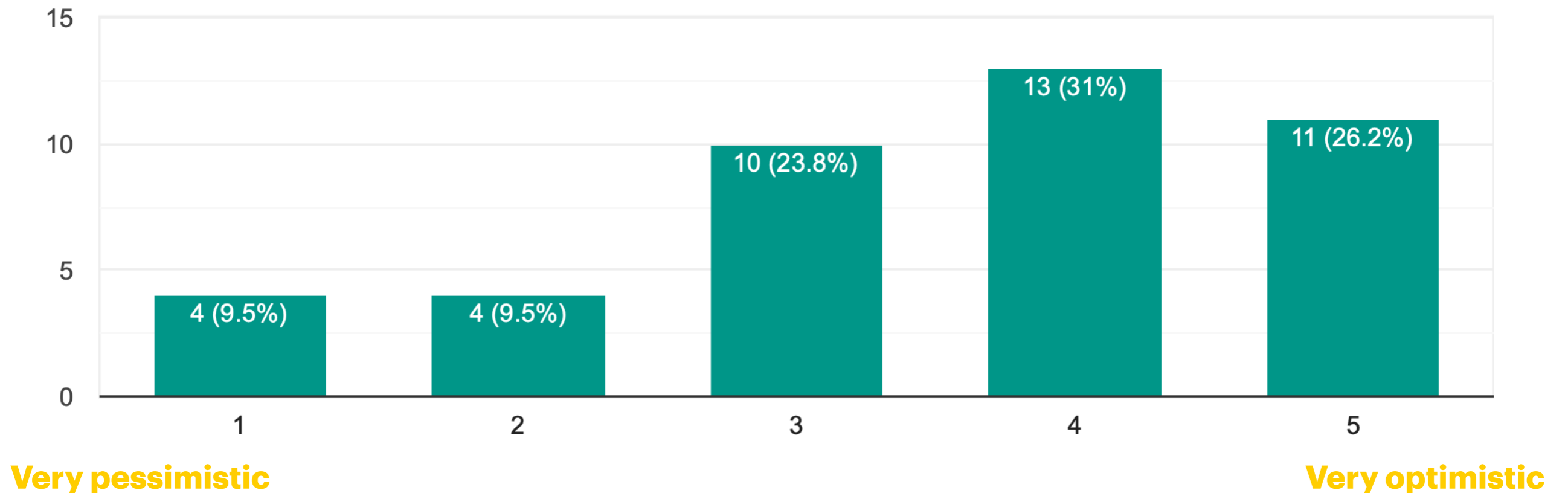
The expectation to move abroad to advance your career

"Ideally I would stay in both academia and Sweden. However, it's hard to stay in academia without moving and therefore it's hard to stay in Sweden if you want to stay in academia"

"I feel forced to move abroad because it is expected to show mobility in this field"

