



# Studying tech – still a man's world. How can we change this?

Research report  
August 2022

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TEK



accenture

# What did we survey and why?

## Background

Technology is everywhere and plays a critical role in solving the biggest challenges of humankind. The need for tech talent in Finland is huge. According to a survey by Technology Industries of Finland, the industry needs 130 000 new tech talents during the next 10 years. However, only a few women choose to study technology. Why is this and what can we do about it?

Mimmit koodaa, Tekniikan akateemiset TEK, Women in Tech Finland and Accenture set out to find answers to these questions by conducting a joint survey during April and May 2022.

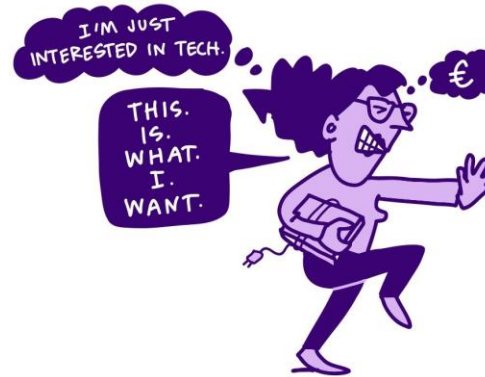
## Objectives

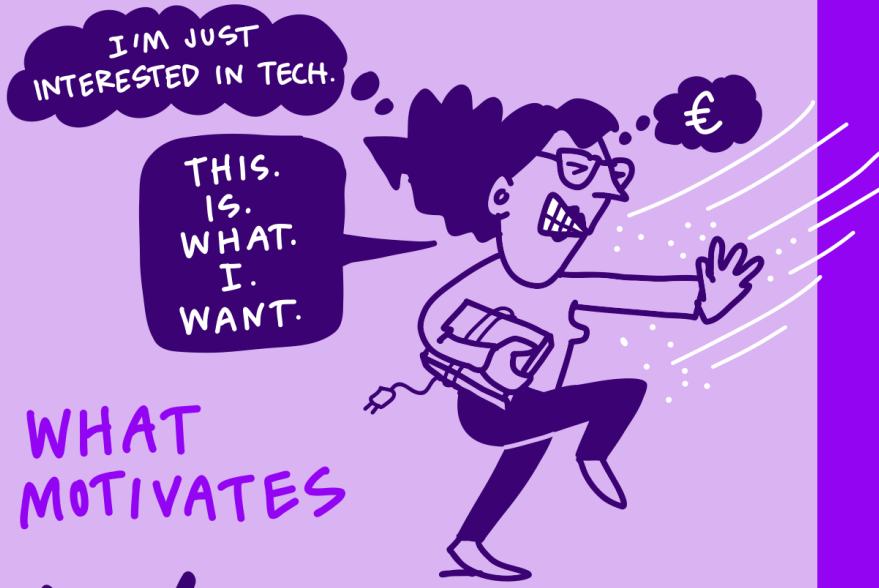
The objective of the survey was to understand:

- What motivates women to study technology
- How inclusive is the culture at their school
- How do tech women view their future careers

## Target group

The target group of the survey was women who study technology (with a focus on IT-related subjects) in Finland, including those who are changing careers. The sample was sourced by promoting the survey in the partners' social media channels and newsletters as well as through the information channels of technology schools and student organizations in Finland. The sample was complemented by a panel sample from Norstat. The total amount of respondents was 672.

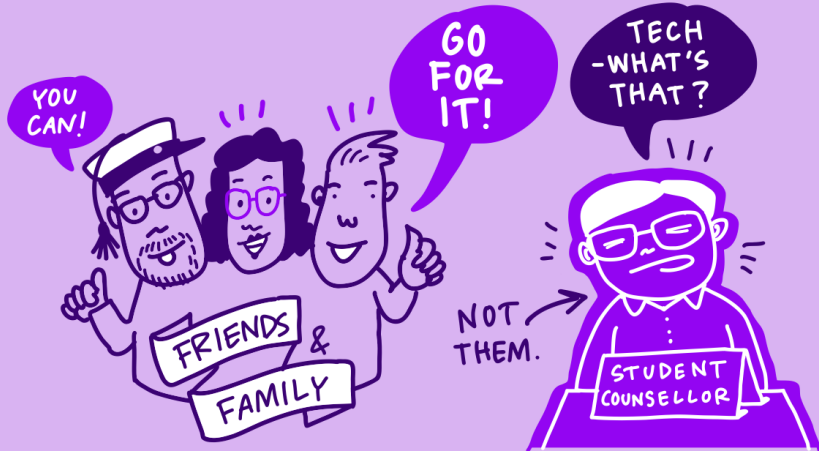




WHAT  
MOTIVATES

Women

TO STUDY  
TECH?



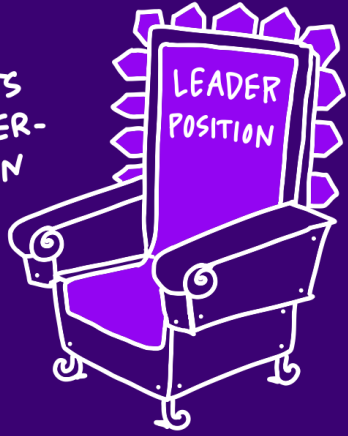
HOW DO  
FEMALE  
STUDENTS  
EXPERIENCE  
THEIR STUDIES



THE TECH FIELD?



70%  
OF FEMALE  
TECH STUDENTS  
SEE A LEADER-  
SHIP POSITION  
AS AN OPTION



HOW DO  
FEMALE

tech

STUDENTS SEE  
THEIR FUTURE?



# Motivated people – how to harness that?

## More encouragement needed from the society to motivate women to study tech

- Women choose to study tech because of their own interests and skills. They also expect to get a good salary and believe there are plenty of job opportunities. According to the respondents, **promoting equal work opportunities & salaries as well as highlighting the diverse skills and talents needed in the industry would get more females to study technology.**
- Women are mainly encouraged to study tech to by their family and friends. Only under 10 % received encouragement from their student counsellors and teachers. **35% received no encouragement** whatsoever.
- As the main sources of encouragement are family and friends that probably are aware of opportunities within the tech field, it is **important to activate teachers and student counsellors to take on a stronger role in recommending tech studies** to females to avoid further segregation.

## There is still some work to do to create an inclusive tech study culture with zero tolerance for discrimination

- Women are generally enthusiastic about their studies and most intend to complete them. But **only around 40% think that their school has succeeded in creating a culture where nobody feels left out.**
- While few female tech students experience serious issues within their student organizations, one fifth still report that discriminating material is found at student events and **only 60% say that the student organizations have zero tolerance towards discrimination.**

## Women believe in themselves but they still see that the tech field favours men and pays them better

- Female tech students are ambitious and **70% of the respondents see that a leadership position is an option for them.** However, around **75% also see that the tech field somewhat favours men**, men can easier progress into tech leadership roles and get paid better for the same job.
- Many respondents have strong faith in themselves and **nearly 60% believe they will be successful in their tech careers** while about **only 30% think that women in general are likely to succeed in tech roles.**

WHAT  
MOTIVATES

# Women TO STUDY TECH?



Well...  
I'M JUST  
INTERESTED IN TECH.

THIS IS WHAT  
I'M GOOD AT.

€

THIS.  
IS.  
WHAT.  
I.  
WANT.



- EQUAL WORK OPPORTUNITIES & SALARY REGARDLESS OF GENDER

- TECH FIELD NEEDS DIVERSITY

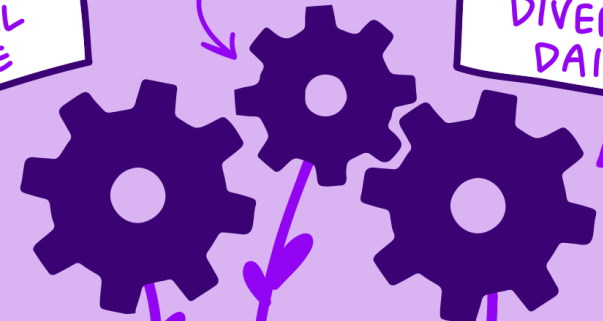
- VARIETY OF JOB OPPORTUNITIES

- YOU DON'T NEED TO BE EXCEPTIONAL IN MATHS OR PROGRAMMING TO SUCCEED IN THE TECH FIELD

EDELWEISS OF EQUAL OPPORTUNITIES

ROLE MODEL ROSE

DIVERSITY DAISY



TECH

FIELD

MOTIVATORS

WHO HAS  
Encouraged  
You?

YES,  
YOU  
CAN!

A GOOD  
IDEA!

GO  
FOR  
IT!

35% NOBODY

ARE  
YOU  
SURE?

8%

TEACHER

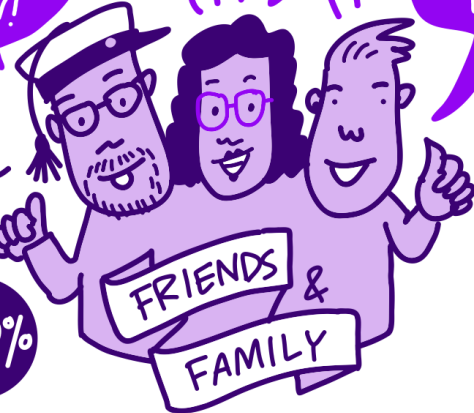
7%

NOT  
THEM.

STUDENT  
COUNSELLOR

>20%

FRIENDS  
&  
FAMILY



# What motivates women to study tech?

Own interests and an abundance of well-paid jobs drive women to study tech.

It's noteworthy, that only few get encouraged by teachers and student counsellors. Most alarmingly, over a third got no encouragement at all to pursue tech studies.

Equal opportunities & salaries and the need for diverse skills (not only maths) would drive more interest to tech.

Also visible role models, early introduction and encouragement to tech studies and promotion of the versatile jobs could drum up more interest.

75% of the respondents have not studied computer science at school. But those who have, feel skilled at it as well as in maths.

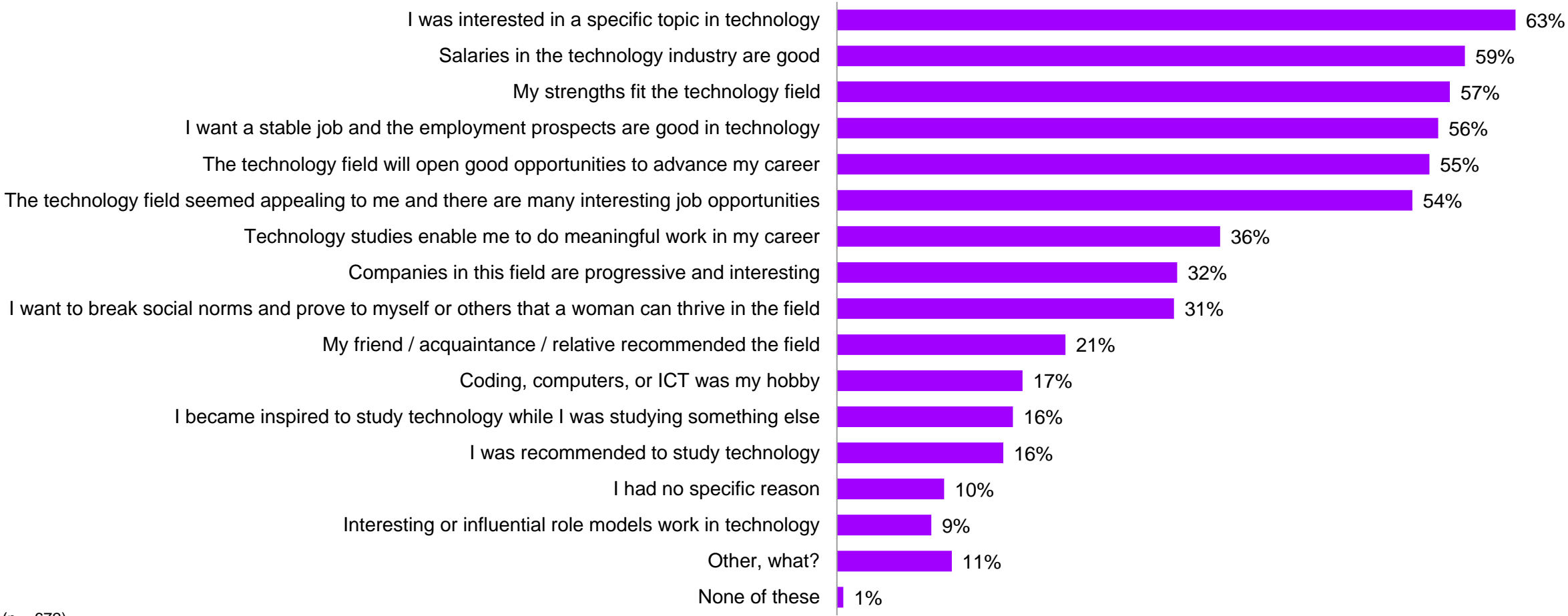
Many report that computer science / programming wasn't available at their school and therefore not an option for them.

