GitHub Education Survey 2019

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GitHub Education
October 2019

Summary

1. **How do respondents currently use GitHub?**
   - Most respondents use GitHub for personal projects and for work.
   - About a quarter of respondents use GitHub multiple times per day.
   - Over half of respondents consider themselves very familiar to extremely familiar with GitHub.

2. **How did respondents use GitHub during school?**
   - Most respondents used GitHub for personal projects and over a third used GitHub for coursework even though it was not implemented in their course(s).
     - Over half of respondents felt they learned at least a little about GitHub via their course(s).
   - Nearly all respondents used GitHub for individual projects and about three-quarters used GitHub for collaborative group projects during school.

Summary

3. **Where are respondents who were students in 2014, 2015, or 2016 now?**
   - Nearly half of respondents are currently full-time or part-time students.
   - Most respondents have taught themselves a new language, framework, or tool without taking a formal course.
   - Over half of respondents are employed full-time, and nearly three-quarters of respondents who were students in 2014 are employed full-time.
     - Over a third of respondents work in a company with at least 1,000 employees
   - Over half of respondents are in positions where they can influence their company's decisions to adopt new tools.
     - Over a third of respondents who use GitHub at work played a role in their work's decision to adopt GitHub.
   - Nearly half of respondents felt they learned a lot or a great deal about GitHub at work.
   - Although most respondents code as a hobby, nearly half of respondents do not contribute to open source projects but would like to in the future.
   - Nearly all respondents who currently use GitHub felt they would continue to use GitHub in the future, and nearly half of respondents who do not currently use GitHub felt they will use GitHub in the future.

Summary

4. **How do teachers use GitHub?**
   - Nearly three-quarters of respondents use some sort of version control system in their classes, and most of them use git.
   - Over half of the respondents implement GitHub in the classroom, and over a quarter of them would like to implement GitHub in the classroom in the future.
     - Of the respondents who implement GitHub in the classroom, over half of them use GitHub Classroom.
     - Of the respondents who implement GitHub in the classroom, over half of them use GitHub to provide their students with feedback, and over a third of them have students who use GitHub to provide peer feedback.
   - Nearly half of the respondents who implement GitHub in the classroom felt very familiar or extremely familiar with GitHub before implementing it, and about half of them felt it was easy or very easy to implement it.

Method

Survey design overview

Participants

- Both users and non-users of GitHub participated
- We emailed students who redeemed student coupons in 2014, 2015, and 2016
- We emailed teachers who redeemed the teacher discount either for personal repositories or for free organization in 2014 and 2016

Two versions of the survey

- Student version
- Teacher version

Respondents overview

	Student Survey	Teacher Survey
Number of respondents	15941	108
Response rate		3.3%
Completion rate	88.6%	86.1%

Demographics of student survey respondents

Race & Ethnicity

Black or of African descent	3.2%
East Asian	23.6%
Hispanic or Latino/Latina	13.7%
Middle Eastern	5.0%
Native American, Pacific Islander, or Indigenous Australian	1.4%
South Asian	17.7%
White or of European descent	45.3%
Other	0.9$

Educational attainment

I never completed any formal education	0.3%
Primary/elementary school	0.5%
Secondary school	3.6%
Some college/university study without earning a degree	11.9%
Associate degree	2.9%
Bachelor's degree	52.4%
Master's degree	20.5%
Professional degree (JD, MD, etc(	1.3%
Other doctoral degree (Ph.D, Ed.D, etc)	5.2%
Other	1.6%

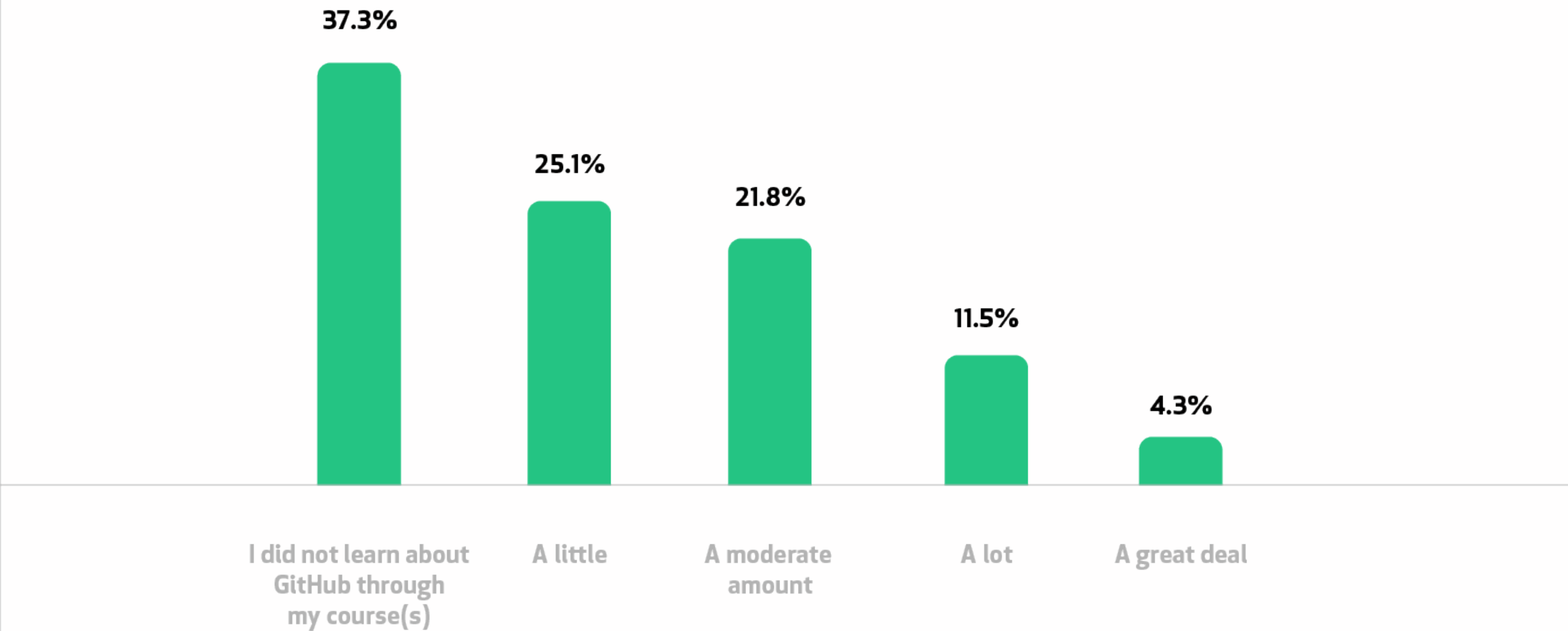# GitHub students become valued professionals

GitHub in the classroom

Over half of respondents who redeemed student coupons in 2014-2016 learned at least a little about GitHub through their course(s)

How much did you learn about GitHub through your course(s)?

37.3% — I did not learn about GitHub through my course(s)
25.1% — A little
21.8% — A moderate amount
11.5% — A lot
4.3% — A great deal

Use of GitHub during school

Most respondents who redeemed student coupons in 2014-2016 used GitHub during school for personal projects

Thinking back to when you were a student, why did you use GitHub? (Select all that apply)

85.1% — I used GitHub for personal projects
36% — GitHub was implemented in my course(s)
43.3% — Not implemented but I used it for coursework
5.1% — I did not us GitHub as a student
3.8% — Other
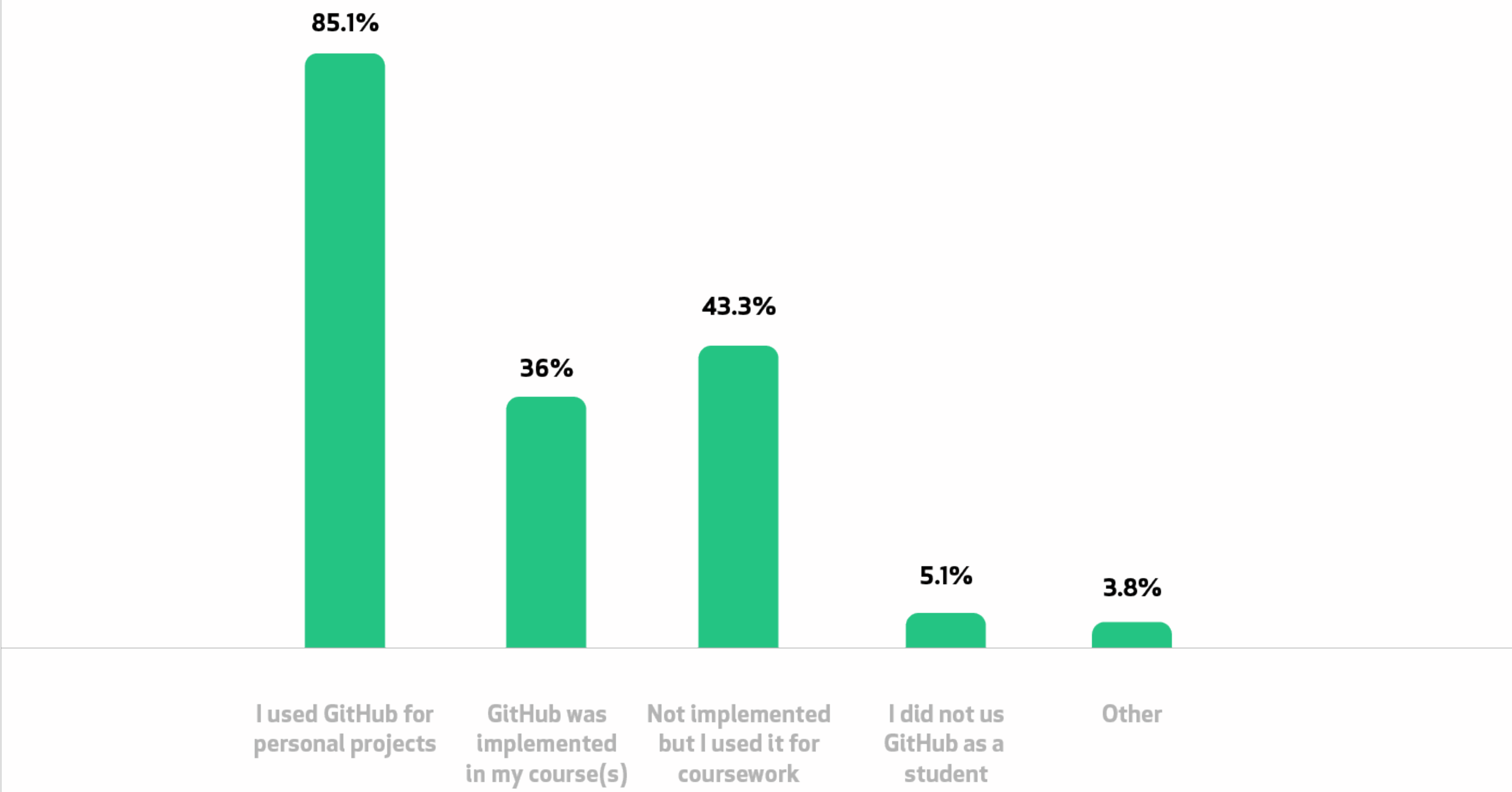
Use of GitHub

Most respondents who redeemed student coupons in 2014-2016 currently use GitHub

Do you use GitHub?