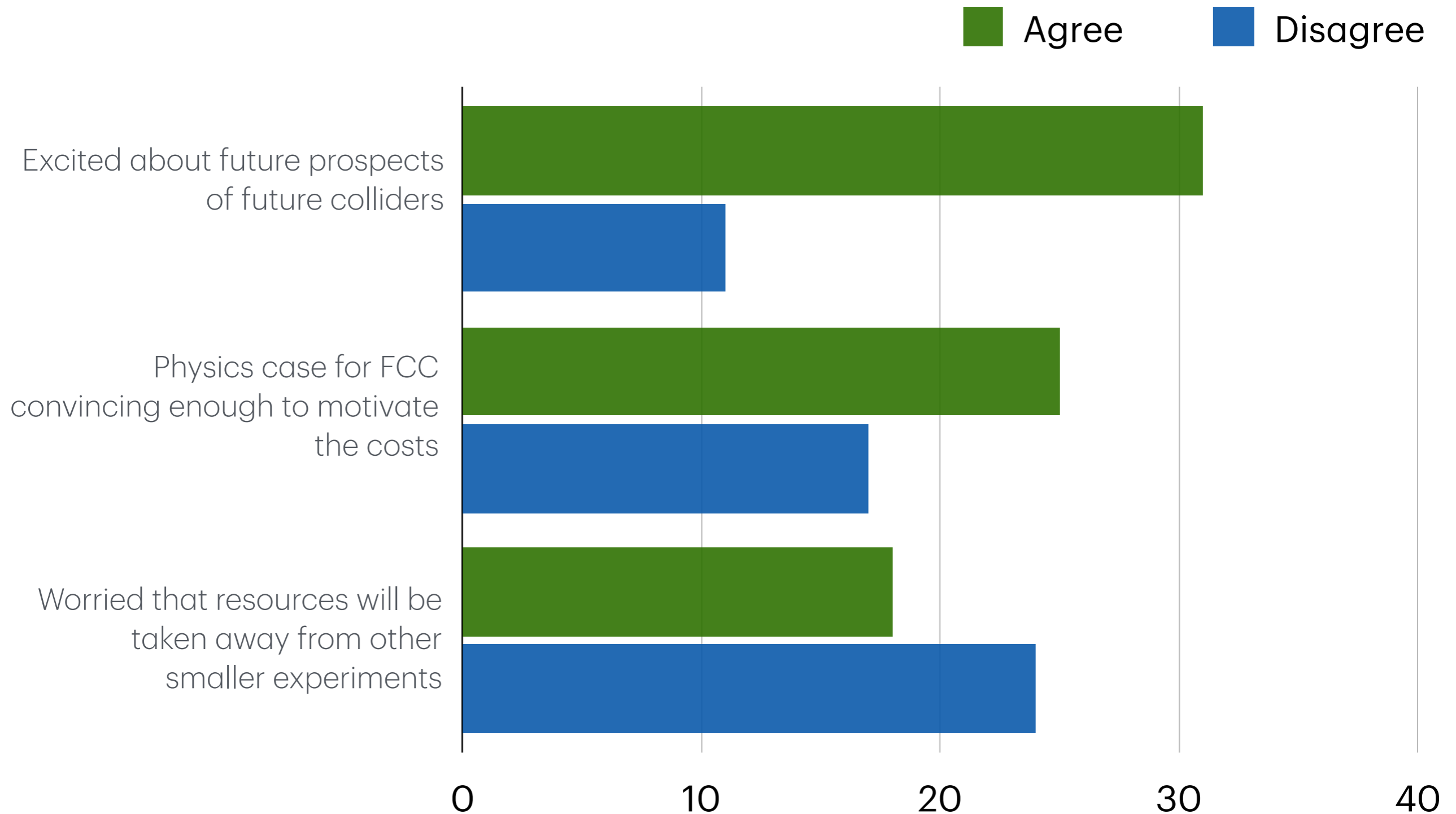
Future of research

How optimistic are you about the future of your field of research?