***” Most alarmingly, over a third got no encouragement at all to pursue tech studies.”***



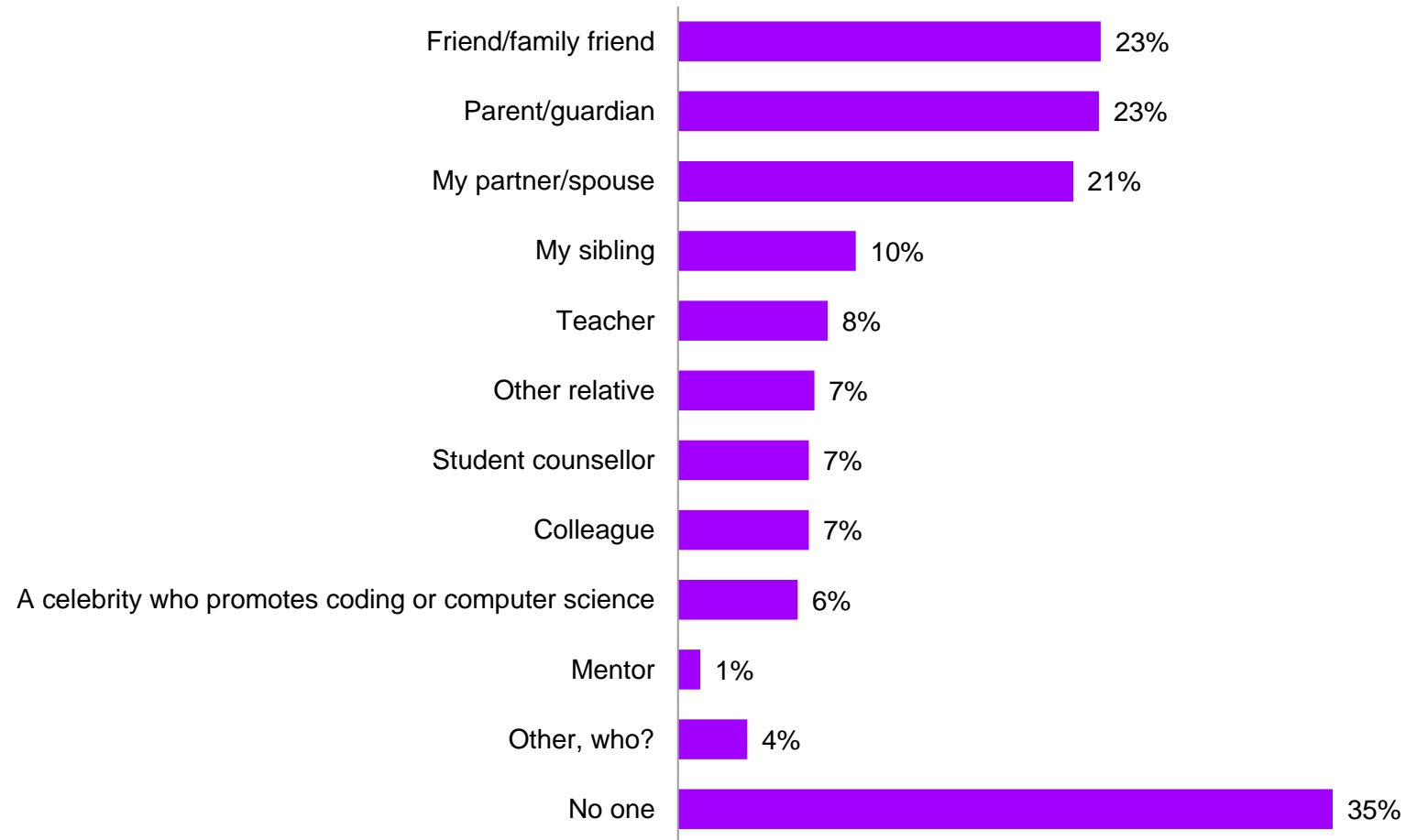
# Own interests and an abundance of well-paid jobs drive women to study tech

Why did you choose to study technology?



# Only few get encouraged by teachers and student counsellors, over a third get no encouragement at all

Who encouraged you to study technology?

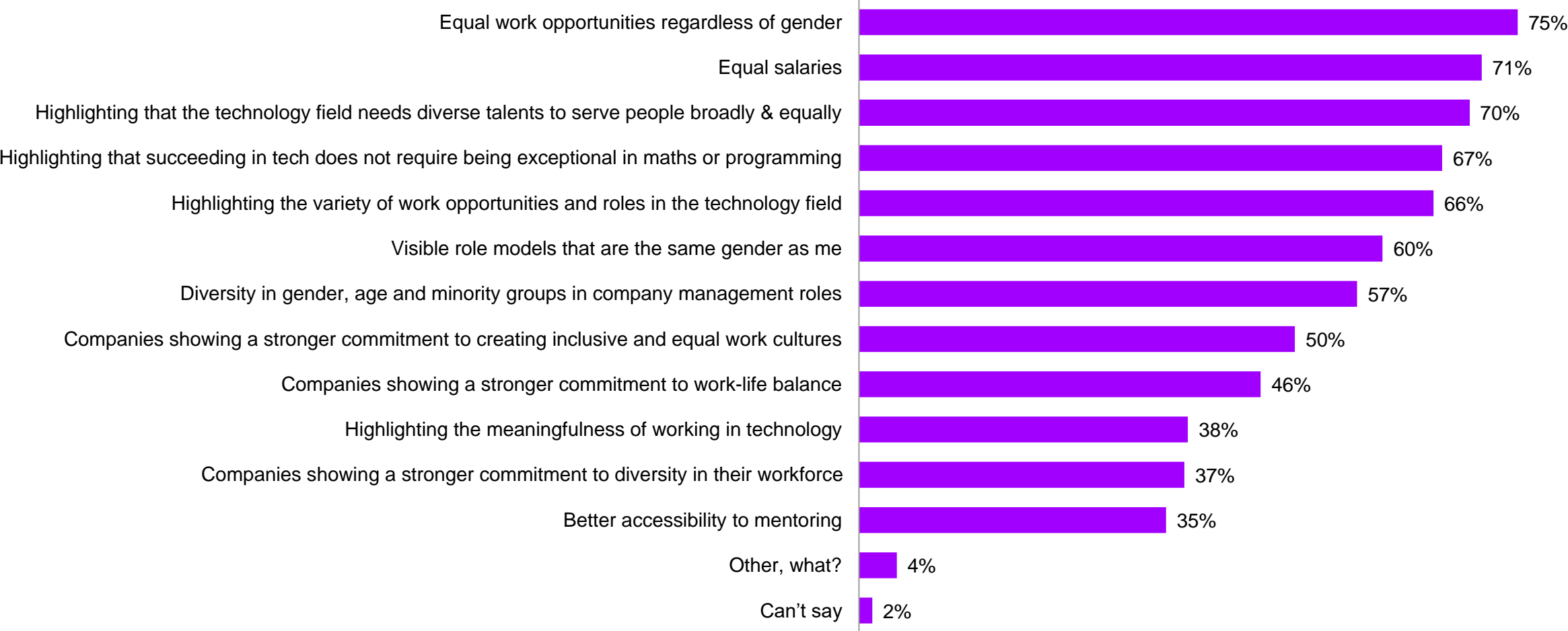


(n = 672)



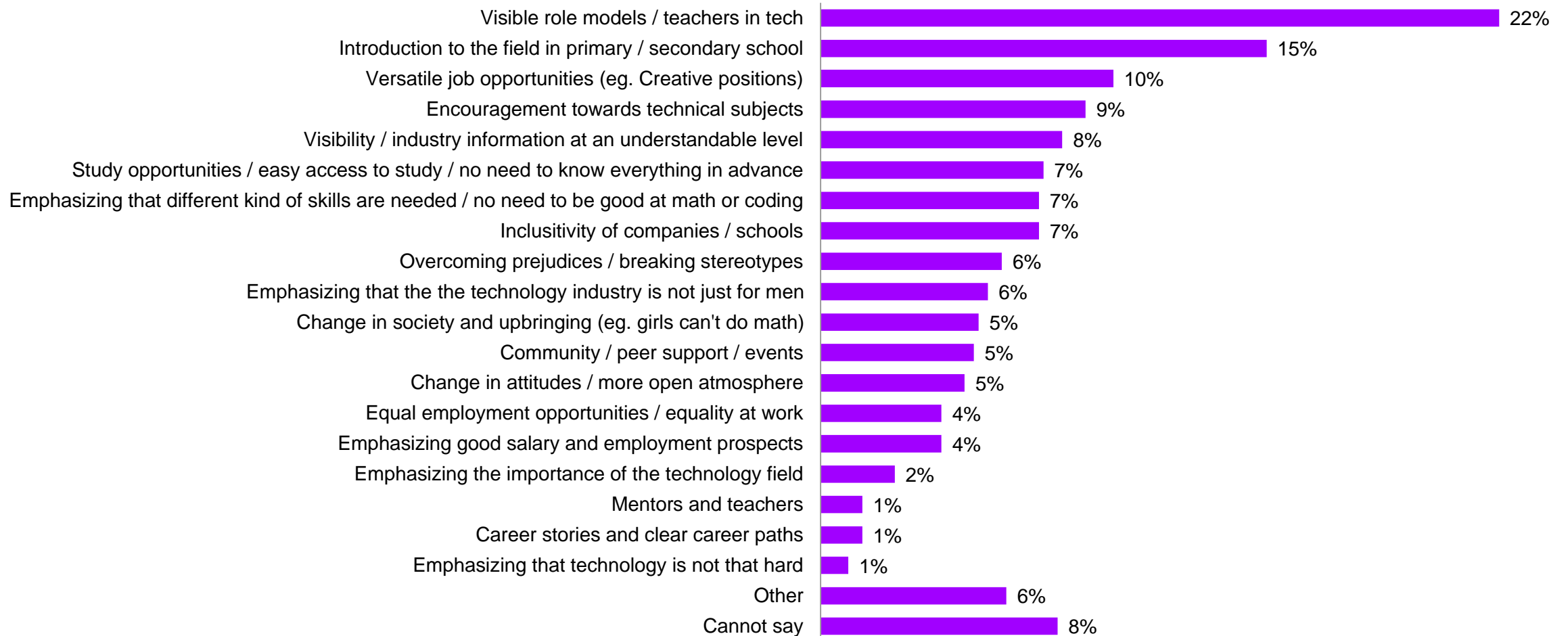
# Equal opportunities & salaries and the need for diverse skills (not only maths) would drive more interest to tech

What do you think are relevant points to get women interested in studying tech?



# Also visible role models, early intro & encouragement to tech and versatile jobs could drive more interest

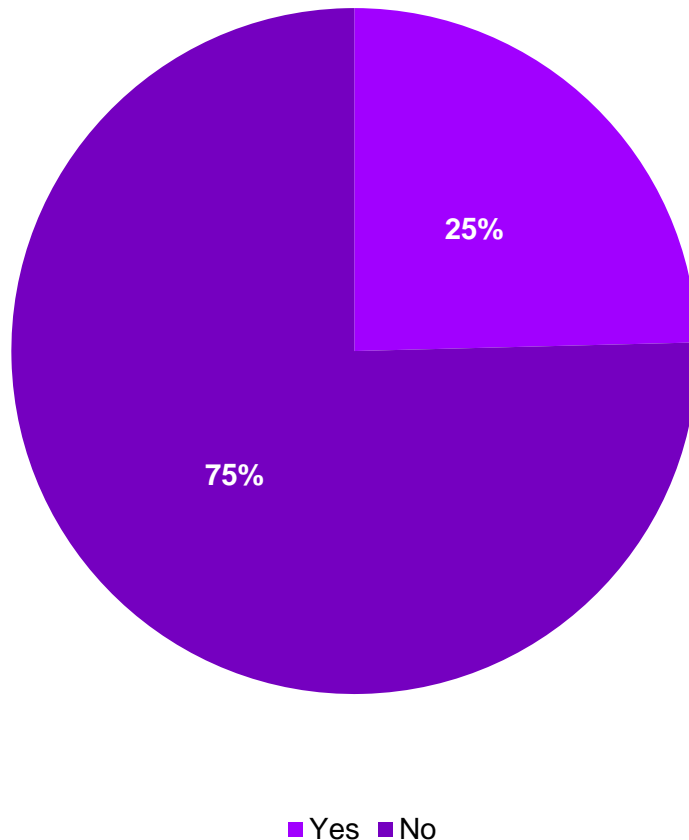
What would encourage women to apply to study technology? OPEN SUGGESTIONS FROM RESPONDENTS



(n = 651)

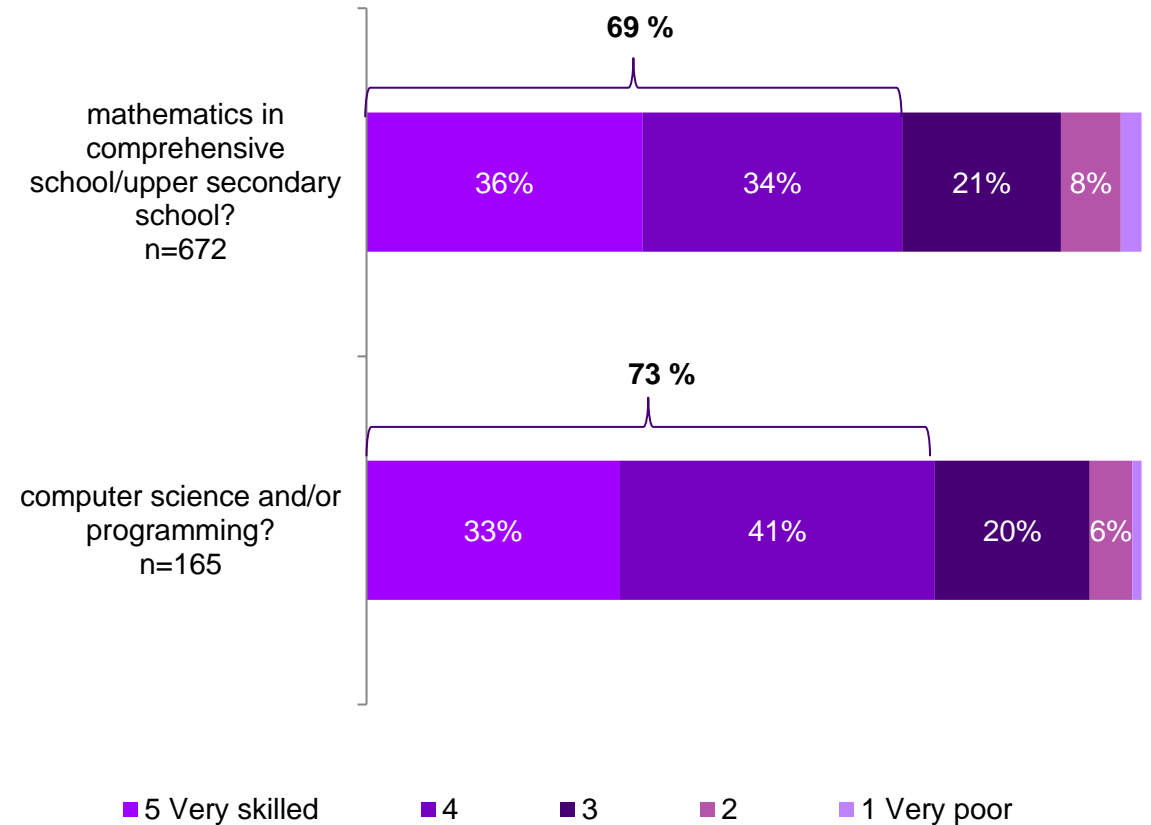
# 75% of the respondents have not studied computer science at school, but those who have, feel skilled at it as well as in maths

Did you study computer science or programming in comprehensive school/upper secondary school?