87.8%

11.4%

.9%

Yes, I currently use GitHub

No, but I used to use GitHub

No, and I have never used GitHub
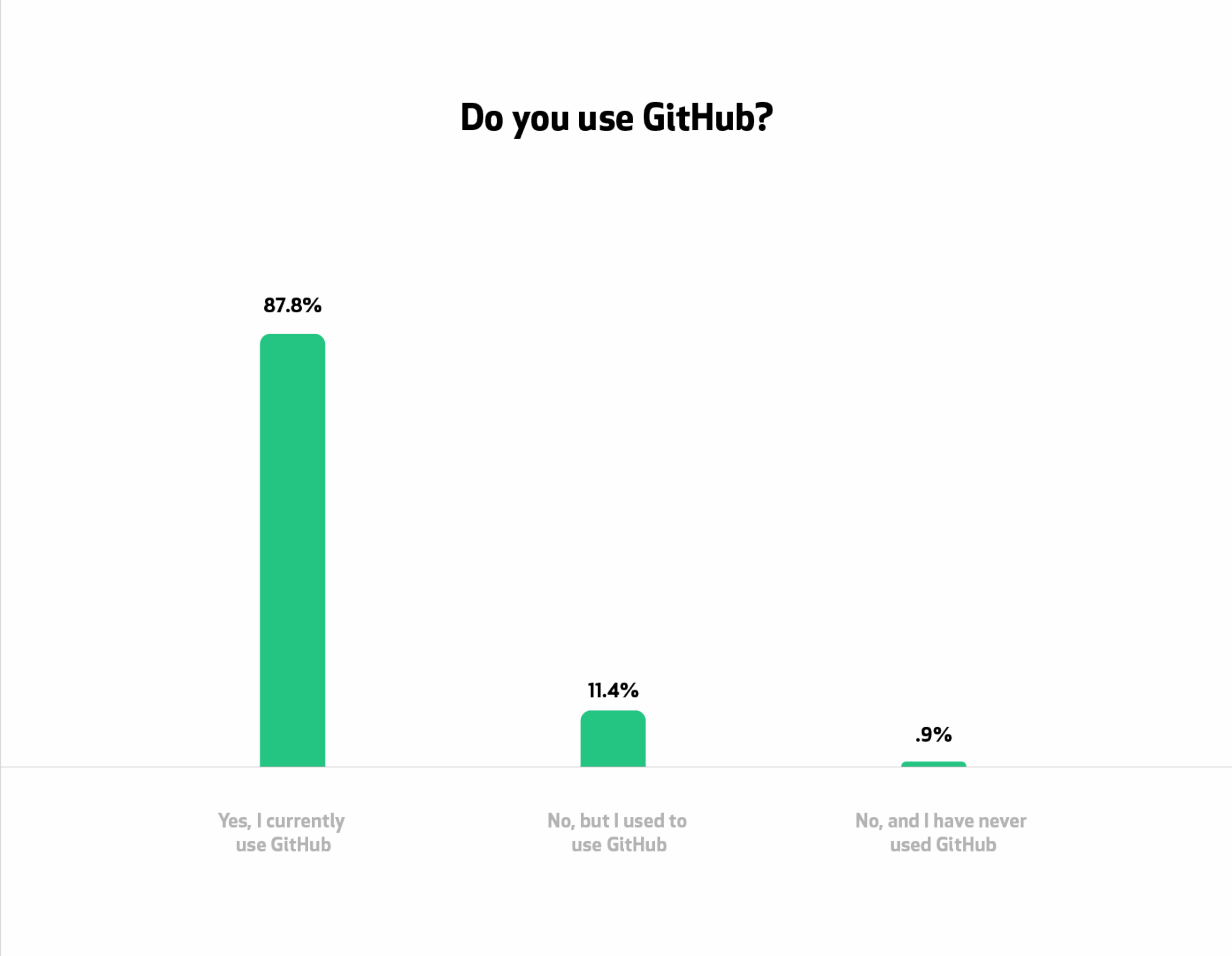
Frequency of use

Most respondents who redeemed student coupons in 2014-2016 use GitHub at least a few times per week

How frequently do you use GitHub?

Less than once per month or monthly	A few times per month or weekly	A few times per week	Daily or almost daily	Multiple times per day
10.8%	22.7%	20.9%	21.4%	24.2%
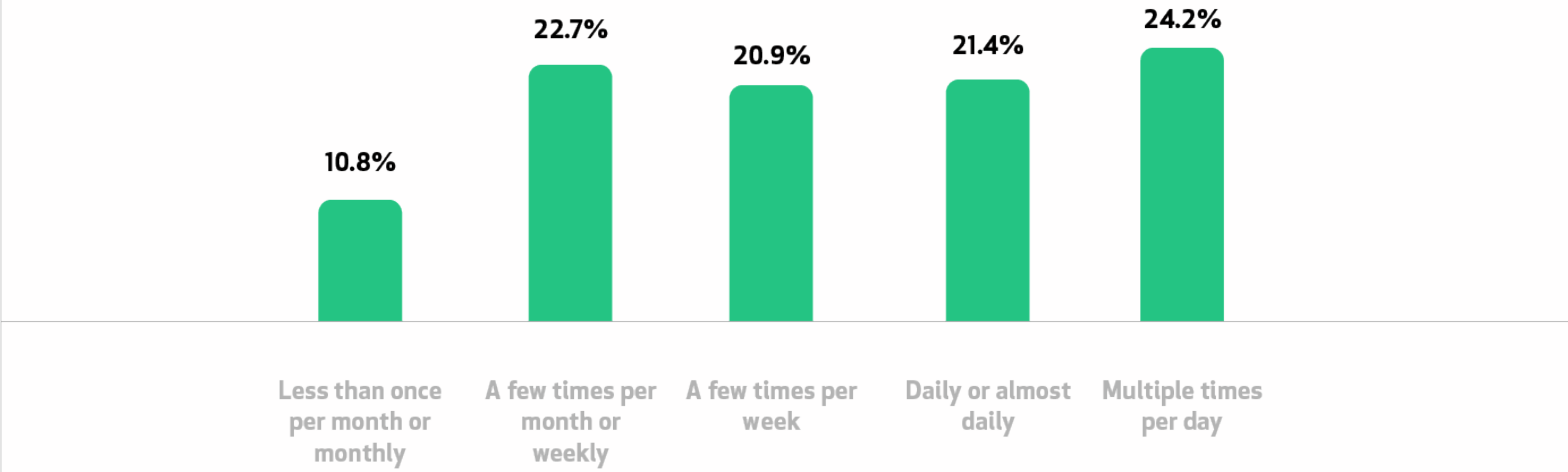
Time as a GitHub user

Most respondents who redeemed student coupons in 2014-2016 have been using GitHub for more than 3 years

How long have you been using GitHub?

Less than a month	1-6 months	6 months - 1 year	1 year - 3 years	More than 3 years
.5%	.8%	1.9%	24.8%	72.1%
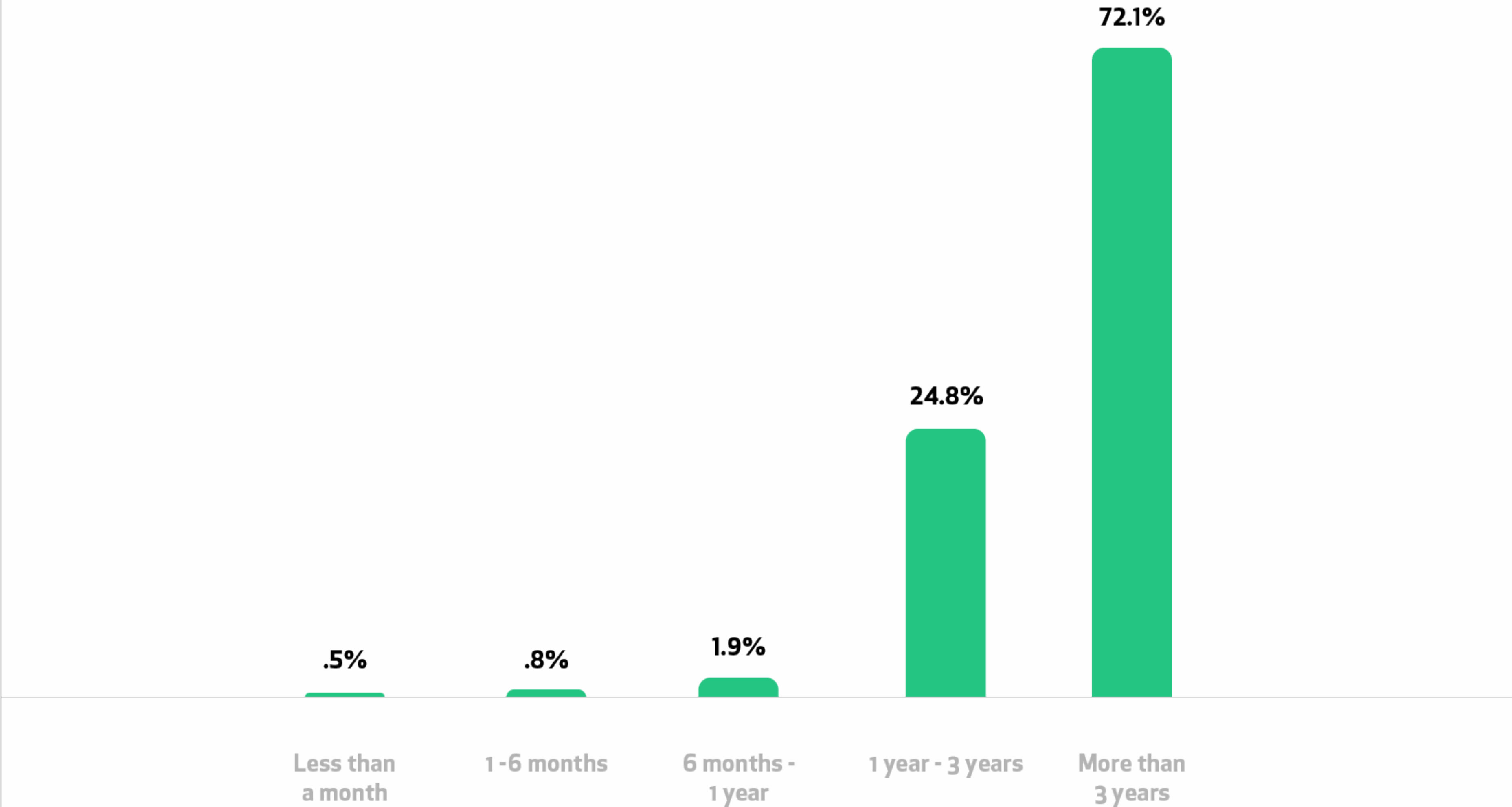
Familiarity with GitHub

Over half of respondents who redeemed student coupons in 2014-2016 consider themselves very familiar to extremely familiar with GitHub