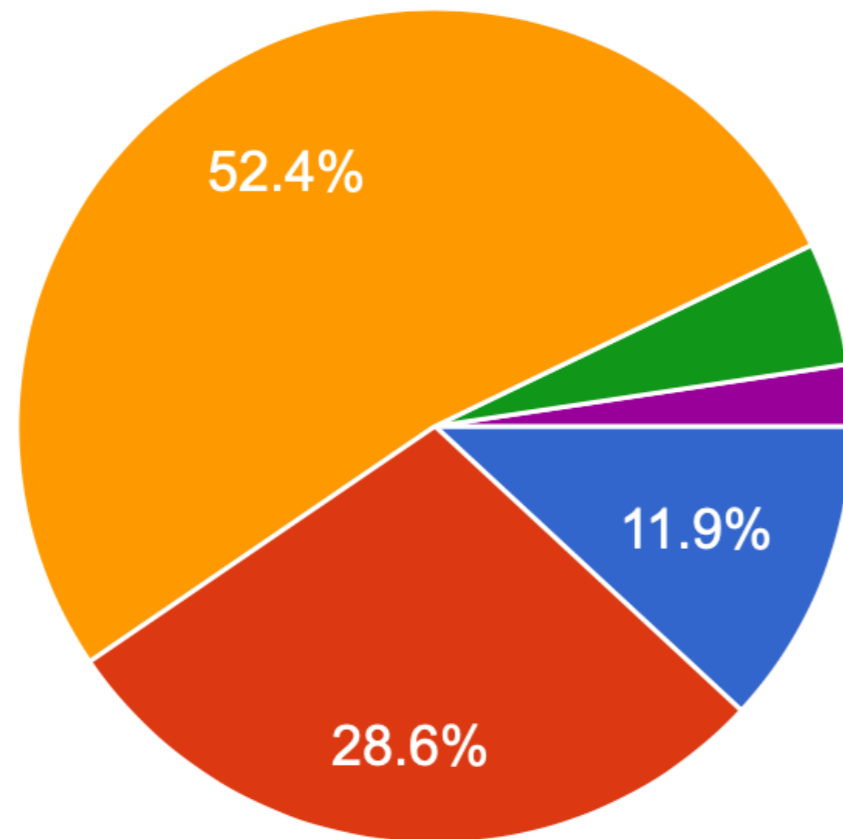
Experimental particle physicists seem to be somewhat more optimistic than others

About future colliders



About future colliders

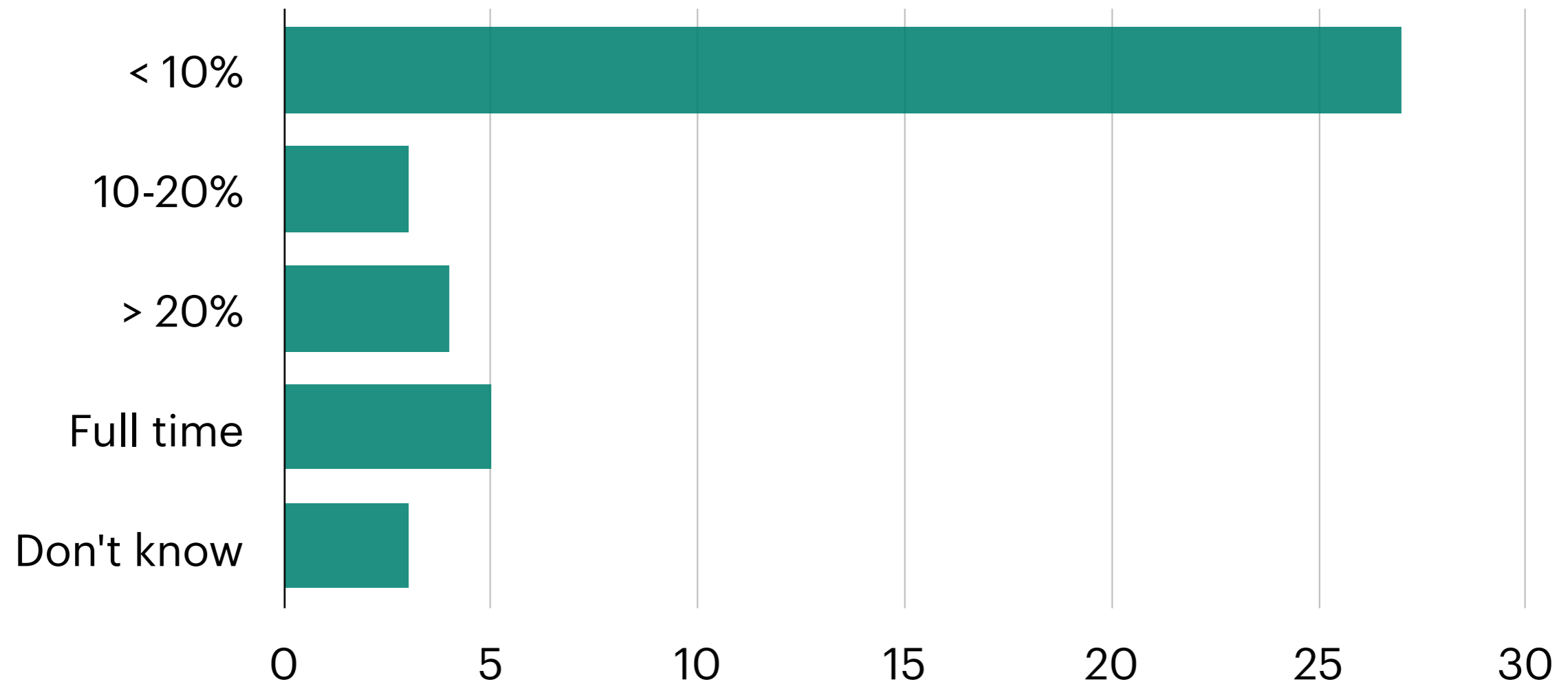
How knowledgeable are you about future colliders and the various options?