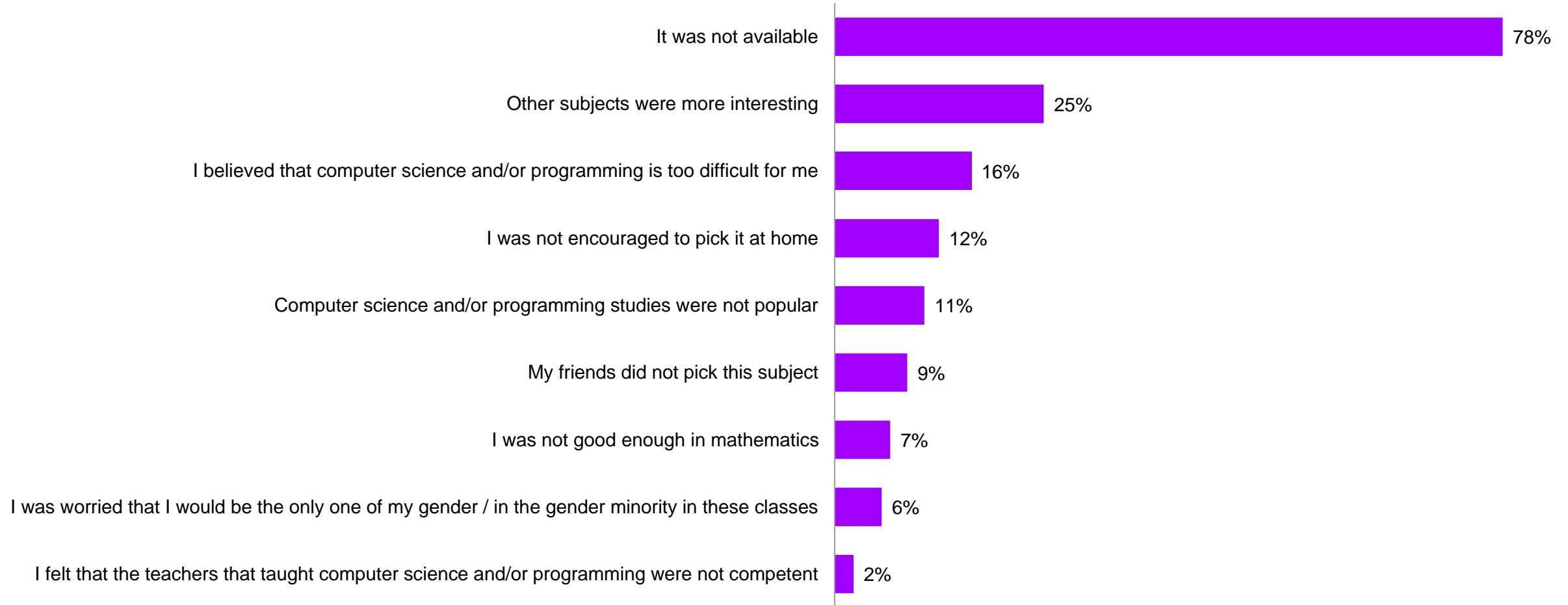
(n = 672)

How skilled were you in...?



# Many report that computer science / programming wasn't available at school and therefore not an option for them

Why didn't you study computer science and/or programming in comprehensive school or upper secondary school?



(n = 507)

75% FEEL ENTHUSIASTIC  
&  
89% ARE LIKELY TO  
COMPLETE  
THEIR STUDIES



FEELS  
GOOD!

INCLUSIVE  
STUDENT CULTURE

I'M  
TREATED  
FAIRLY.

85%

HOW DO  
FEMALE  
STUDENTS  
EXPERIENCE  
THEIR STUDIES  
*in*  
THE TECH FIELD?

ONLY 37% THINK THAT THERE IS  
A CULTURE WHERE  
NOBODY FEELS LEFT OUT

ONLY 60% THINK THAT THERE IS  
ZERO TOLERANCE  
FOR HARASSMENT



OH, AND  
THAT, TOO.

# How do female students experience their studies in the tech field?

Most women, around 75%, are enthusiastic about their studies.

Nine out of ten think they will complete their studies. The most likely reason to quit is the feeling of not belonging and that the studies are too demanding.

One third of the respondents have experienced lack of diversity in courses, and one in five feels less talented than men.

Half of the respondents think their school has a plan for advancing diversity but only 5 % know what it includes.

88% agree that having women as professors is very important.

Almost one in five have experienced discriminating or sexualizing material at student events.

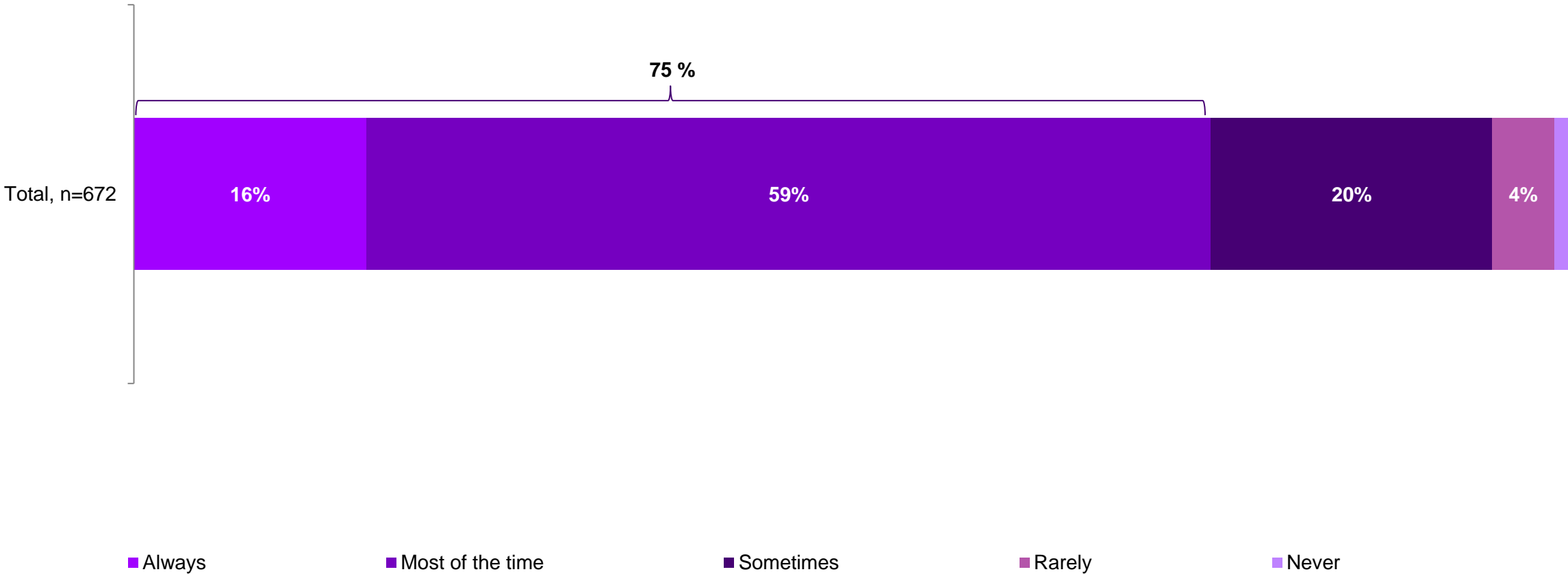
Most women are treated fairly but only 37% think that their school has a culture where nobody feels left out.

Most respondents feel welcome in student associations, but only 60% say that harassment is not tolerated.

***” Most women are treated fairly but only 37% think that their school has a culture where nobody feels left out. ”***

# Most women are enthusiastic about their studies

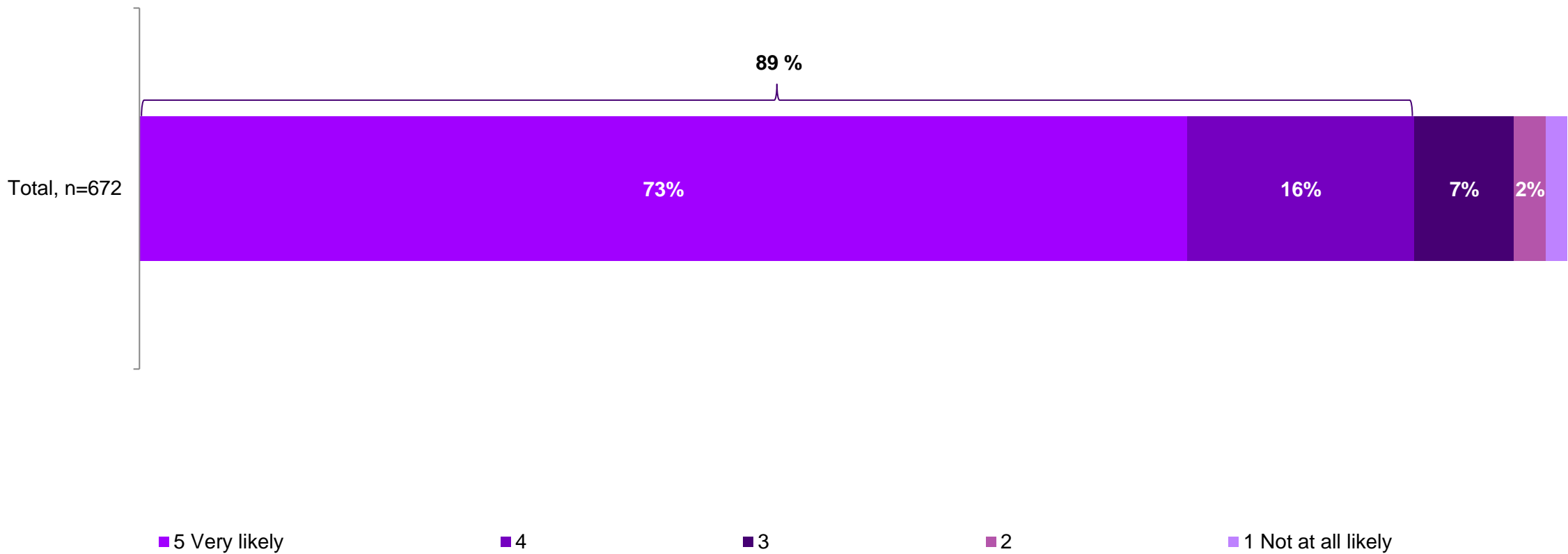
Are you enthusiastic about your studies?





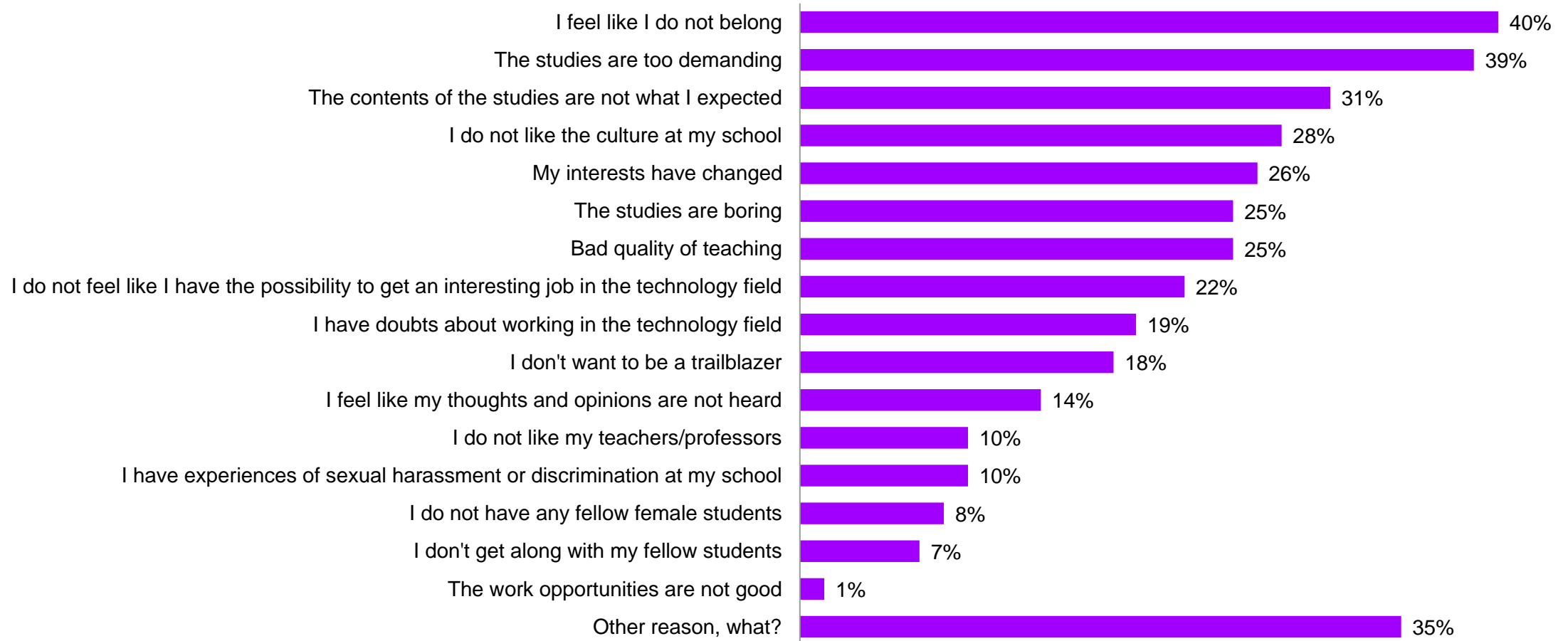
# Nine out of ten think they will complete their studies

How likely are you to finish your studies?