How familiar are you with GitHub?
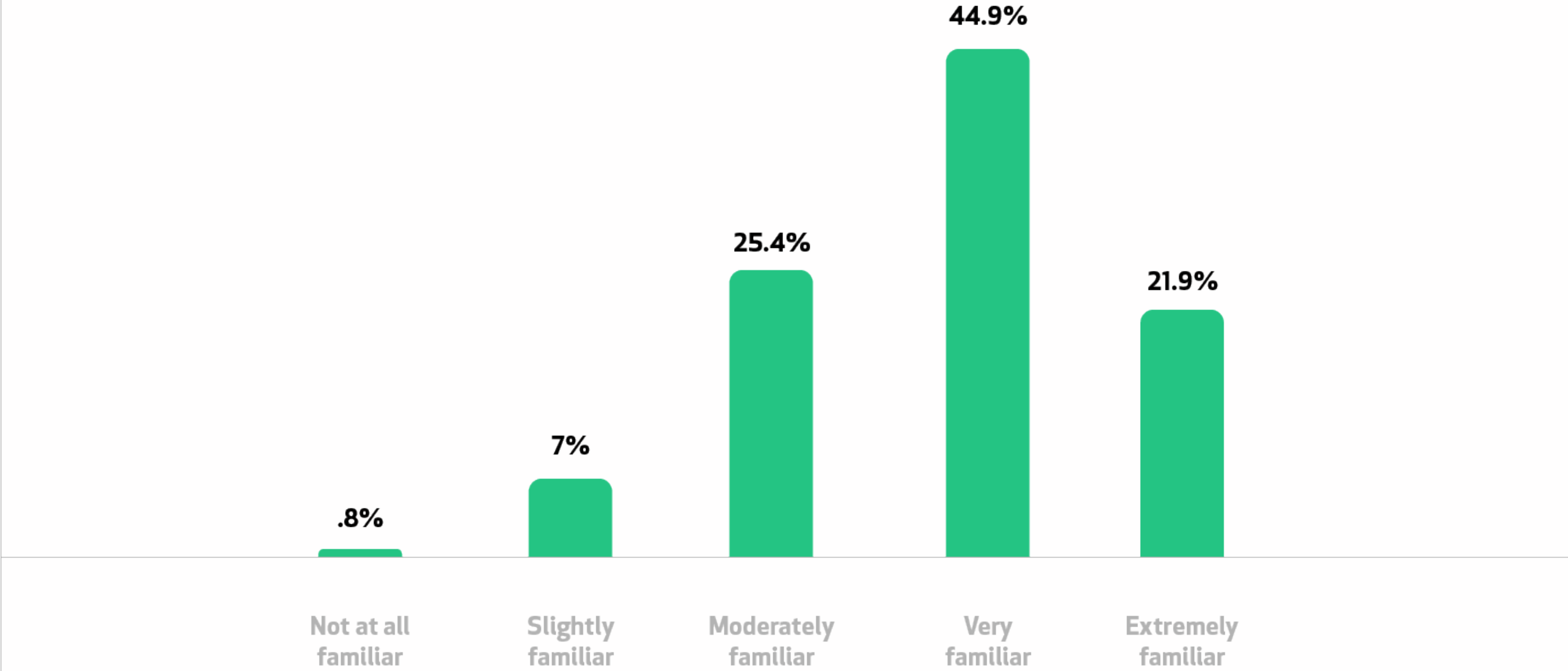
.8%	7%	25.4%	44.9%	21.9%
Not at all familiar	Slightly familiar	Moderately familiar	Very familiar	Extremely familiar

Student status by year of student coupon redemption

Over half of respondents who redeemed their student coupon in 2014 and 2015 are currently not students

Are you a student?

Redeemed 2014
- 66.1%
- 18.7%
- 15.2%

Redeemed 2015
- 60.4%
- 24.9%
- 14.8%

Redeemed 2016
- 39.8%
- 43%
- 17.3%

Legend:
- No
- Yes, full-time
- Yes, part-time

Role

Back-end developer, full-stack developer, and front-end developer are the most common roles among respondents who redeemed student coupons in 2014-2016

Which of the following roles describe you? (Select all that apply)
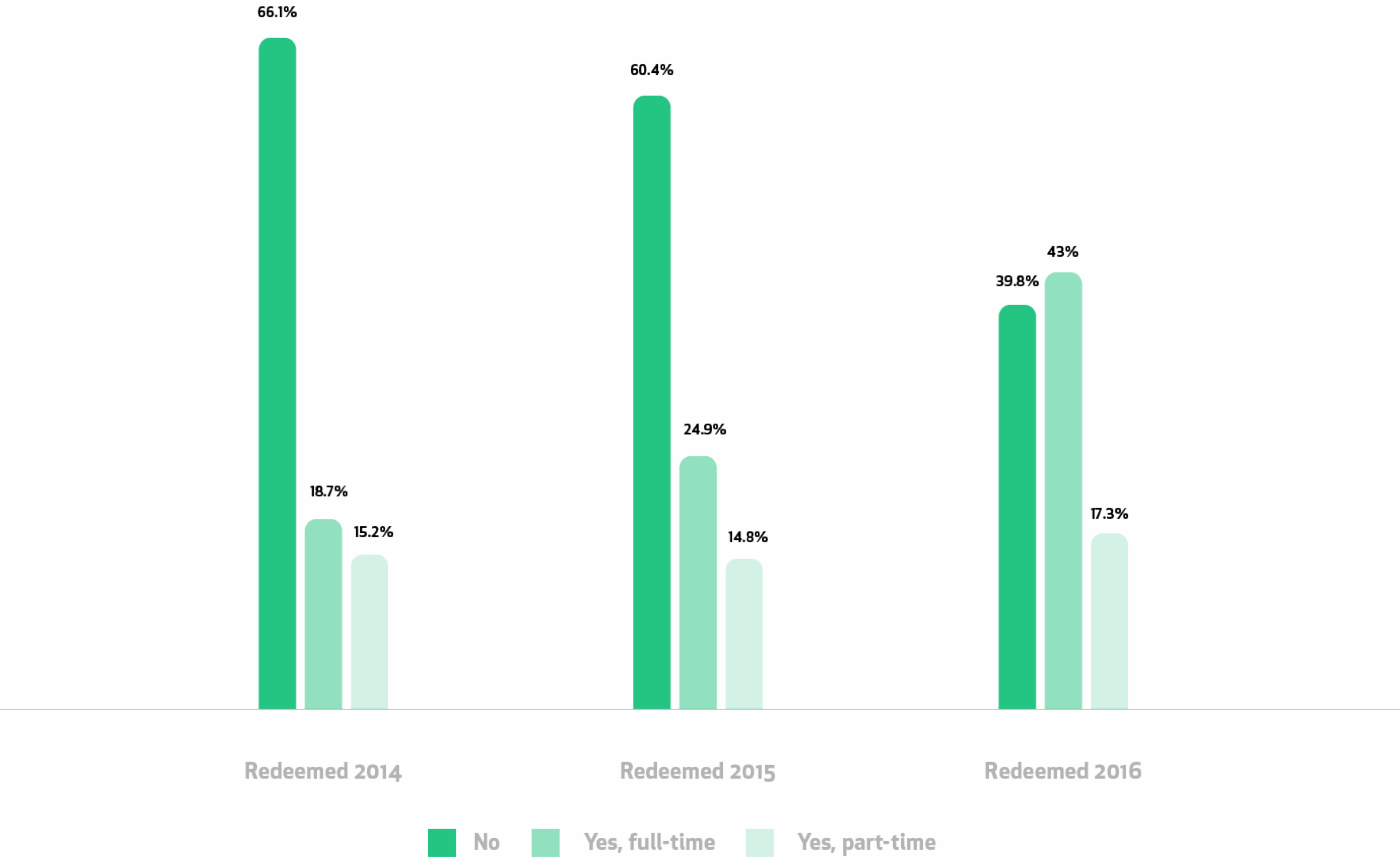

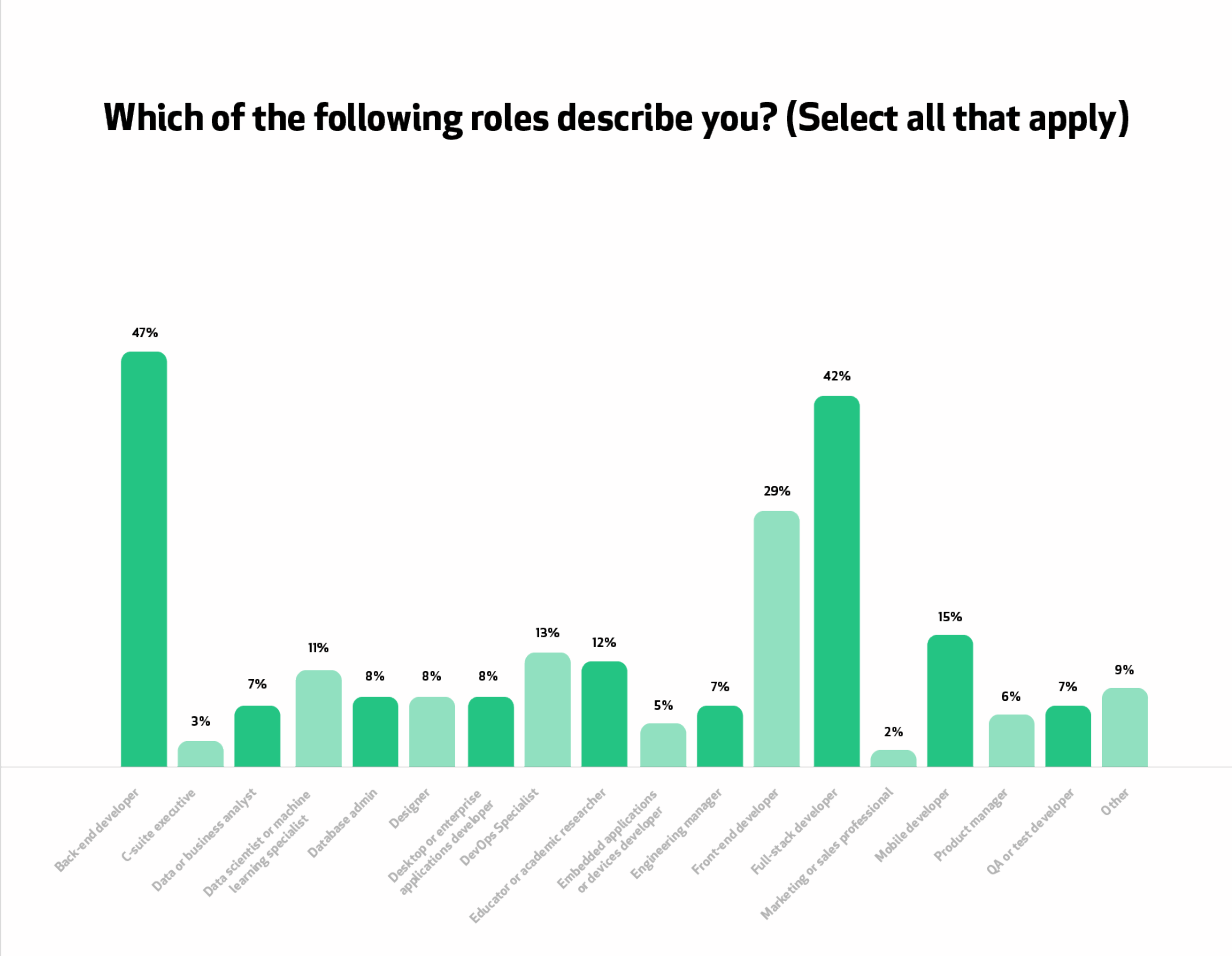| Role	%
Back-end developer	47%
C-suite executive	3%
Data or business analyst	7%
Data scientist or machine learning specialist	11%
Database admin	8%
Designer	8%
Desktop or enterprise applications developer	8%
DevOps Specialist	13%
Educator or academic researcher	12%
Embedded applications or devices developer	5%
Engineering manager	7%
Front-end developer	29%
Full-stack developer	42%
Marketing or sales professional	2%
Mobile developer	15%
Product manager	6%
QA or test developer	7%
Other	9%