- Already working on the topic
- Engaged in the discussions
- Heard of it but no active engagement
- Have not heard of it
- I'm currently only engaged in discussions but I previously worked in one of the future collider projects (analysis and published papers). I'm currently not working actively on any future collider projects, but I'm still inv...

About future colliders

What fraction of your time do you want to spend on future colliders?



It seems that future-collider work is not yet in the ECR timescale

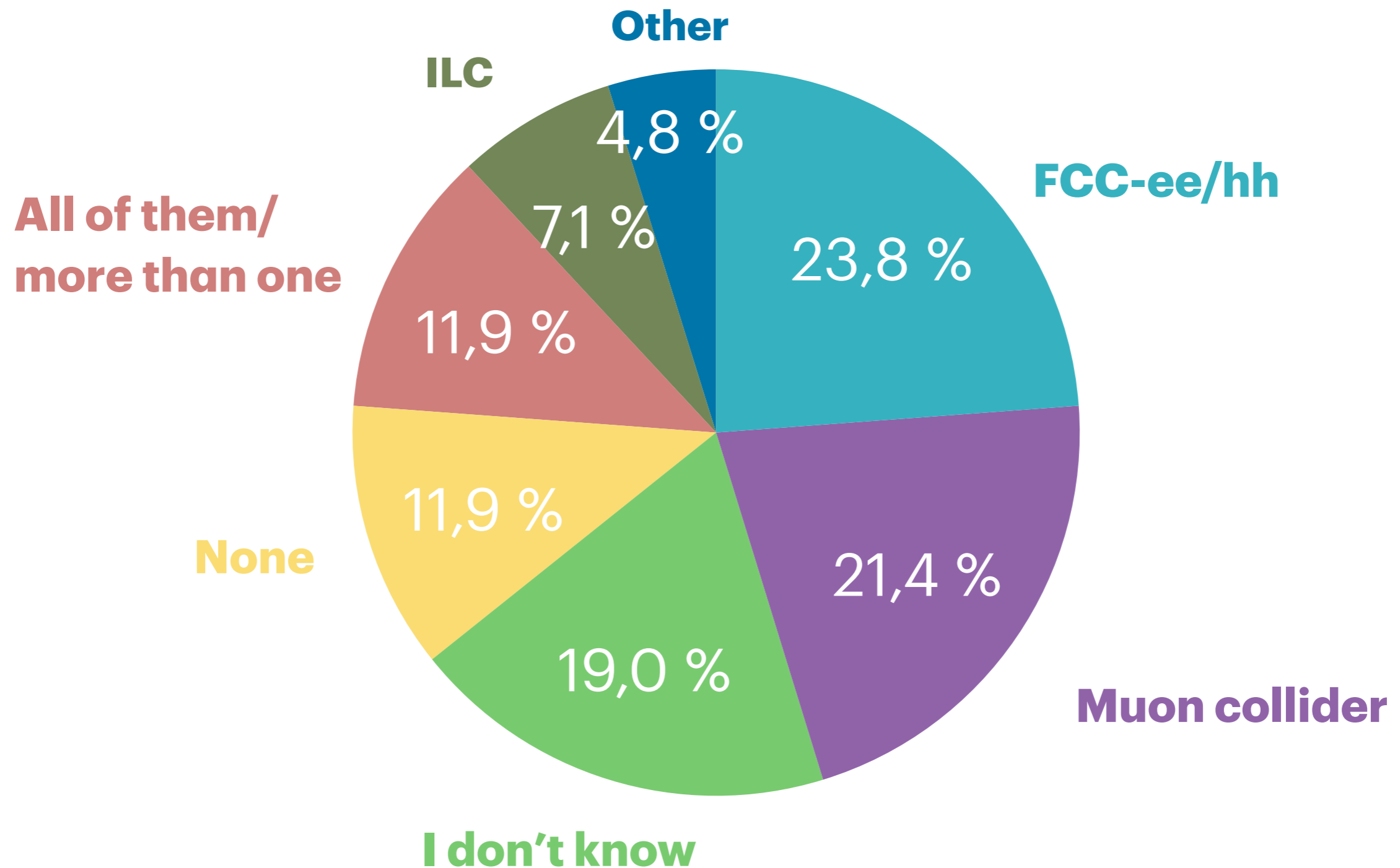
About future colliders

What are the main blockers to not commit to future colliders?

- Other commitments (17 responses)
- Lack of interest (10 responses)
- Lack of information on how to join the effort (7 responses)
- Lack of funding (7 responses)
- Not the best choice for your career (7 responses)

Favourite future collider facility

Variety in responses



Conclusions

- Conducted a survey within high-energy physics/accelerator physics
- 42 respondents, mostly PhD students
- Concerns about excessive workload and deadlines, but overall satisfied with the working conditions
- High desire to stay in academia, but not quite as many plan to fulfil this goal
 - Lack of positions and stable employment
 - Hard to combine it with private/family life
- Enthusiasm about future colliders is ramping up but little commitment yet