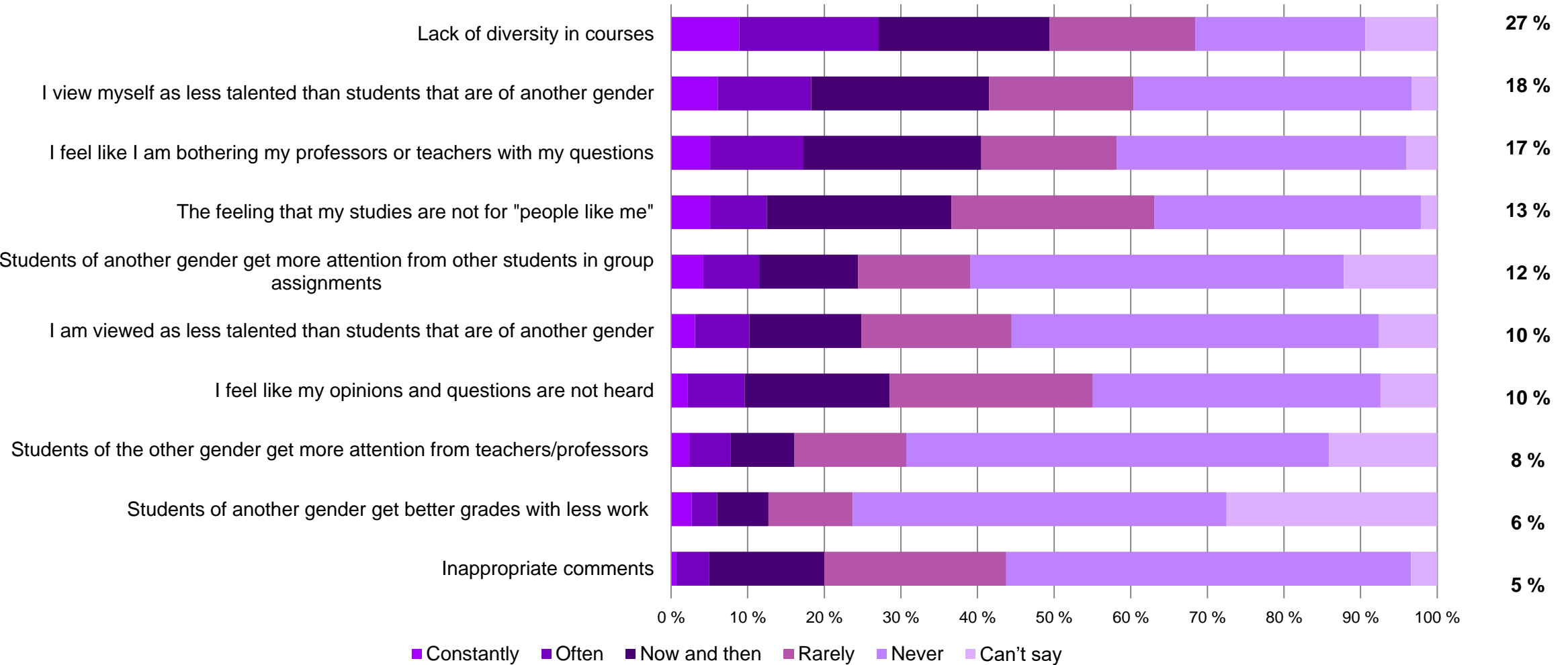
# The most likely reason to quit is the feeling of not belonging and that the studies are too demanding

Which would be the most likely reasons to quit your studies? Pick all that are relevant to you.



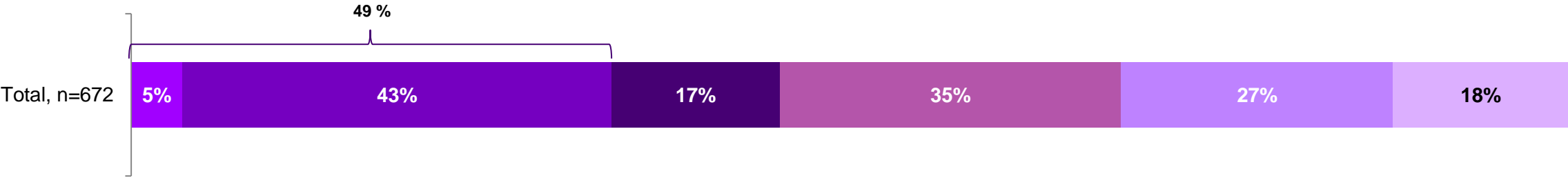
# One third of the respondents experience lack of diversity in courses, and one in five feels less talented than men

How often have you experienced the following during your studies? Constantly + often



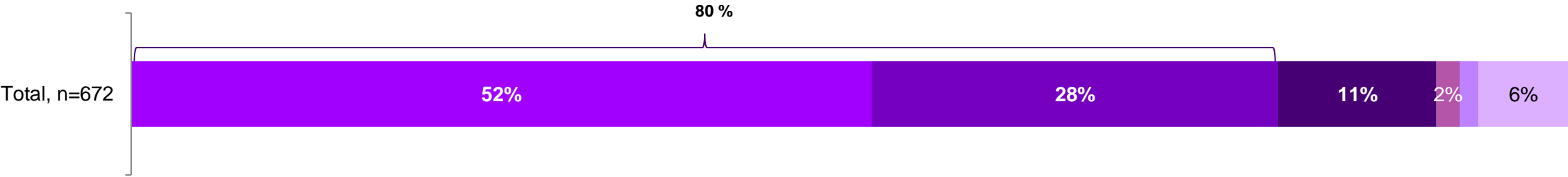
# Half of the respondents think their school has a plan for advancing diversity but only 5 % know what it includes

Does your educational institution have a plan for advancing diversity and inclusivity?



■ Yes, and I know what the plan includes ■ Yes, but I can't recall/don't know what the plan includes ■ No, I don't recall that there is a plan ■ Can't say ■ Never ■ Can't say

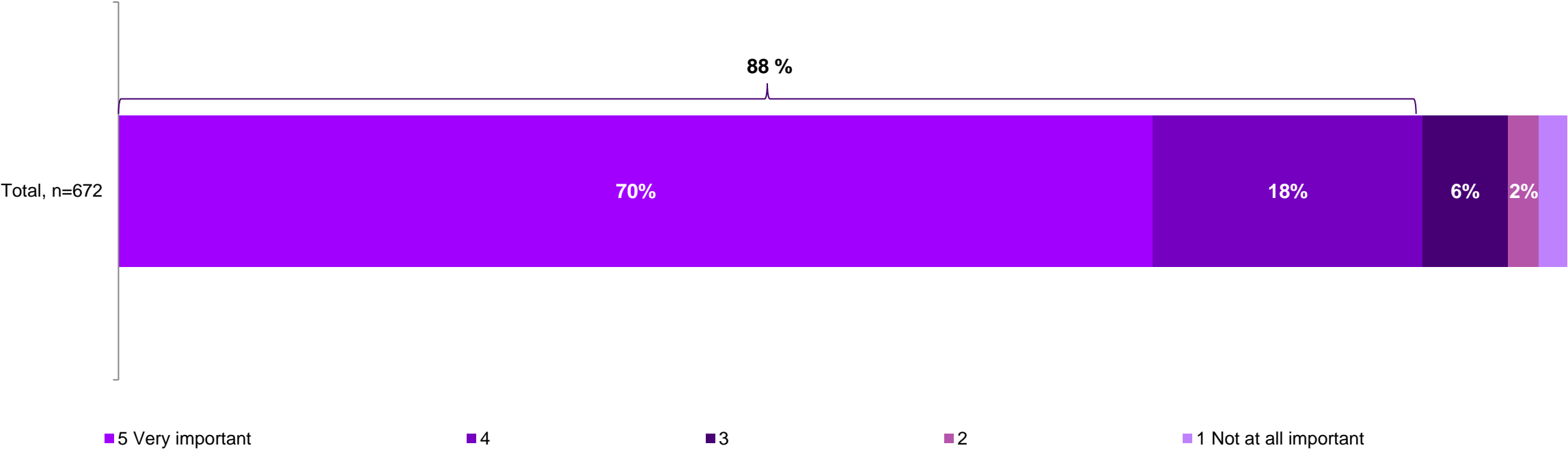
How important is it that your school is committed to advancing diversity and equality?



■ 5 Very important ■ 4 ■ 3 ■ 2 ■ 1 Not at all important ■ Can't say

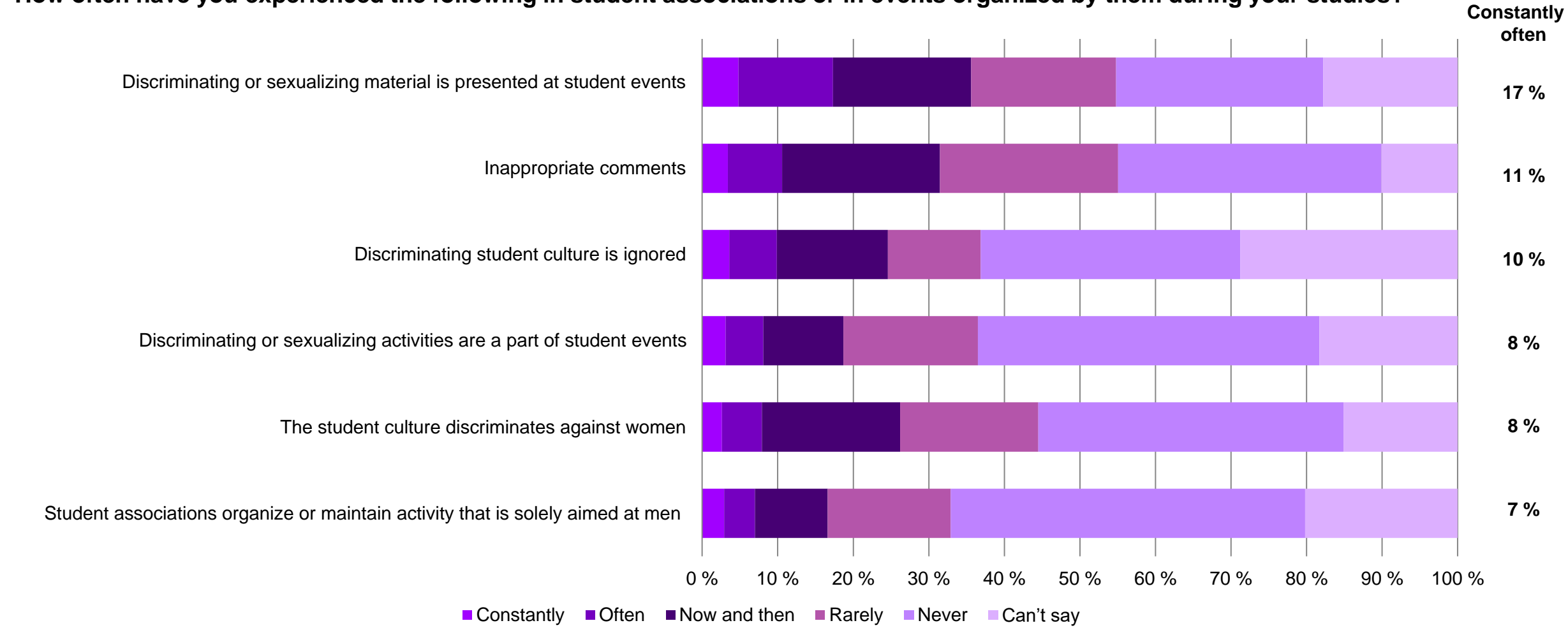
# Having women as professors is viewed as very important

How important is it that there are also women among the professors and other teachers?



# Almost one in five have experienced discriminating or sexualizing material at student events

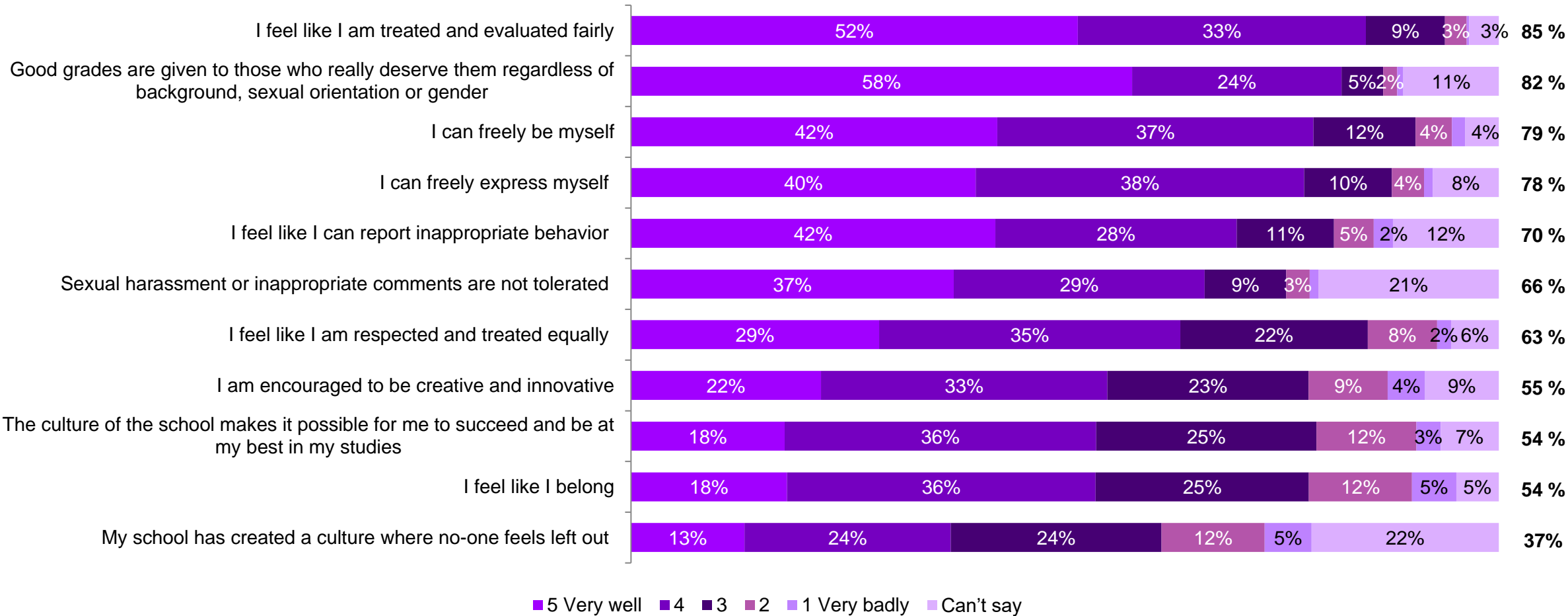
How often have you experienced the following in student associations or in events organized by them during your studies?