Role

Back-end developer, full-stack developer, and front-end developer are the most common roles among respondents who redeemed student coupons in 2014-2016
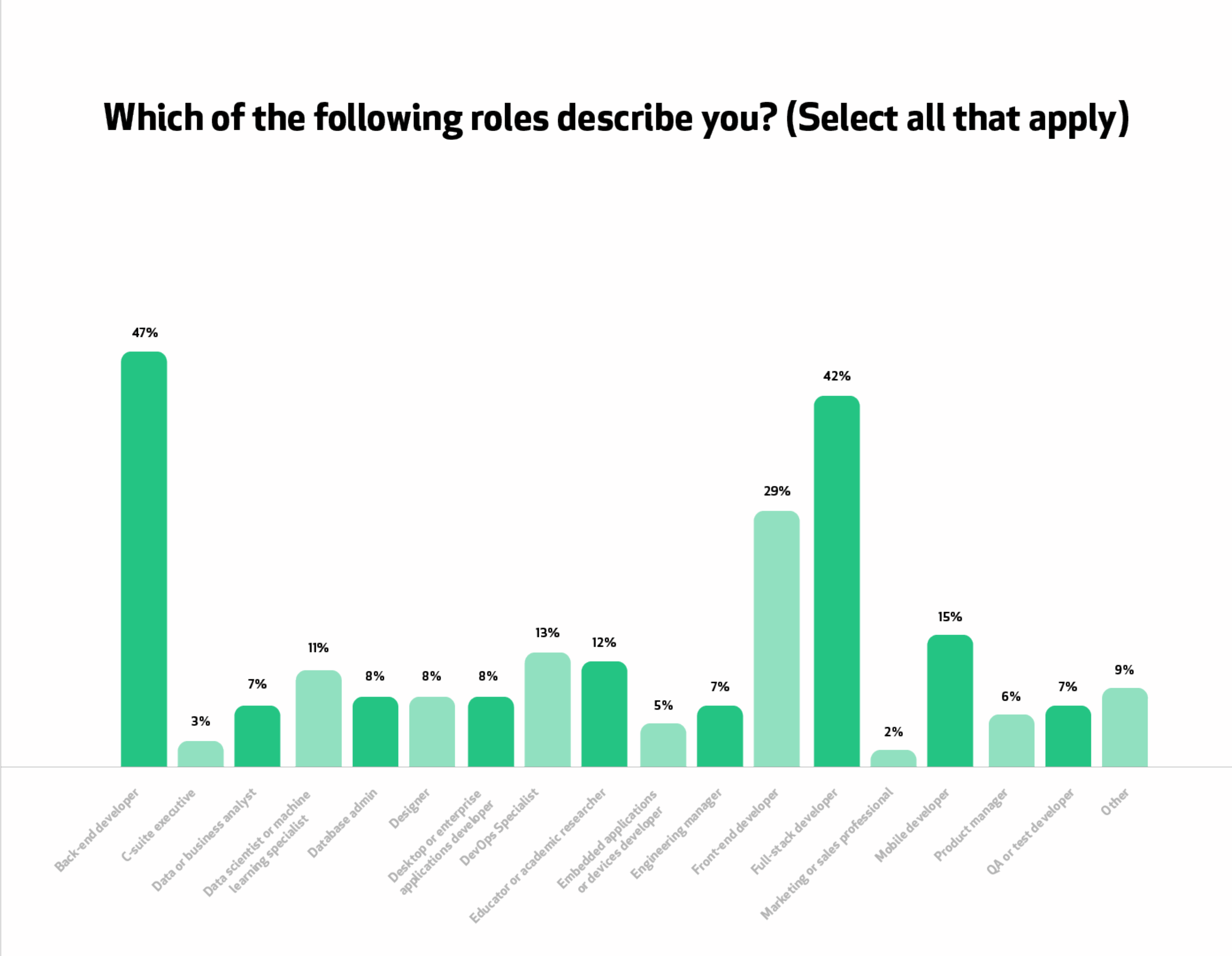
Which of the following roles describe you? (Select all that apply)

Role	Percentage
Back-end developer	47%
C-suite executive	3%
Data or business analyst	7%
Data scientist or machine learning specialist	11%
Database admin	8%
Designer	8%
Desktop or enterprise applications developer	8%
DevOps Specialist	13%
Educator or academic researcher	12%
Embedded applications or devices developer	5%
Engineering manager	7%
Front-end developer	29%
Full-stack developer	42%
Marketing or sales professional	2%
Mobile developer	15%
Product manager	6%
QA or test developer	7%
Other	9%

Industry

Information technology, and Software as a service (SaaS) development are the most common industries to work in among respondents who redeemed student coupons in 2014-2016

In which industry do you work?

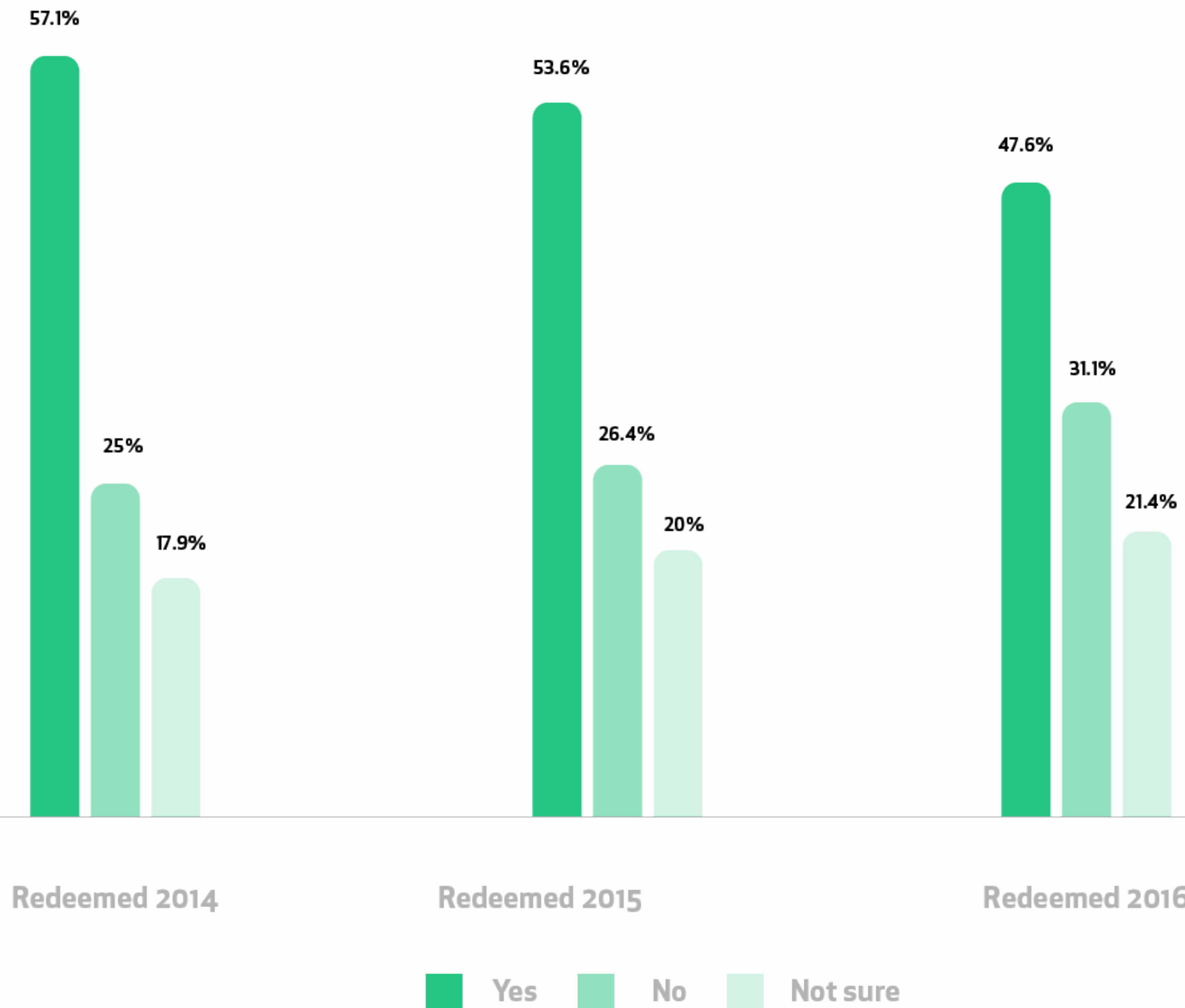| Industry	Percentage
Cloud-based solutions or services	8.4%
Consulting	4.9%
Data and analytics	6.5%
Healthcare technology or services	4.8%
Information technology	14.2%
Media, advertising, publishing, or entertainment	5.4%
Retail or eCommerce	5.4%
Software as a service (SaaS) development	13.2%
Other software development	11.7%
Web development or design	10.7%
Other	14.8%

Influence on adoption of new tools by year of student coupon redemption

Respondents who redeemed student coupons in 2014 were more likely to be in a position to influence decisions to adopt new tools than those who redeemed in 2015 or 2016
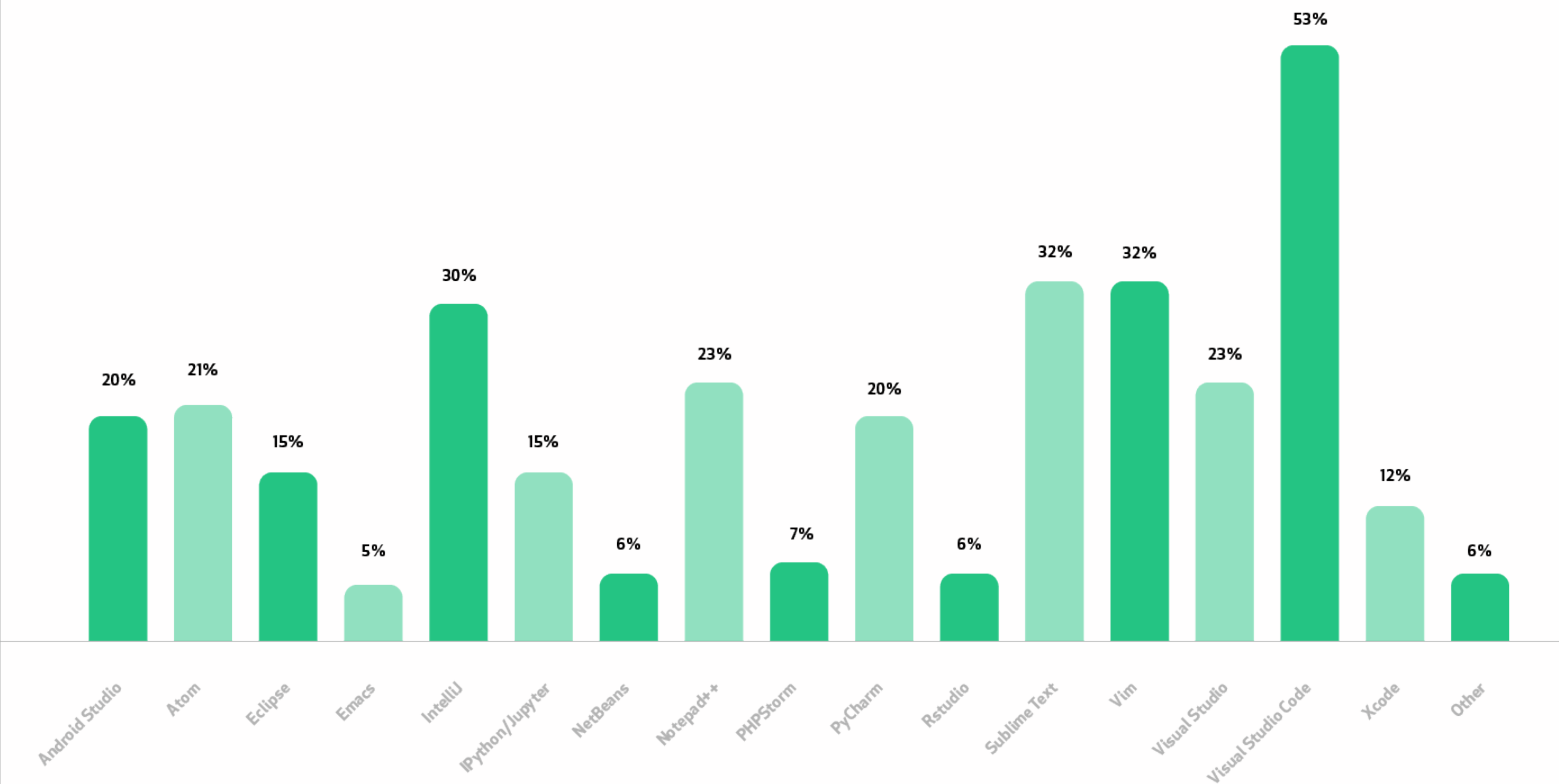
Are you in a position where can influence your company's decisions to adopt new tools?