- Young Nordic Future-Collider Day (May 14, Lund)
 - Hopefully raised awareness and interest 😊

Future-Collider day ✨

10:00 → 15:10 Young Nordic Future-Collider Day

10:00 **Welcome**

Speakers: Arnau Morancho Tarda (University of Copenhagen (DE)), Erik Wallin (Lund University), Laura Huhta (University of Technology (SE)), Mikael Myllymäki (Helsinki Institute of Phys

10:10 **Physics landscape and motivation**

Speaker: Matthew Philip Mccullough (CERN)

10:40 **Experimental overview of future colliders**

Speaker: Mogens Dam (University of Copenhagen (DK))

11:20 **Status and physics of EIC**

Speaker: Tuomas Lappi

11:50 **Report from ECFA ECR panel**

Speaker: Armin Ilg (University of Zurich)

12:10

Lunch

2h

14:10 **Summary of activities in the Nordics**

Speaker: Magdalena Vande Voorde (KTH Royal Institute of Technology (SE))

14:30 **Panel discussion**

Speakers: Giulia Ripellino (Uppsala University (SE)), Henning Kirschenmann (Helsinki Inst (University of Copenhagen (DK)), Richard Brenner (Uppsala University (SE))

[Google doc to sub...](#)



Welcome to the

YOUNG NORDIC FUTURE-COLLIDER DAY

14 May 2024, Lund

Organised by the early-career researchers (ECRs):
 Arnau Morancho Tarda (DK)
 Christina Dimitriadi, Erik Jakob Wallin, Magdalena Vande Voorde (SE)
 Laura Huhta, Mikael Myllymäki, Petja Paakkinen (FI)

20m

20m