# Most women are treated fairly but only 37% think that their school has a culture where nobody feels left out

How well do the following fit your experiences in your school?

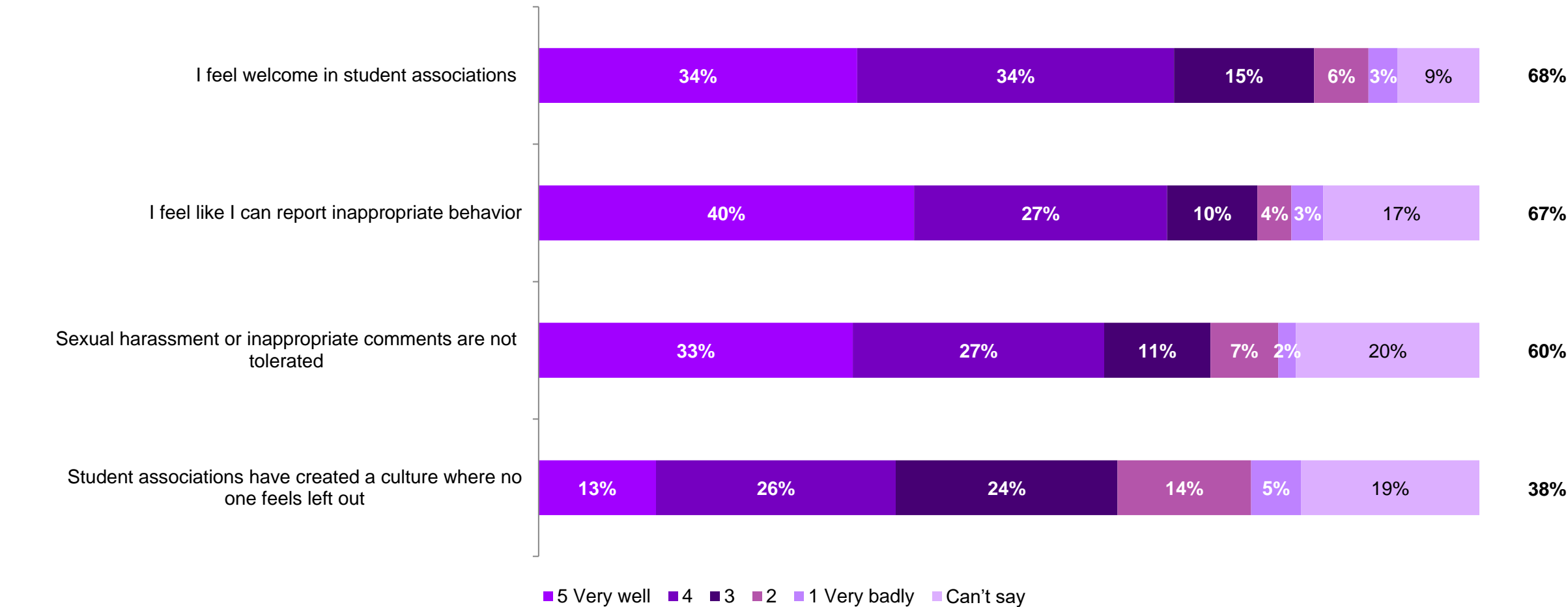
5+4





# Most respondents feel welcome in student associations, but only 60% say that harassment is not tolerated

How well do the following things fit your experience of student associations? 5+4



IT'S  
TOUGHER  
FOR WOMEN  
OUT THERE...

BUT  
I'LL  
MAKE  
IT!

HAVING  
SOME  
DOUBTS

78%

OF FEMALE  
TECH STUDENTS  
PLANS A CAREER  
IN TECH FIELD

IS AN  
OPTION  
FOR

70%

HOW DO  
FEMALE

*tech*

STUDENTS SEE  
THEIR FUTURE?

EVEN  
THOUGH  
THE FIELD  
FAVORS  
MEN...

76%

FEELS THAT  
TECH FIELD  
SOMEWHAT  
FAVORS MEN

• SALARY

€

• DIVERSE  
TASKS



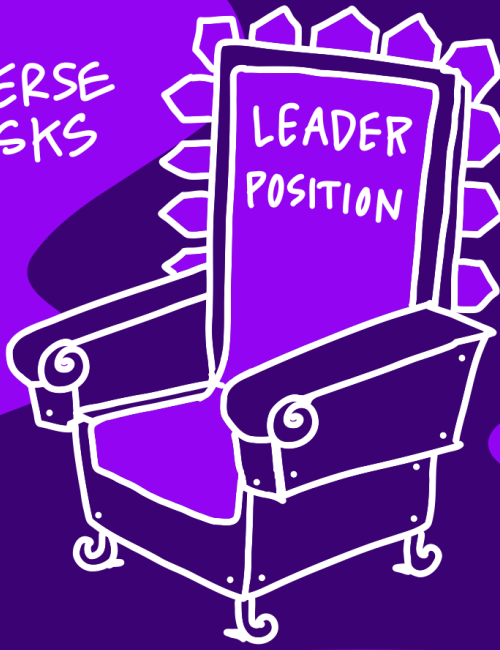
• WORK-  
LIFE  
BALANCE

LEADER  
POSITION

CAREER PATHS

??

??



# How do female tech students view their future?

A large majority of women, 76%, studying technology feel that the tech field somewhat favors men.

Less than half of the respondents feel that they have received good guidance to start their careers.

Only around 40% of the respondents have worked in a technology role during their studies.

Most women – 78% - plan to work in a tech role in the future.

69% of the respondents see leadership positions as an option for them in the future. However, respondents think they are personally more likely to succeed than women in general.

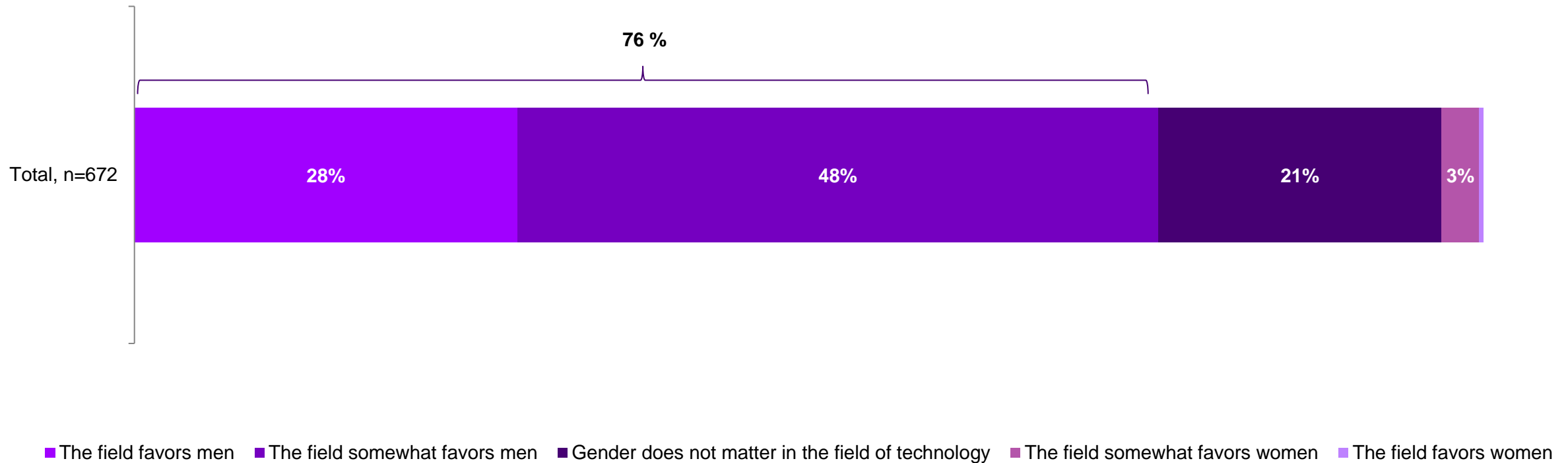
75% think the tech field suffers from real gender inequality when it comes to salaries. A clear majority of women think that it is easier for men to progress to leadership positions in the tech field.

Women want a good work culture, a meaningful job and opportunities for advancement in their career path. They don't want to compromise and want a good work-life balance and salary along with diverse tasks.

*” Women think the tech field suffers from real gender inequality when it comes to salaries. A clear majority of women think that it is easier for men to progress to leadership positions in the tech field. ”*

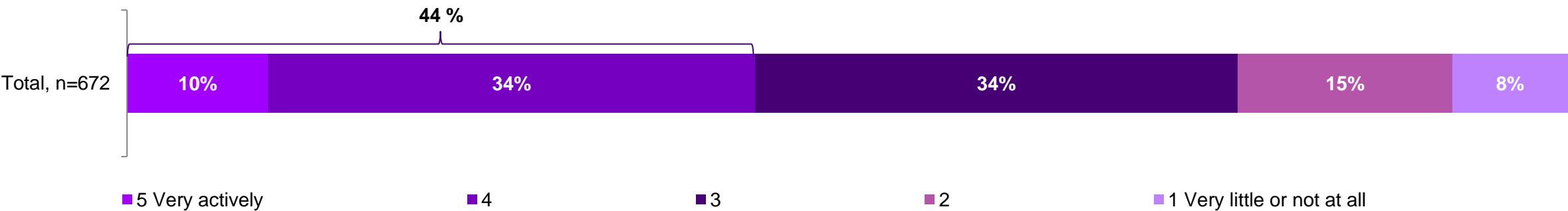
# A large majority of women studying technology feel that the tech field somewhat favors men

How does the technology field treat women in your opinion?

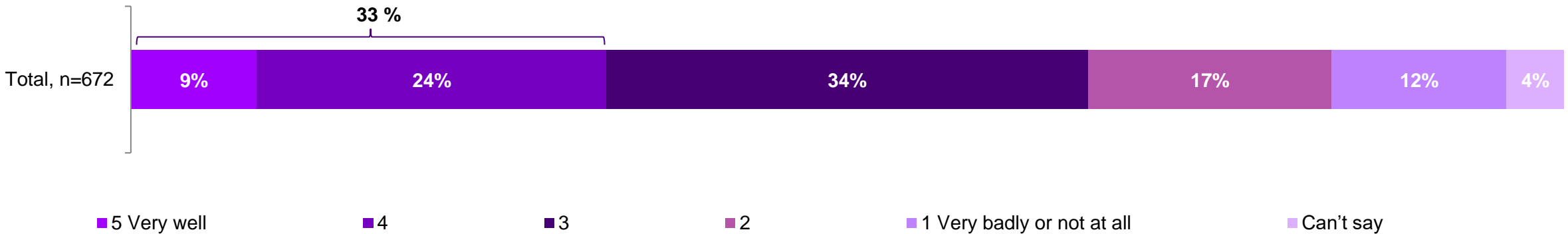


# Less than half of the respondents feel that they have received good guidance to start their careers

How well has your school introduced you to various career paths during your studies?

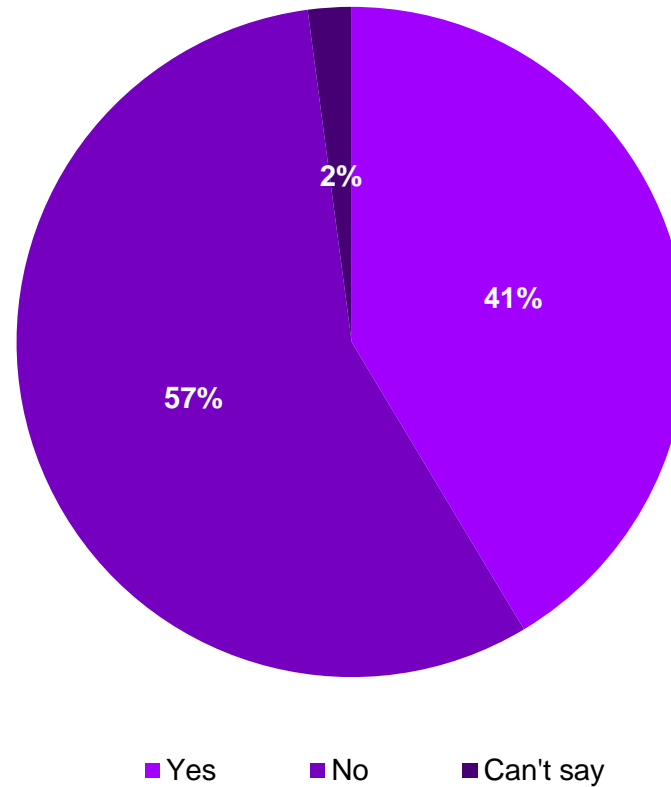


How well have you been introduced to different companies and positions in the technology field?