Redeemed 2014
- 57.1%
- 25%
- 17.9%

Redeemed 2015
- 53.6%
- 26.4%
- 20%

Redeemed 2016
- 47.6%
- 31.1%
- 21.4%

Yes   No   Not sure

Integrated development environments

Visual Studio Code, Sublime Text, Vim, and IntelliJ are among the most commonly used IDEs by respondents who redeemed student coupons in 2014-2016

Which of the following integrated development environments (IDEs) do you typically use? (Select all that apply)

Category	Percentage
Android Studio	20%
Atom	21%
Eclipse	15%
Emacs	5%
IntelliJ	30%
IPython/Jupyter	15%
NetBeans	6%
Notepad++	23%
PHPStorm	7%
PyCharm	20%
Rstudio	6%
Sublime Text	32%
Vim	32%
Visual Studio	23%
Visual Studio Code	53%
Xcode	12%
Other	6%

Communication tools

Over half of the respondents who redeemed student coupons in 2014-2016 use Slack and GitHub to communicate, coordinate, or share knowledge with coworkers or collaborators

Which of the following tools do you use to communicate, coordinate, or share knowledge with your coworkers or collaborators? (Select all that apply)
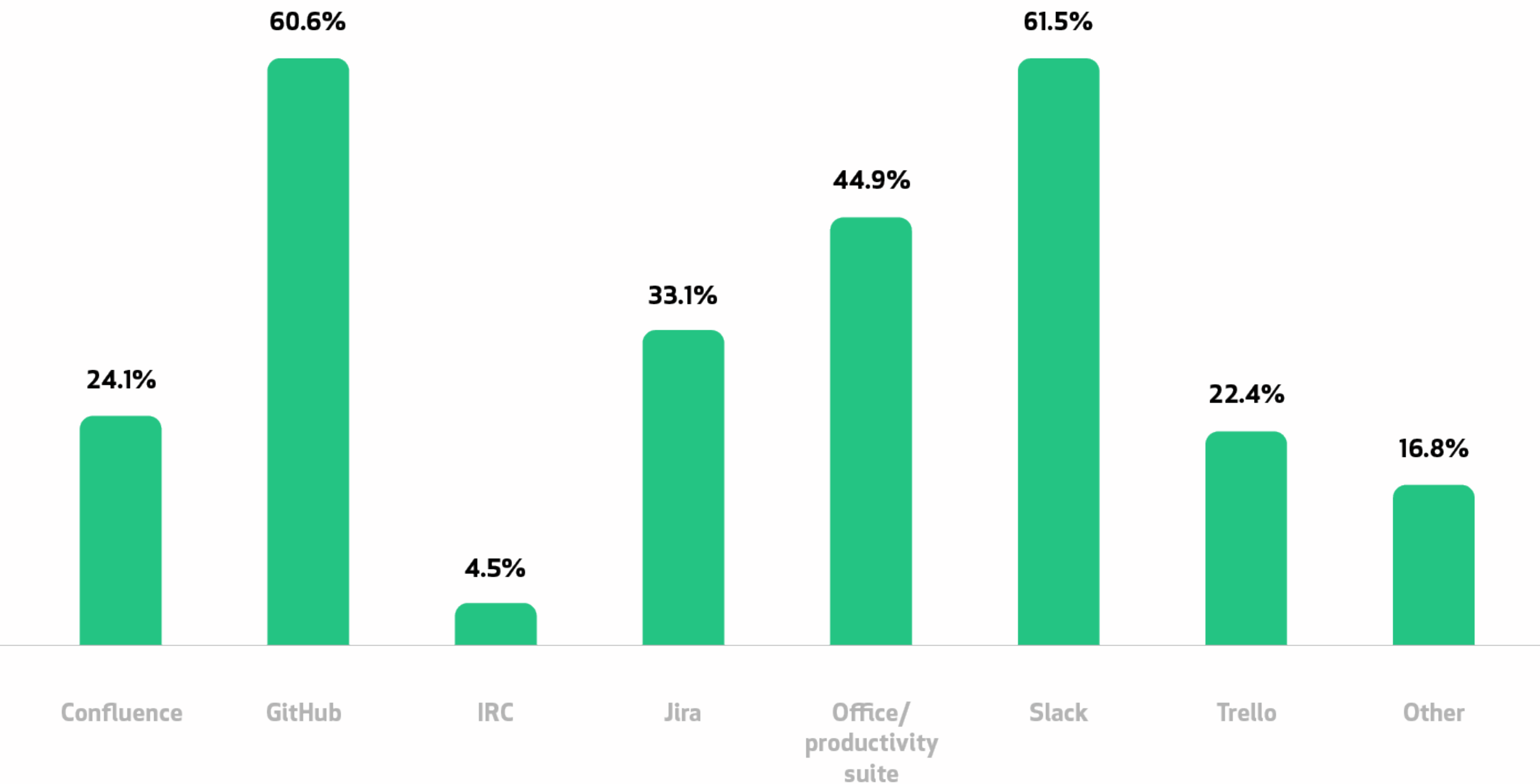
Tool	Percentage
Confluence	24.1%
GitHub	60.6%
IRC	4.5%
Jira	33.1%
Office/productivity suite	44.9%
Slack	61.5%
Trello	22.4%
Other	16.8%

Programming languages

HTML, JavaScript, CSS, and Python are among the most commonly used programming languages by respondents who redeemed student coupons in 2014-2016

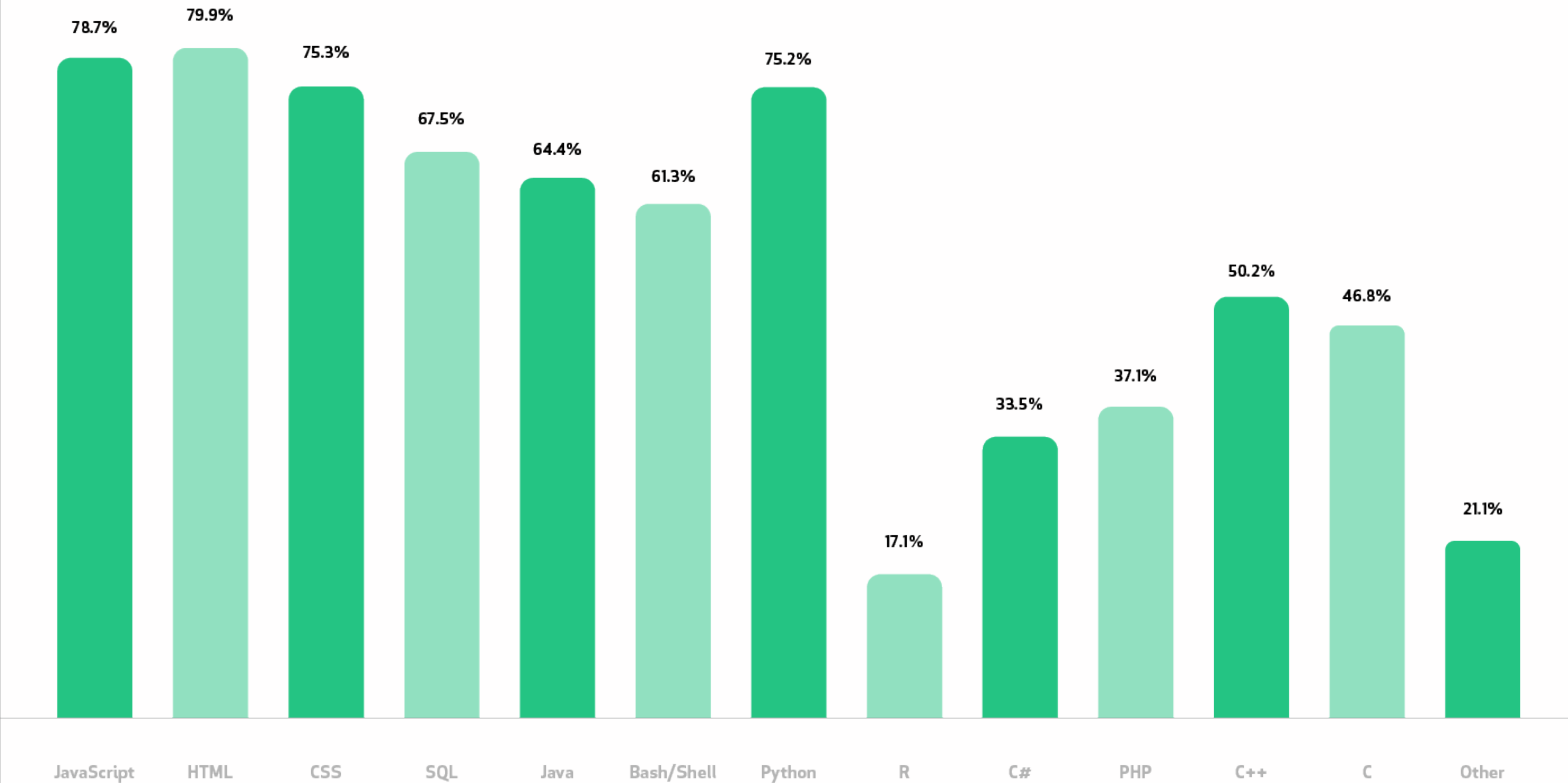## Which of the following programming language(s) have you used? (Select all that apply)

Language	Percentage
JavaScript	78.7%
HTML	79.9%
CSS	75.3%
SQL	67.5%
Java	64.4%
Bash/Shell	61.3%
Python	75.2%
R	17.1%
C#	33.5%
PHP	37.1%
C++	50.2%
C	46.8%
Other	21.1%

GitHub students learn life skills, not just job skills

Current users of GitHub: Continue to use GitHub in the future?