# Only around 40% of the respondents have worked in a technology role during their studies

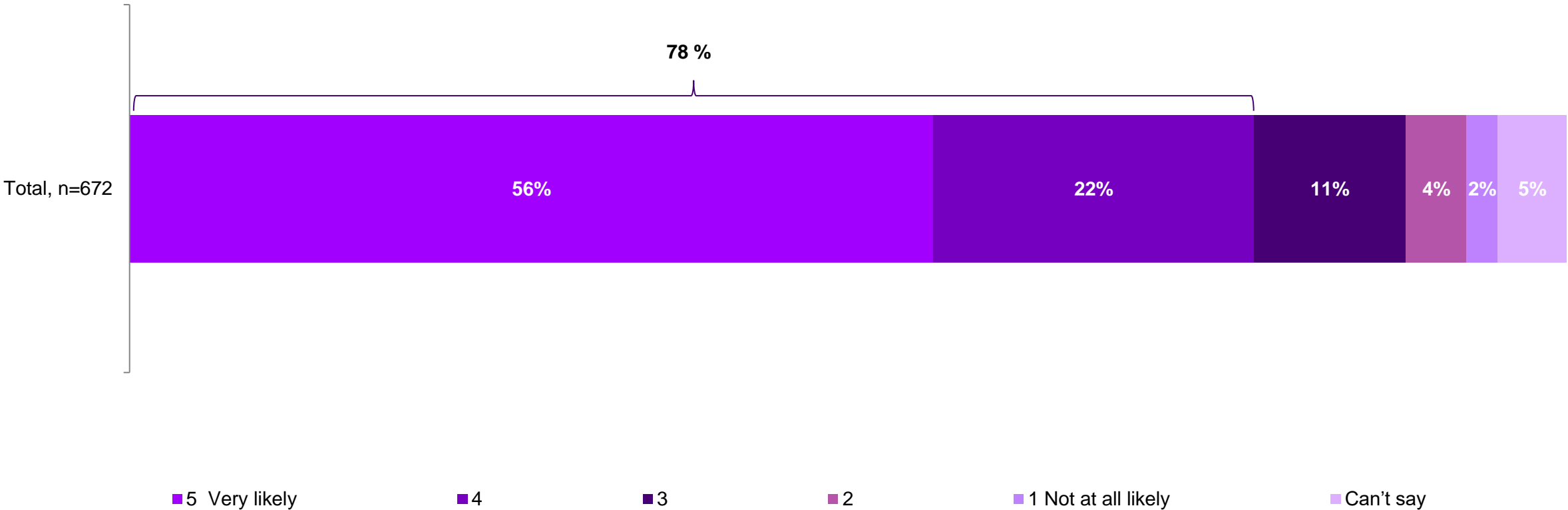
Have you worked full time, part time or had a summer job in a technology role during your studies?



(n = 672)

# Most women plan to work in a tech role in the future

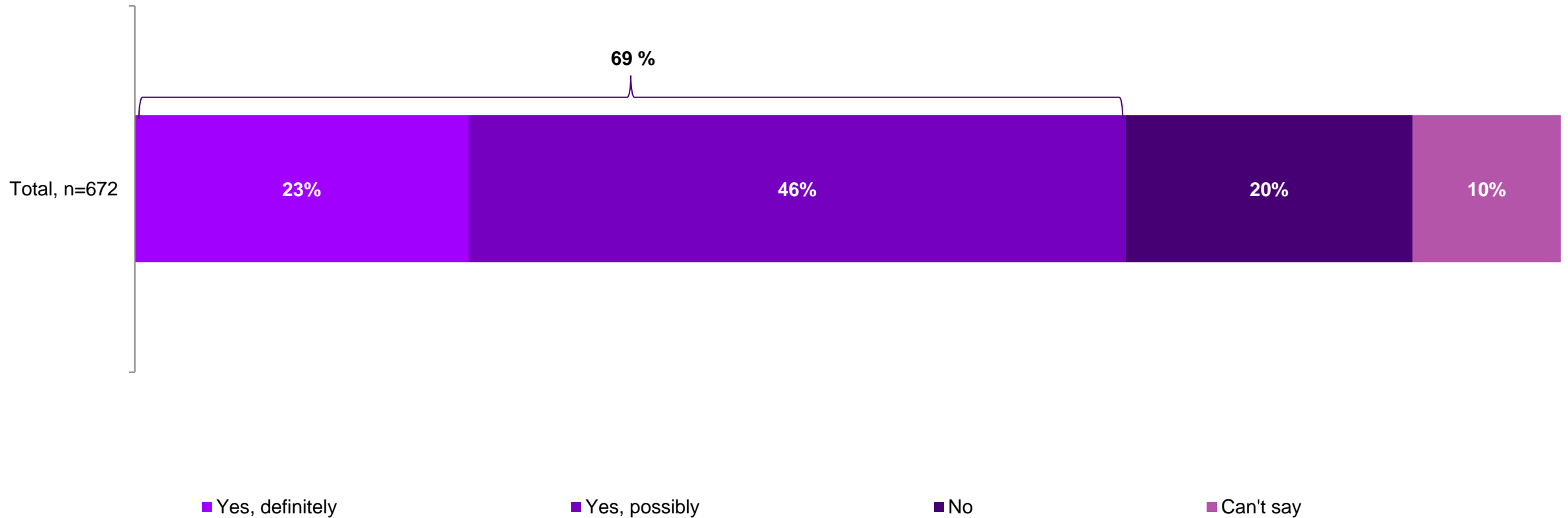
How likely will you work in a technology role after graduating?





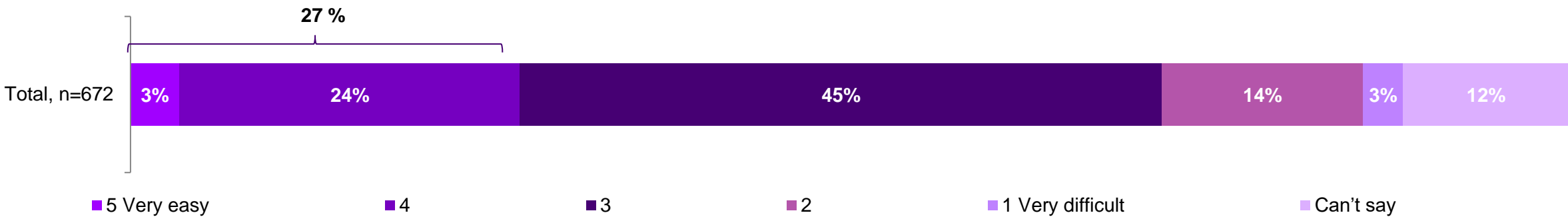
# Most respondents see leadership positions as an option for them in the future

Do you think a leadership position is an option for you in the future?

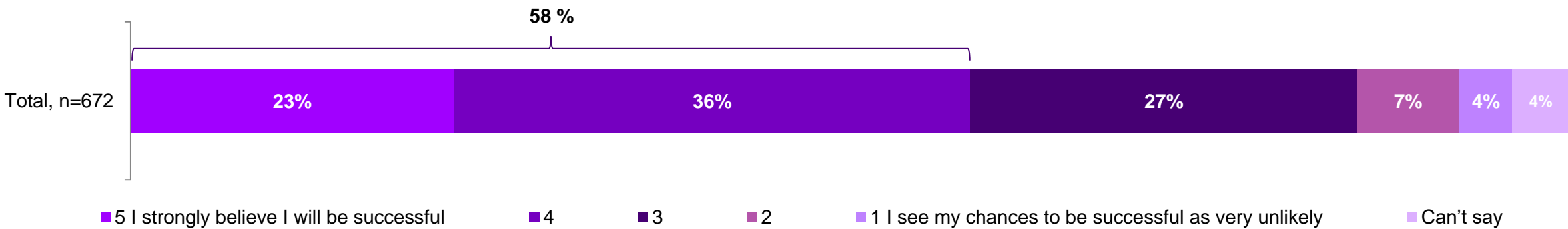


# However, respondents think they are personally more likely to succeed than women in general

Generally, how easy or difficult is it to succeed in a technology role as a woman?

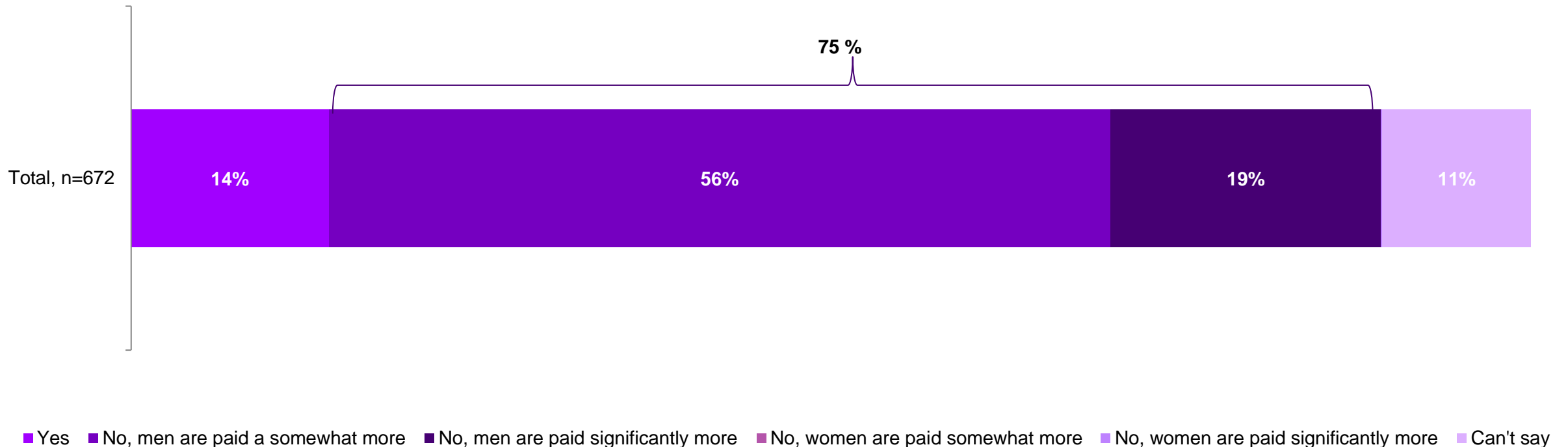


How likely will you succeed in a technology role?



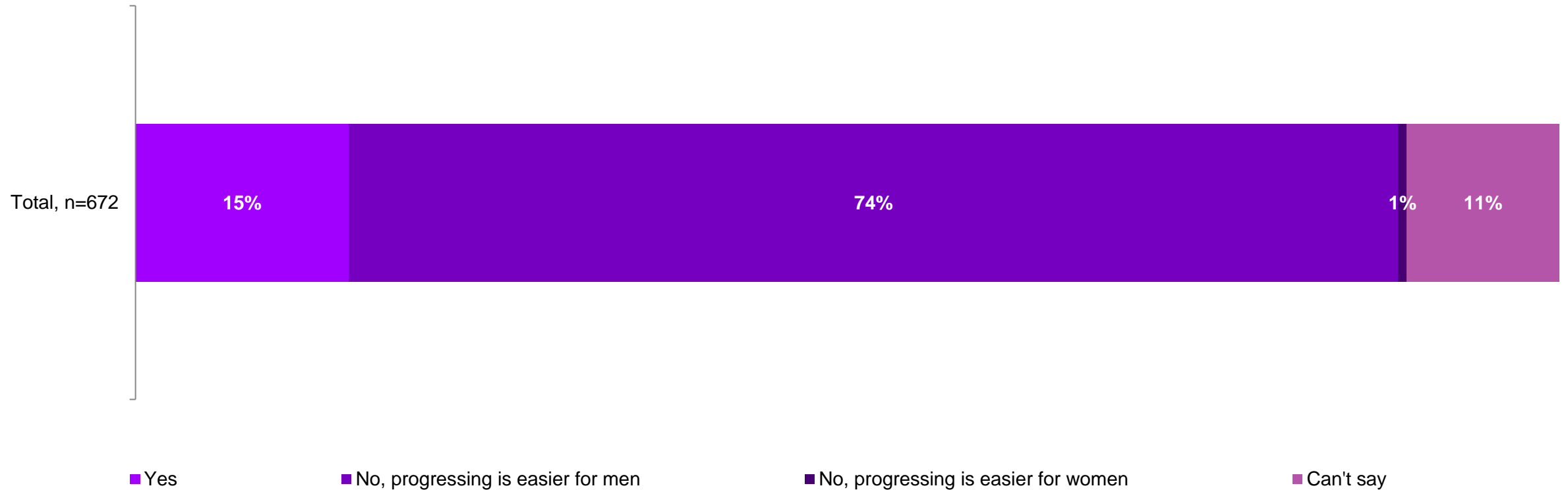
# Women think the tech field suffers from real gender inequality when it comes to salaries

Do you think men and women have equal salaries in technology roles?



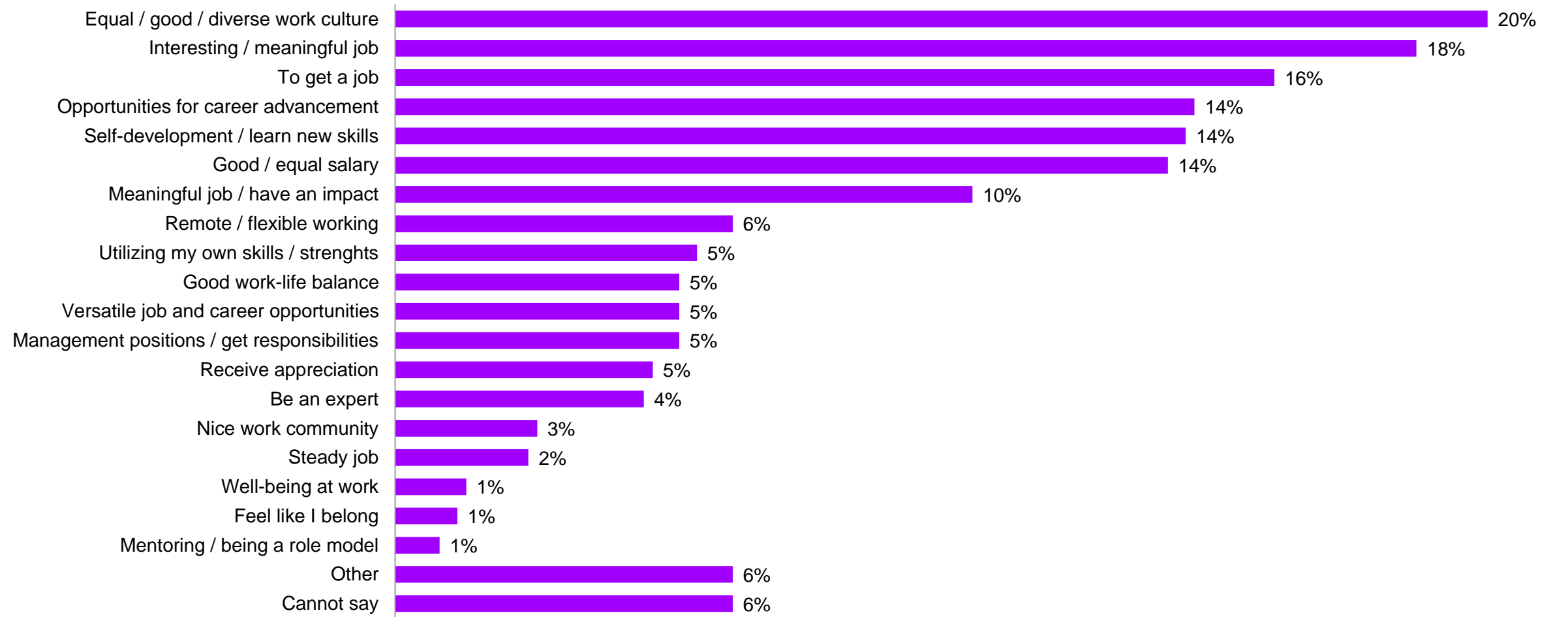
# A clear majority of women think that it is easier for men to progress to leadership positions in the tech field

Do you think men and women have equal opportunities in progressing to leadership positions in technology roles?