Nearly all of the respondents who redeemed student coupons in 2014-2016 and currently use GitHub felt they would continue to use GitHub in the future

In the future, will you continue to use GitHub?
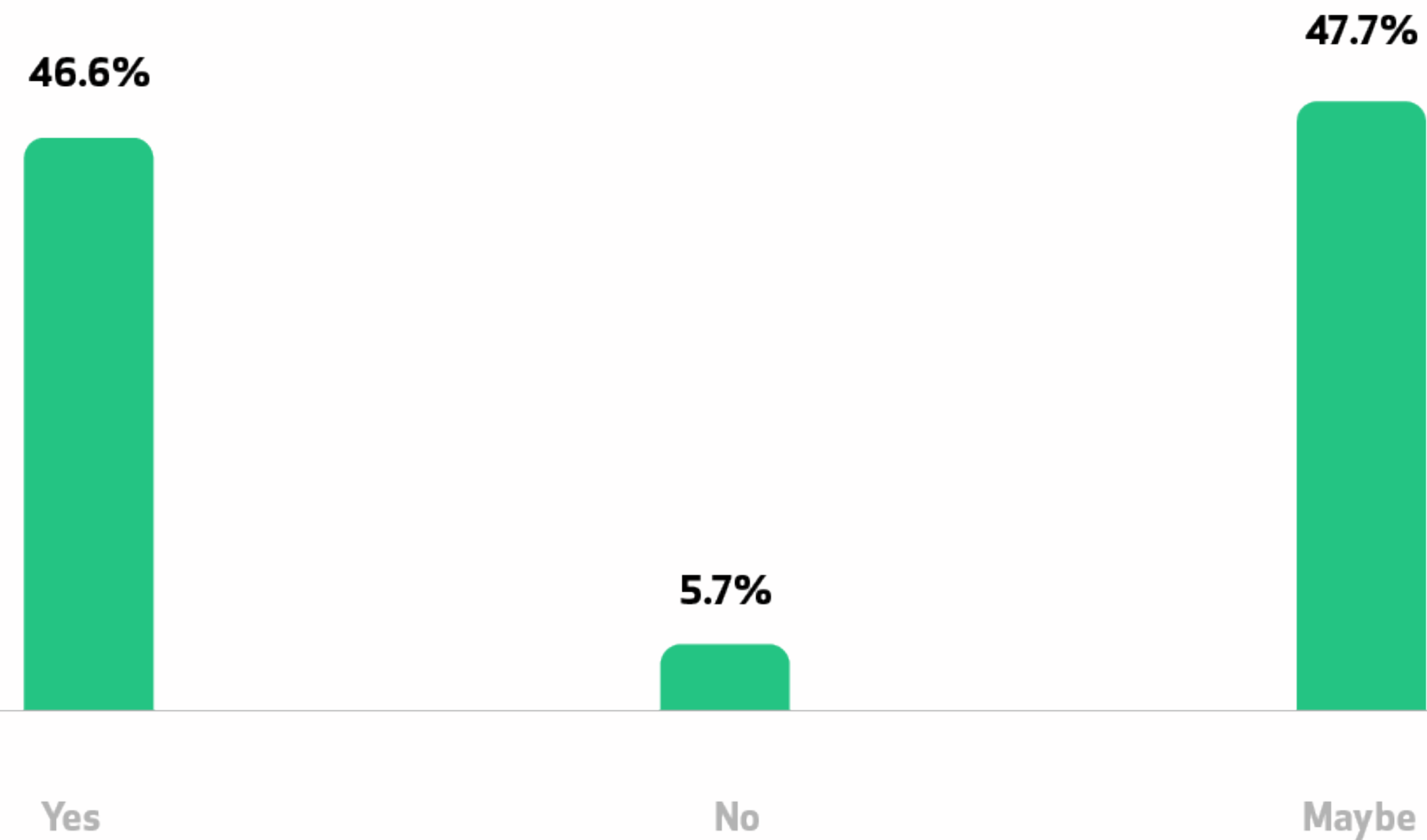
95.6%

.3%

4.1%

Yes

No

Maybe

Non-users of GitHub: Use GitHub in the future?

Nearly half of the respondents who redeemed student coupons in 2014-2016 but are currently non-users of GitHub felt they would use GitHub in the future

Will you use GitHub in the future?

46.6%	5.7%	47.7%
Yes	No	Maybe

Use of GitHub during school

Most respondents who redeemed student coupons in 2014-2016 used GitHub during school for personal projects

Thinking back to when you were a student, why did you use GitHub? (Select all that apply)

85.1%	I used GitHub for personal projects
36%	GitHub was implemented in my course(s)
43.3%	Not implemented but I used it for coursework
5.1%	I did not us GitHub as a student
3.8%	Other
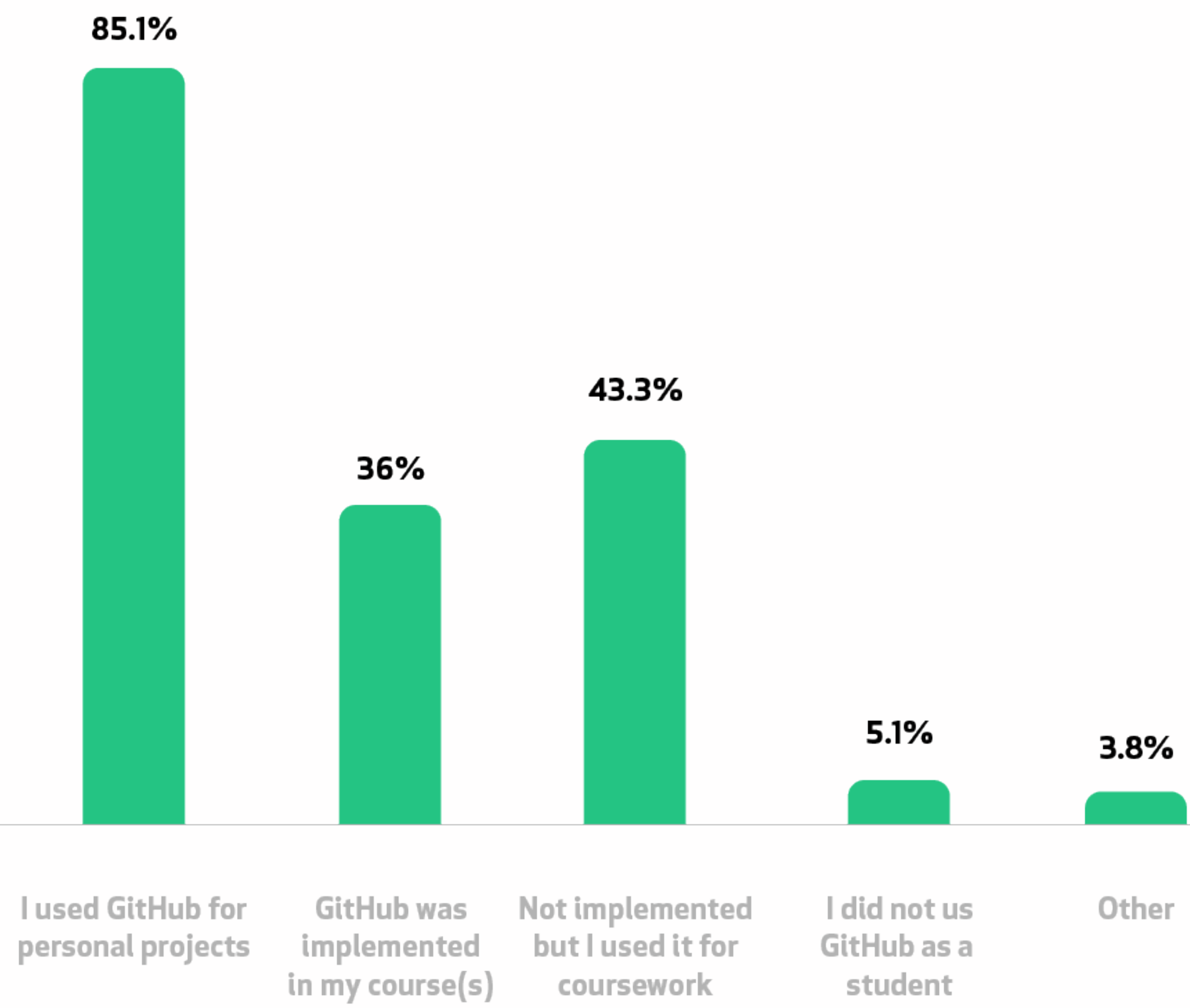
Why use GitHub

Over half of respondents who redeemed student coupons in 2014-2016 use GitHub for personal projects and for work

Which of the following describes why you currently use GitHub? (Select all that apply)

Category	Percentage
I use GitHub as a portfolio	49%
I use GitHub for personal projects	87.6%
I use GitHub for work	59.9%
I use GitHub for school	43.7%
Other	3.9%
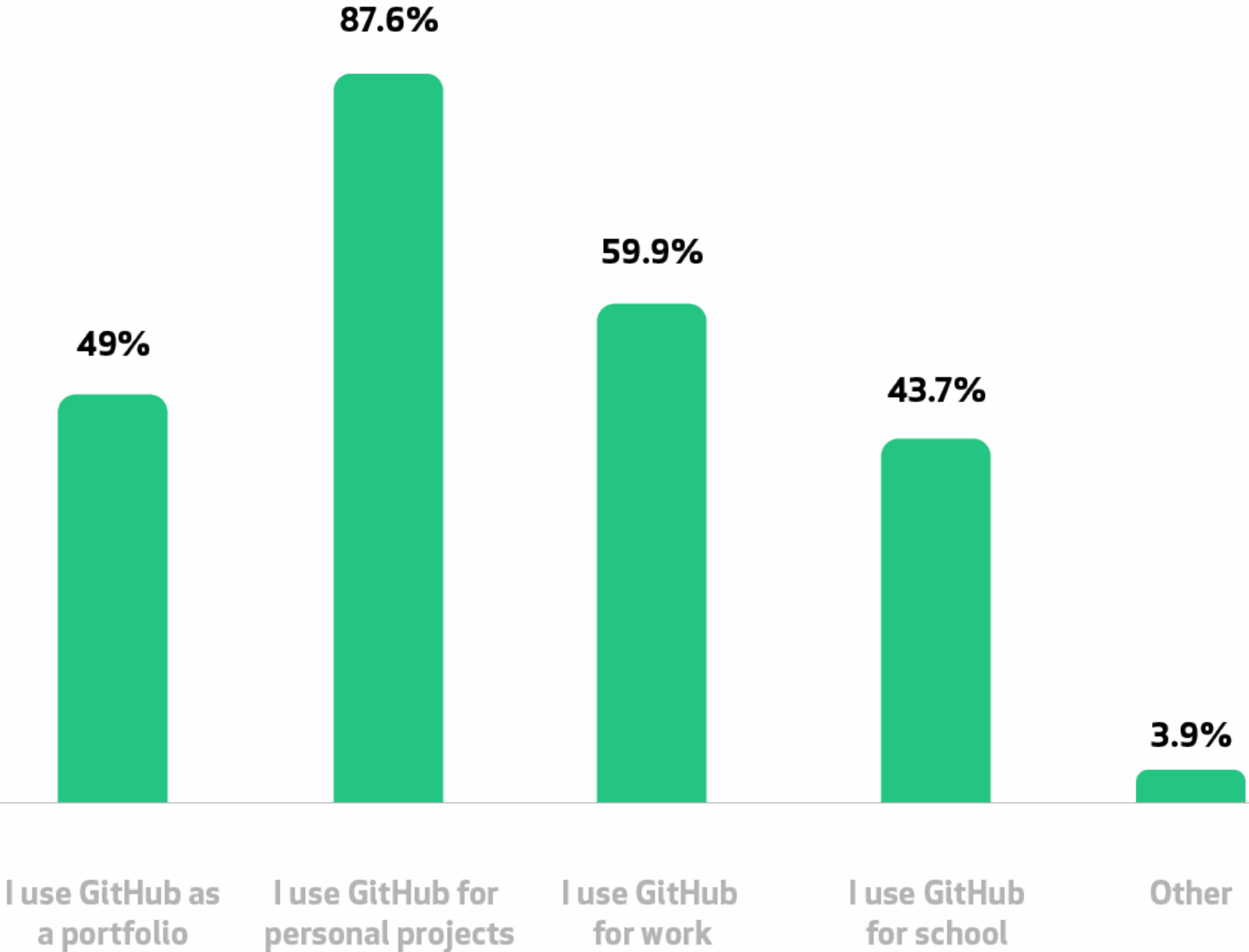
Coding as a hobby

Most respondents who redeemed student coupons in 2014-2016 code as a hobby

Do you code as a hobby?

80.3%

19.8%

Yes

No

GitHub teachers equip students with essential skills

GitHub in the classroom

Over half of respondents who redeemed student coupons in 2014-2016 learned at least a little about GitHub through their course(s)

How much did you learn about GitHub through your course(s)?

Response	Percentage
I did not learn about GitHub through my course(s)	37.3%
A little	25.1%
A moderate amount	21.8%
A lot	11.5%
A great deal	4.3%

Use of GitHub during school

Most respondents who redeemed student coupons in 2014-2016 used GitHub during school for personal projects

Thinking back to when you were a student, why did you use GitHub? (Select all that apply)

85.1% — I used GitHub for personal projects

36% — GitHub was implemented in my course(s)

43.3% — Not implemented but I used it for coursework

5.1% — I did not us GitHub as a student

3.8% — Other

Student status by year of student coupon redemption

Over half of respondents who redeemed their student coupon in 2014 and 2015 are currently not students

Are you a student?

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- 66.1%
- 18.7%
- 15.2%

Redeemed 2015
- 60.4%
- 24.9%
- 14.8%

Redeemed 2016
- 39.8%
- 43%
- 17.3%

Legend: No | Yes, full-time | Yes, part-time
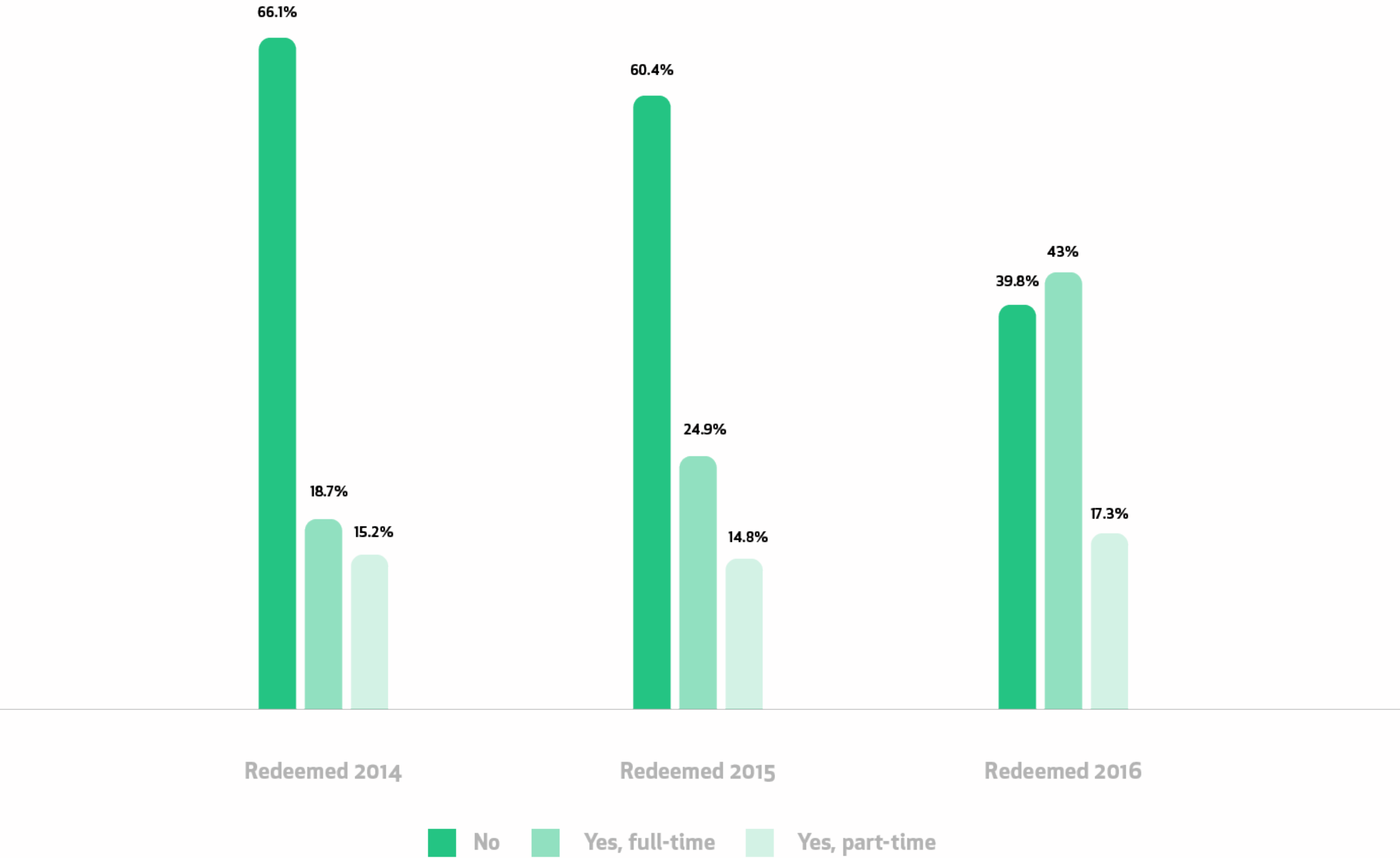
Employment status

Over half of respondents who redeemed student coupons in 2014-2016 are employed full-time

What is your employment status?

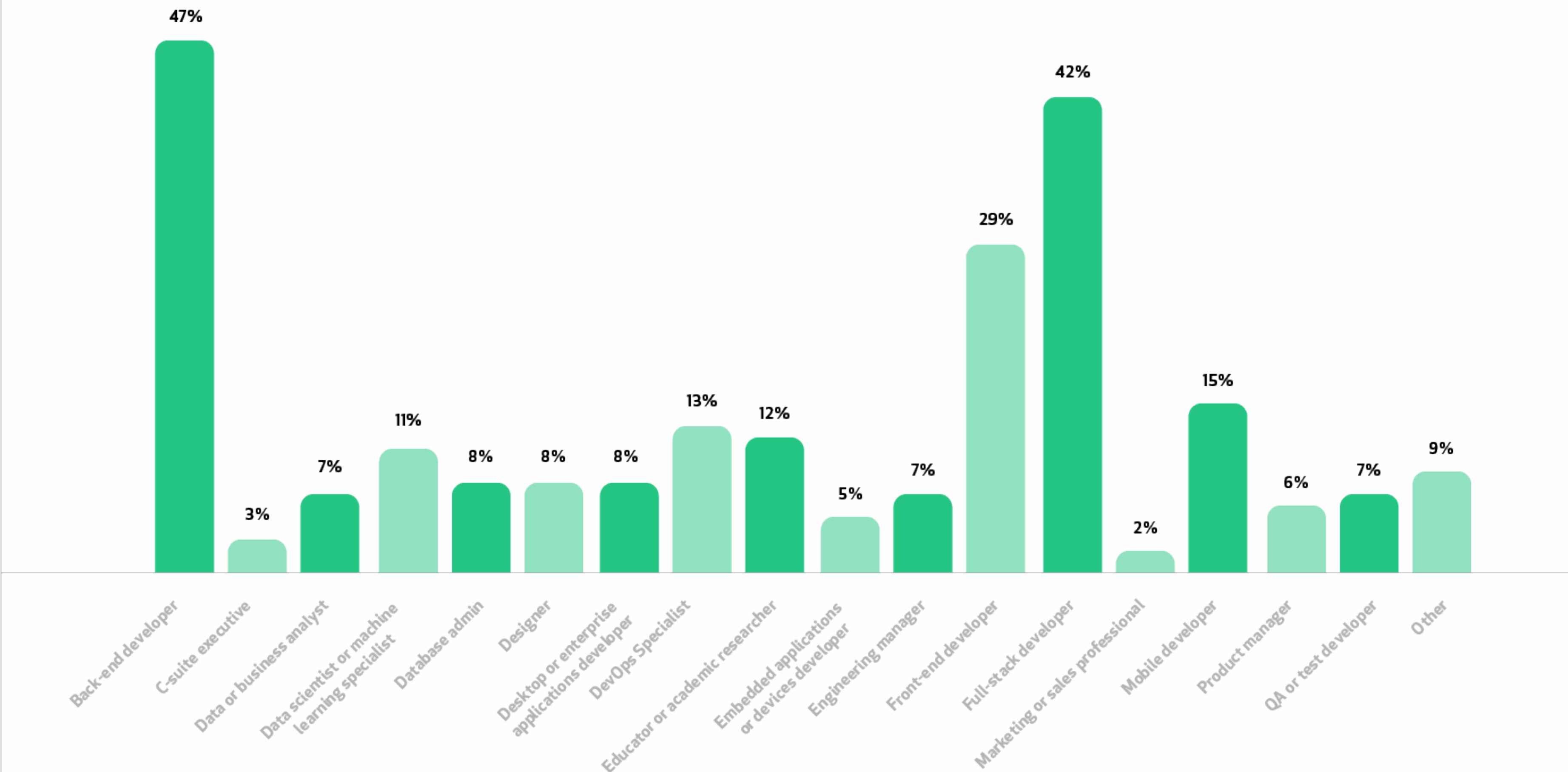|					
63.3%	9.7%	9.2%	10.4%	7.4%	.1%
Employed full-time	Employed part-time	Independent contractor, freelance, or self-employed	Not employed, but looking for work	Not employed, and not looking for work	Retired

Role

Back-end developer, full-stack developer, and front-end developer are the most common roles among respondents who redeemed student coupons in 2014-2016

Which of the following roles describe you? (Select all that apply)

| Role	Percentage
Back-end developer	47%
C-suite executive	3%
Data or business analyst	7%
Data scientist or machine learning specialist	11%
Database admin	8%
Designer	8%
Desktop or enterprise applications developer	8%
DevOps Specialist	13%
Educator or academic researcher	12%
Embedded applications or devices developer	5%
Engineering manager	7%
Front-end developer	29%
Full-stack developer	42%
Marketing or sales professional	2%
Mobile developer	15%
Product manager	6%
QA or test developer	7%
Other	9%

Industry

Information technology, and Software as a service (SaaS) development are the most common industries to work in among respondents who redeemed student coupons in 2014-2016

In which industry do you work?