# Women hope for a good work culture, a meaningful job and opportunities for advancement in their career path

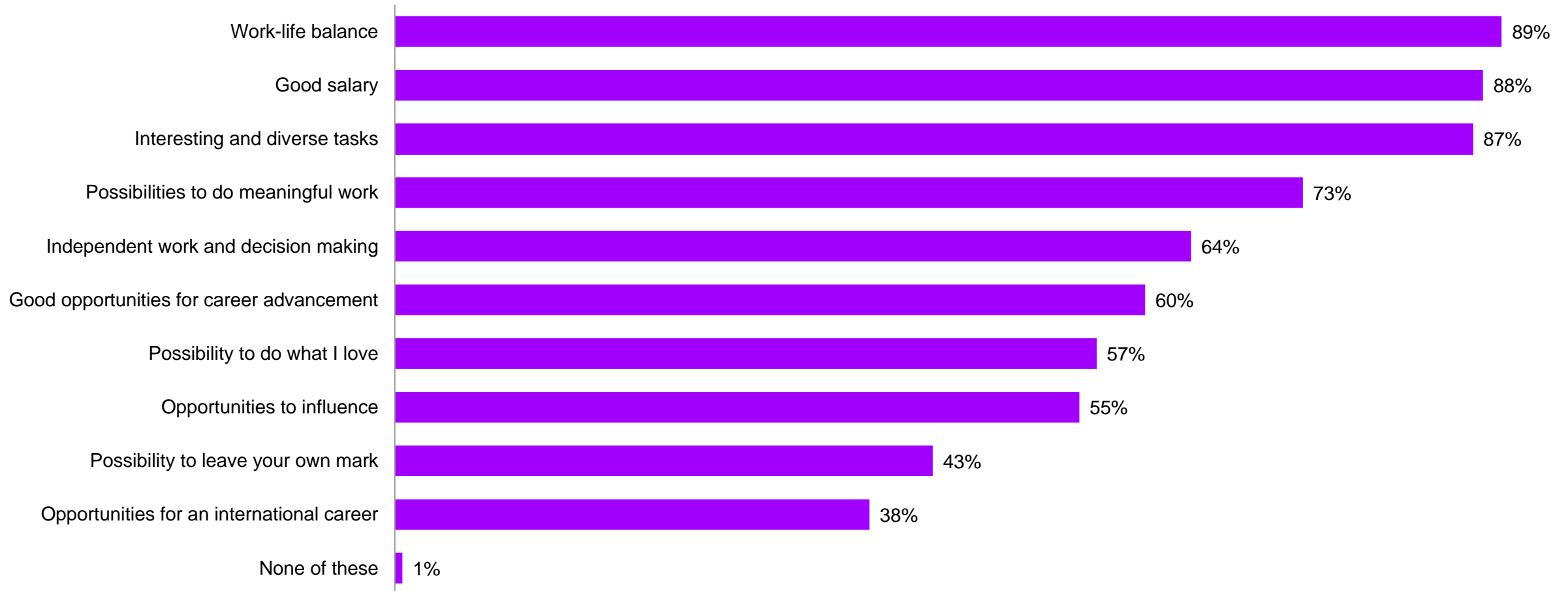
What are your hopes and wishes for your own career path? **OPEN INPUT FROM RESPONDENTS**



(n = 629)

# Women don't want to compromise and want a good work-life balance and salary along with diverse tasks

What are your own wishes for your career?



(n = 672)

# What can we do to make change happen?

CAREER PATHS  
& VERSATILE  
TECH ROLES

ROLE MODELS  
SHOWING THAT  
TECH IS NOT ONLY  
FOR "MATH NERDS"

MAKE WOMEN AWARE  
OF THE POSSIBILITIES  
OF TECH  
EARLY!

TEACHERS  
& STUDENT  
COUNSELLORS



BUST  
INEQUALITY MYTHS  
IN THE TECH FIELD!

ENSURE WORK-LIFE  
BALANCE, EQUALITY  
& MEANINGFULNESS



I  
BELONG  
HERE!

ENSURE THAT  
THE STUDY  
CULTURE  
IS INCLUSIVE!

NO  
HARASS-  
MENT!

INCLUSION  
& DIVERSITY  
PLAN

# What can we do to make change happen?

## Make women aware of the great possibilities in tech early on

- Activate teachers & student counsellors to recommend studies in tech
- Share the many possibilities of a tech career early on in schools
- Make female tech role models visible and share their success stories



## Ensure the study culture is inclusive

- Make everyone feel that they belong – both at schools and in student organizations
- Get rid of the last discriminating elements of tech student culture and ensure zero tolerance towards harassment and inappropriate comments
- Make the contents of inclusion and diversity plans known among students

## Drive work-life equality and bust inequality myths

- Introduce various tech career opportunities to students
- Get rid of structural problems like unequal salaries and opportunities for leadership positions
- Communicate I&D targets and achievements and showcase female role models



# WORDS OF ENCOURAGEMENT FROM THE RESPONDENTS

THERE ARE MANY TYPES  
OF TECH ROLES IN THE  
TECH FIELD THAT MATCH  
DIFFERENT INTERESTS  
& SKILLS.



MATH IS  
NOT NEEDED  
FOR  
EVERYTHING.  
LOGICAL  
THINKING &  
THE ABILITY  
TO STRUCTURE  
THINGS WILL  
TAKE YOU FAR.

TECHNOLOGY FIELD IS...

VERSATILE!

BE BOLD, GET INTO  
THE TECH FIELD  
AND GET RID OF  
IMPOSTOR SYNDROME.



BE BRAVE &  
DO WHAT YOU WANT!

LEARNING TO CODE  
IS LIKE FINDING  
MAGIC SKILLS.  
IT OPENS UP A WORLD  
OF POSSIBILITIES  
WHICH WILL IMPACT  
YOUR LIFE



DON'T  
MISS  
OUT  
ON IT!

TECHNOLOGY IS...

EMPOWERING!

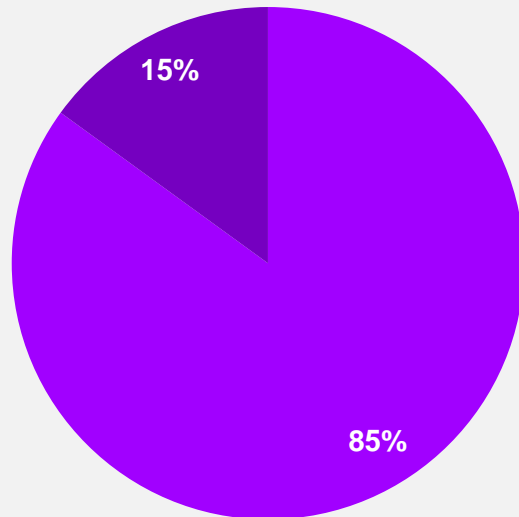
GREATEST  
TEACHER,  
FAILURE  
IS!



DON'T BE AFRAID  
TO FAIL!

# Appendix

- Network participants, n=569
- Norstat Finland sample, n=103



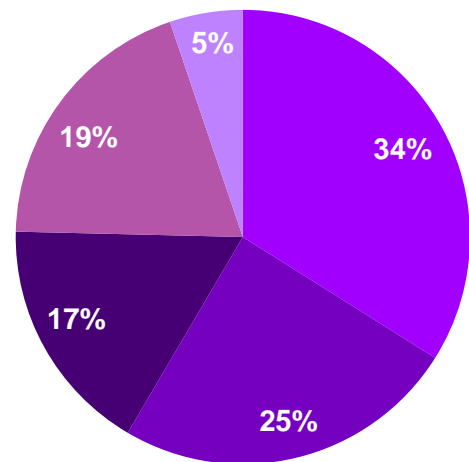
## The method

The study was conducted as a quantitative survey by the research company Kuulas Helsinki during weeks 15-18 in 2022. The survey link was distributed via Finnish educational institutions as well as through Women in Tech Finland's, Mimmit Koodaa's, Tekniikan Akateemiset's and Accenture Finland's networks. The study was complemented with a Norstat Finland panel sample.

The target group of the study consisted of women currently studying technology, N=672.

# Respondent background, 1/5

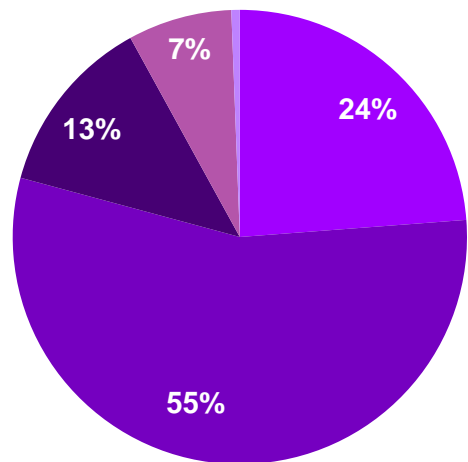
Age



- 18-24
- 25-29
- 30-34
- 35-44
- Over 45 yo

(n = 669)

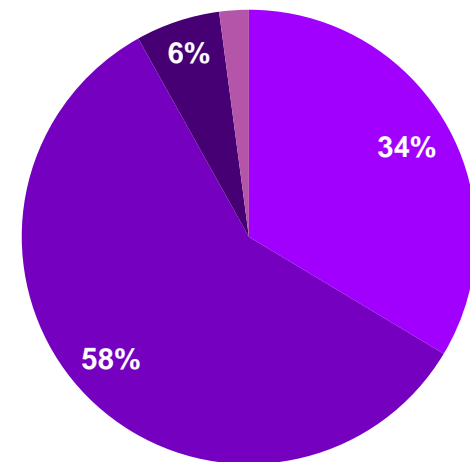
Region



- Western Finland
- Helsinki-Uusimaa region
- Southern Finland
- Northern and Eastern Finland
- Not qualify

(n = 672)

Education level

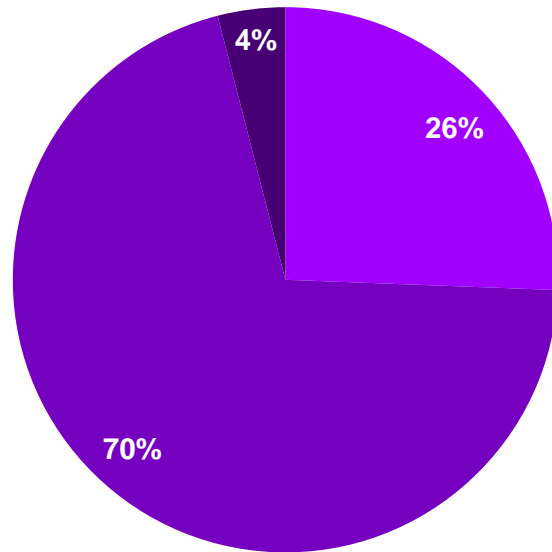


- University of applied sciences
- University
- Other vocational education
- Vocational training which does not lead to a degree in the field.

(n = 672)

# Respondent background, 2/5

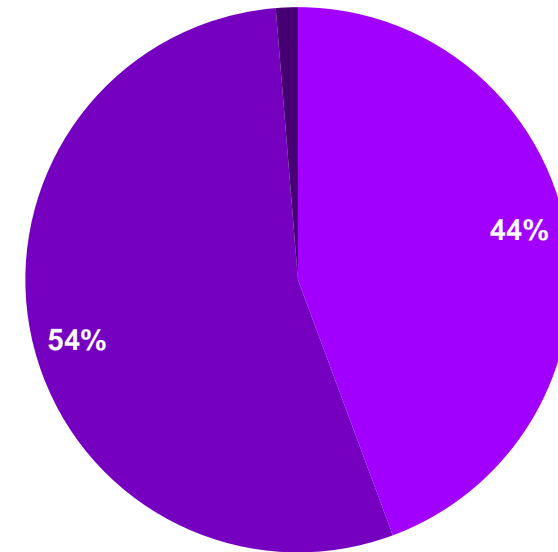
During your free time, do you spend time programming?



■ Yes ■ No ■ Can't say

(n = 672)

During your free time, do you spend time gaming?

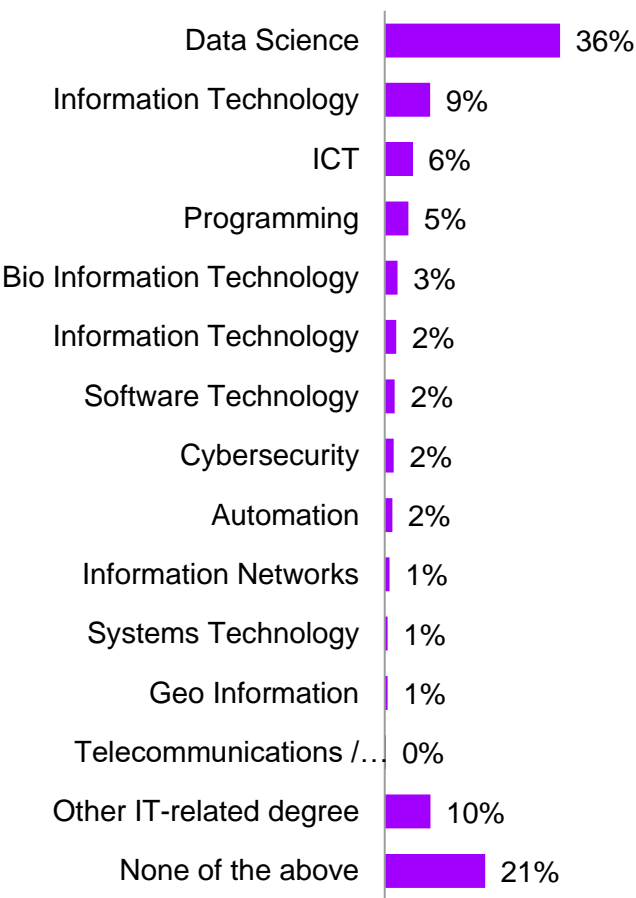


■ Yes ■ No ■ Can't say

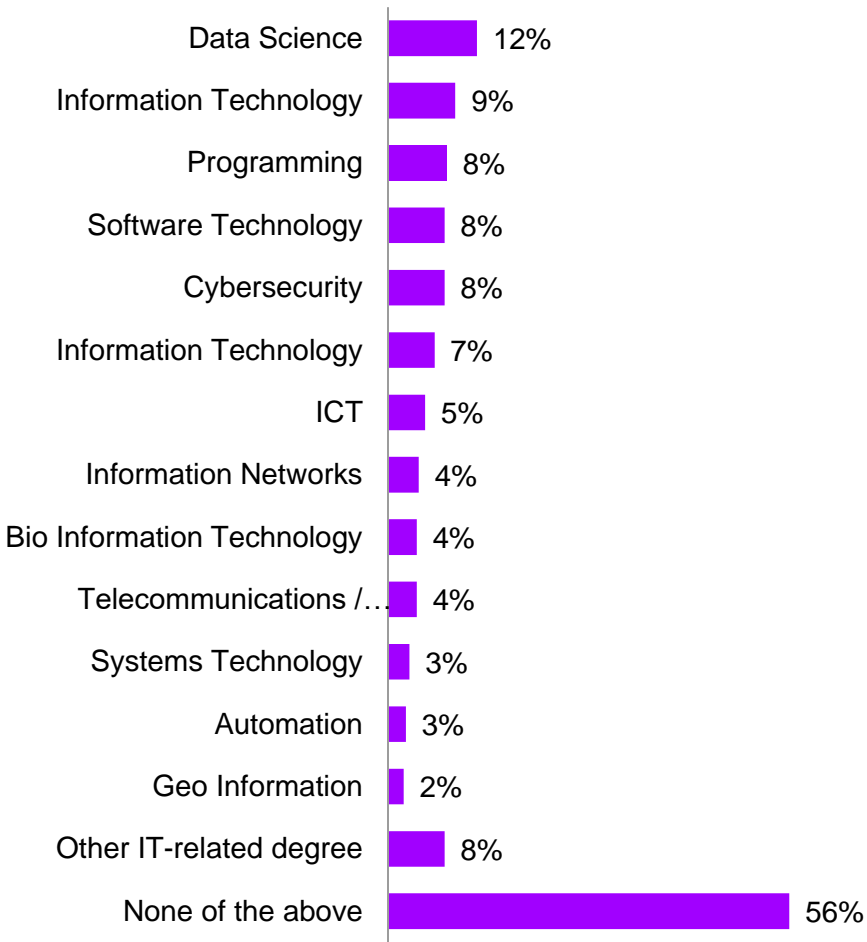
(n = 672)

# Respondent background, 3/5

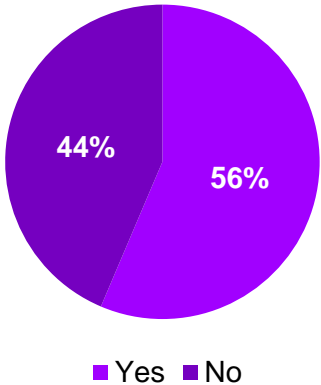
Which field of technology are you studying right now as your major?



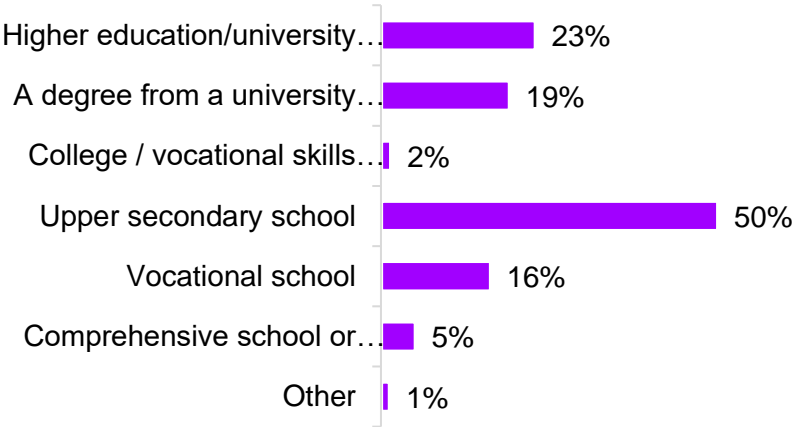
Which field or fields of technology are you studying right now as your minor?



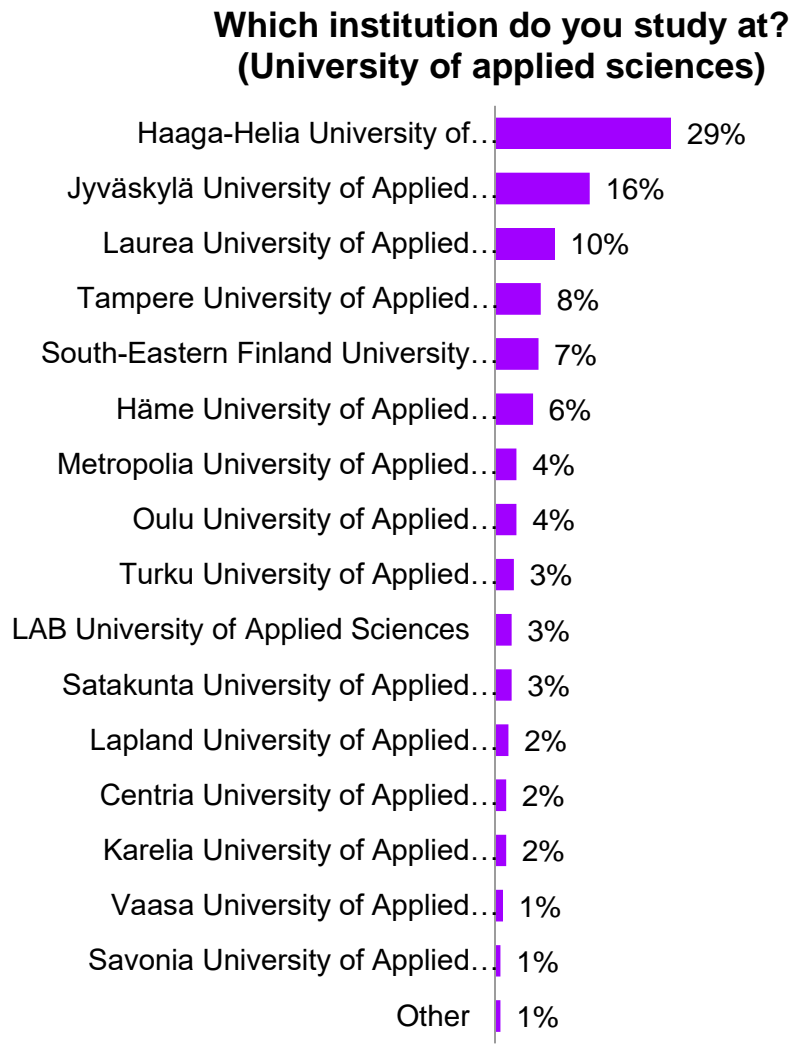
Have you previously majored or minored in some other fields than technology?



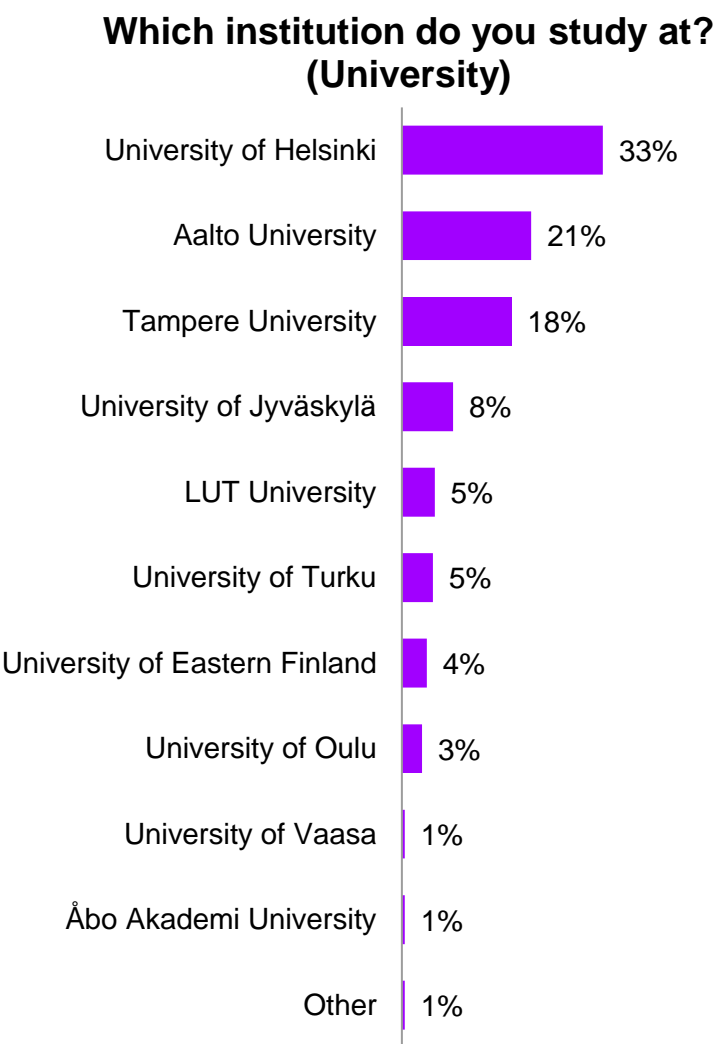
What is your level of education prior to your current studies?



# Respondent background, 4/5



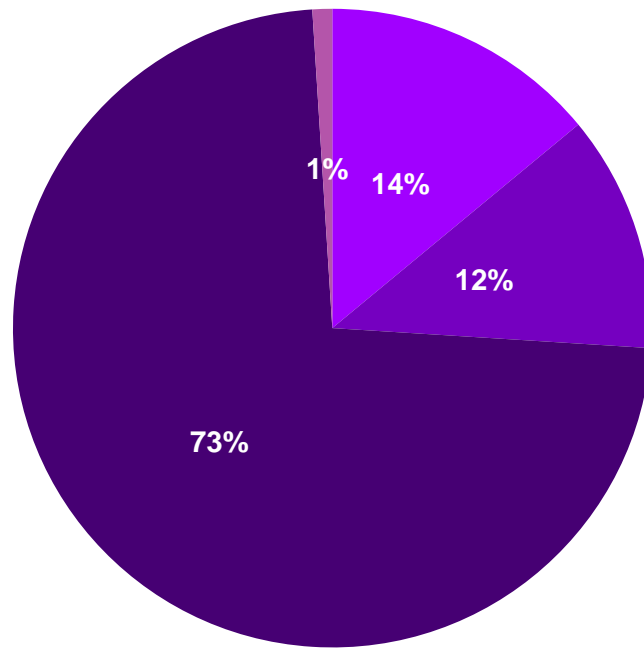
(n = 226)



(n = 392)

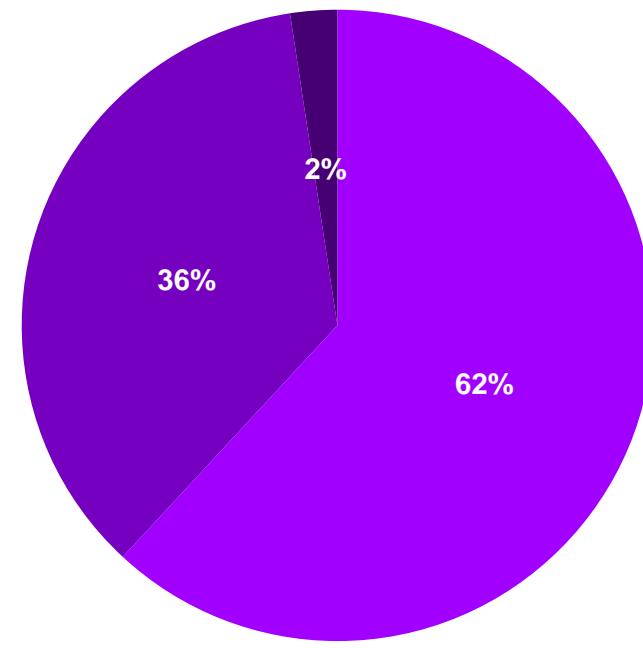
# Respondent background, 5/5

Are you/have you been part of a student association organizing activities for other students, while studying technology?



- Yes, I am currently in a student association
- Yes, but I am no longer part of any student association
- No
- There are no student associations at my educational institute

Do you take part in events or activities organized by student associations at least occasionally?



- Yes
- No
- There are no student associations at my educational institute

(n = 672)