Category	Percentage
Cloud-based solutions or services	8.4%
Consulting	4.9%
Data and analytics	6.5%
Healthcare technology or services	4.8%
Information technology	14.2%
Media, advertising, publishing, or entertainment	5.4%
Retail or eCommerce	5.4%
Software as a service (SaaS) development	13.2%
Other software development	11.7%
Web development or design	10.7%
Other	14.8%

Version control systems

What version control systems do you use?
(Select all that apply)

- Git — 92%
- Mercurial — 3%
- Subversion — 8%
- I don't use version control — 5%
- Other — 4%
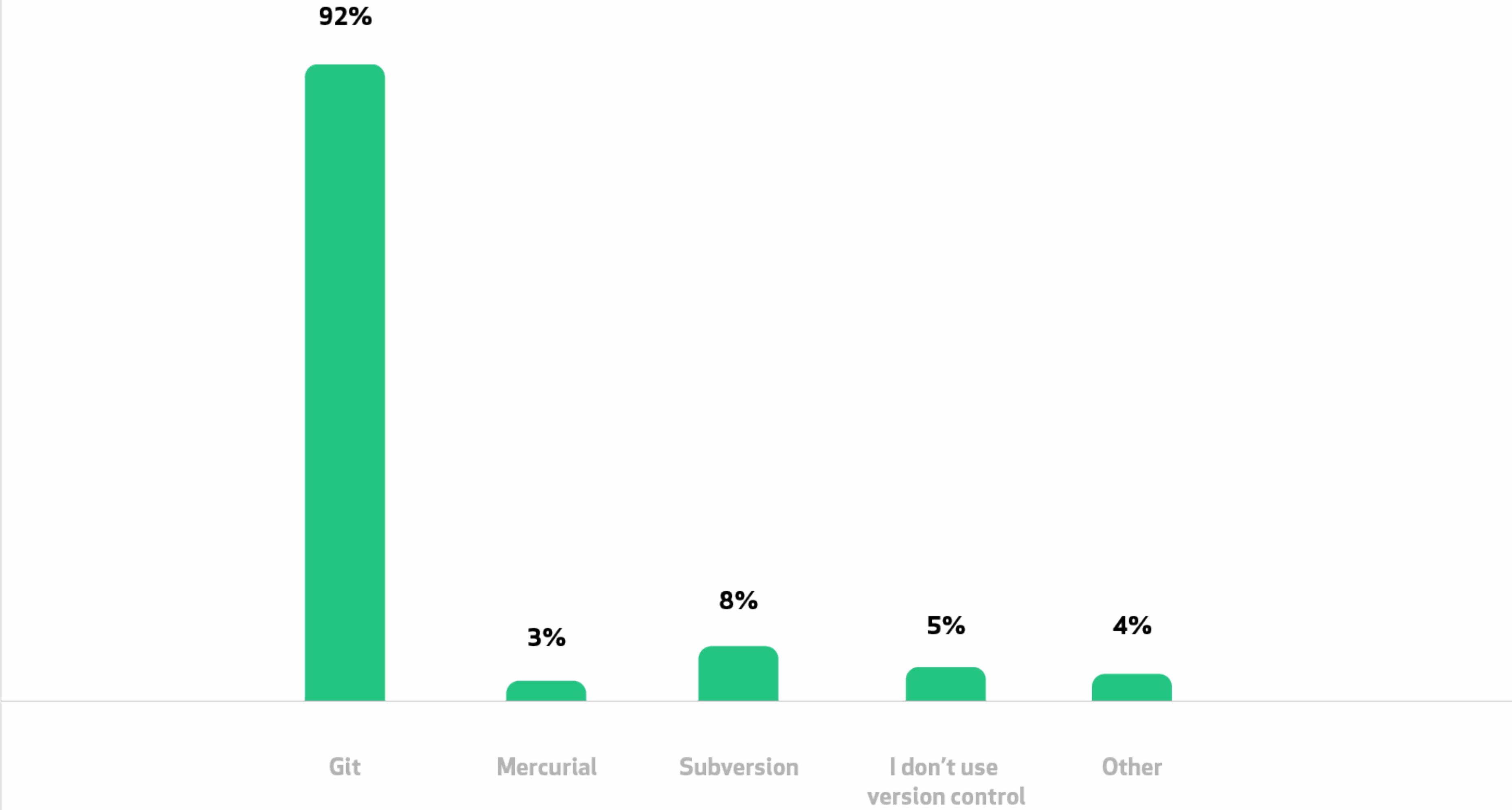
Use of version control

Nearly three-quarters of teacher survey respondents use some sort of version control system in their classes

Do you use any sort of version control system in your classes?

72.6%

23.6%

3.8%

Yes

No, but I would like to

No, and I would not like to
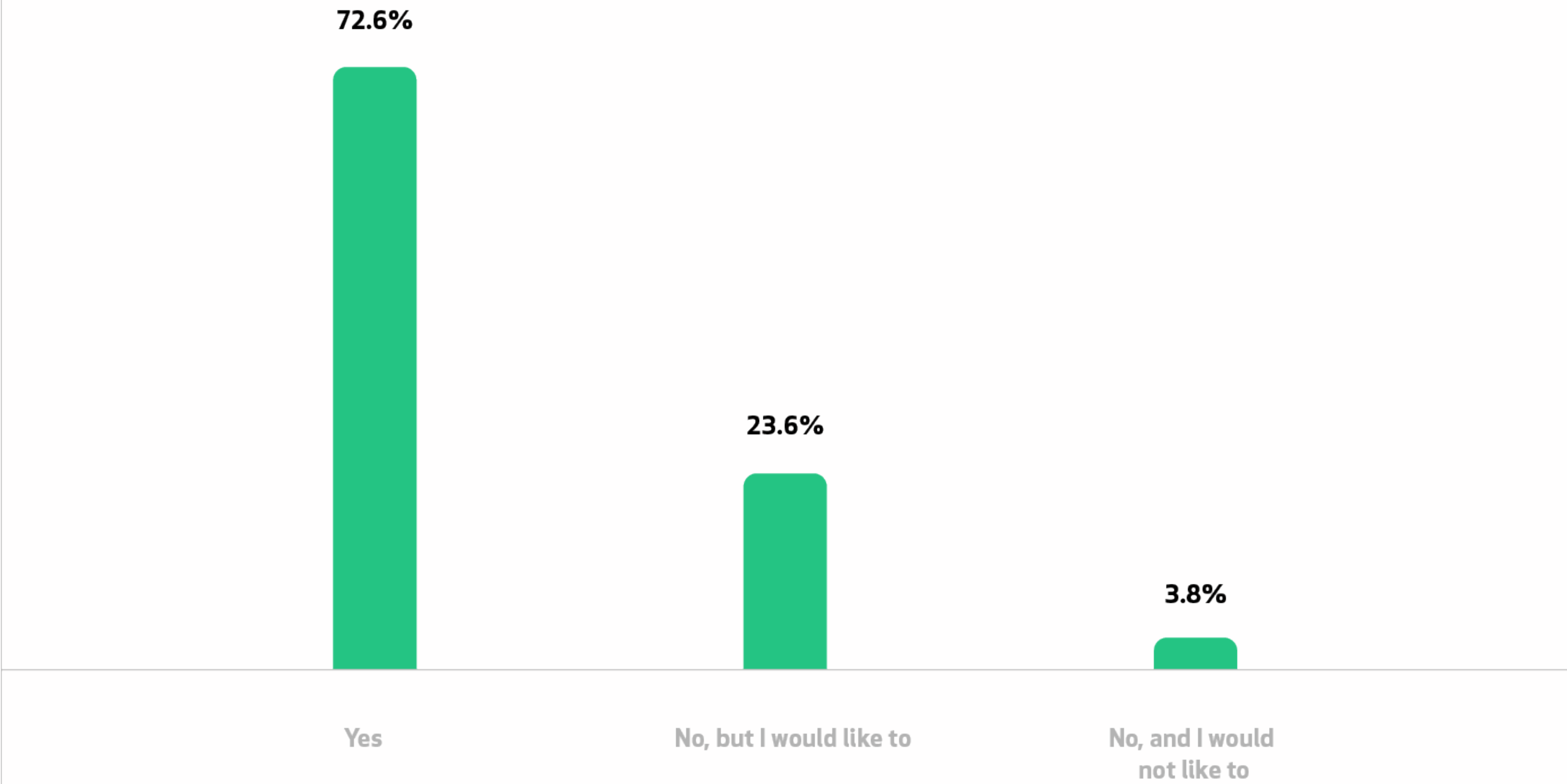
Use of version control

Of the teacher survey respondents who use some sort of version control system in their classes, nearly all of them use git

What version control systems do you use in your course(s)? (Select all that apply)

Git	Mercurial	Subversion	Other
98.7%	0%	10.4%	2.6%
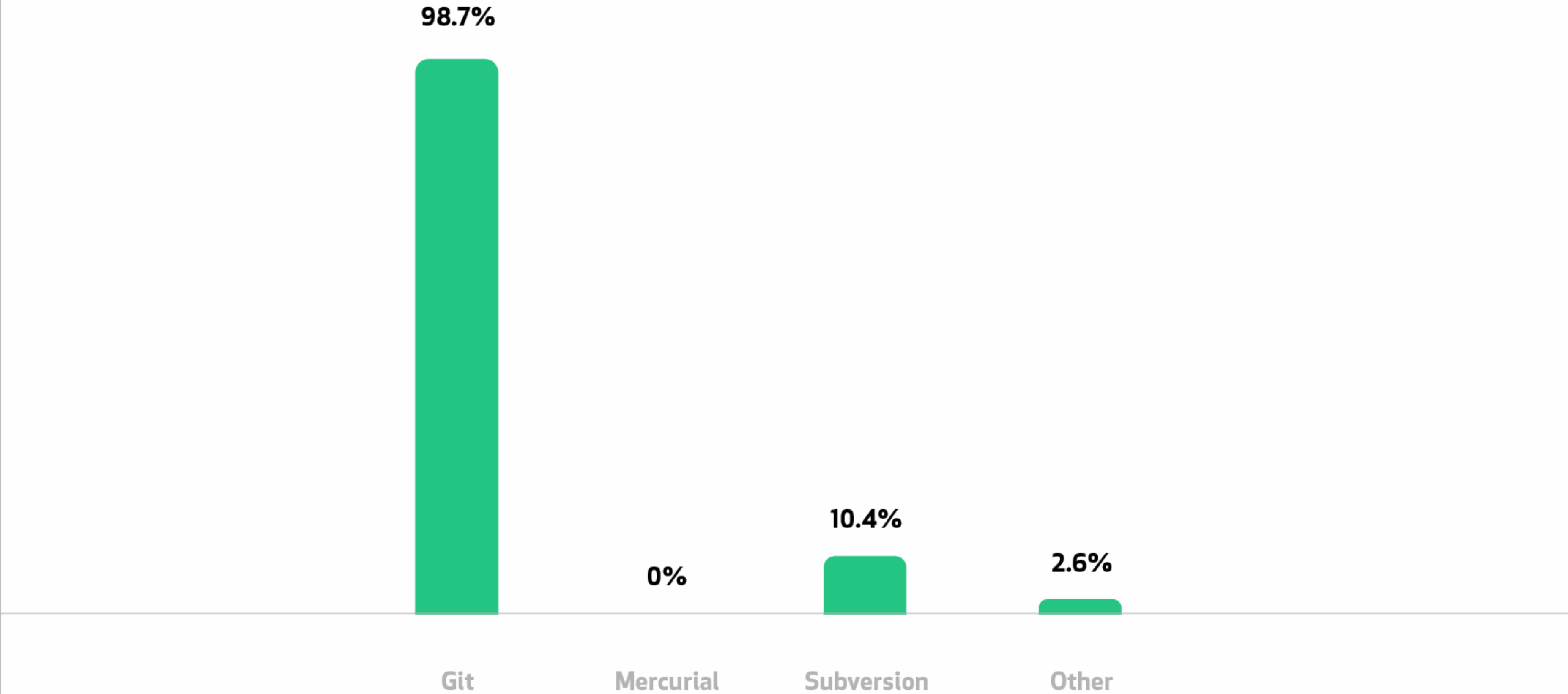
Use of git features

Of the teacher survey respondents who use git in their courses, nearly all of them use commits, push / pull, and branches

Which of the following Git features do you use in your courses

Feature	Percentage
Commits	100%
Branches	80.5%
Adding a remote	45.5%
Push/Pull	92.2%
Resolving merge conflicts	58.4%
Rebase	13%
Git-cherry-pick	5.2%
Other	1.3%
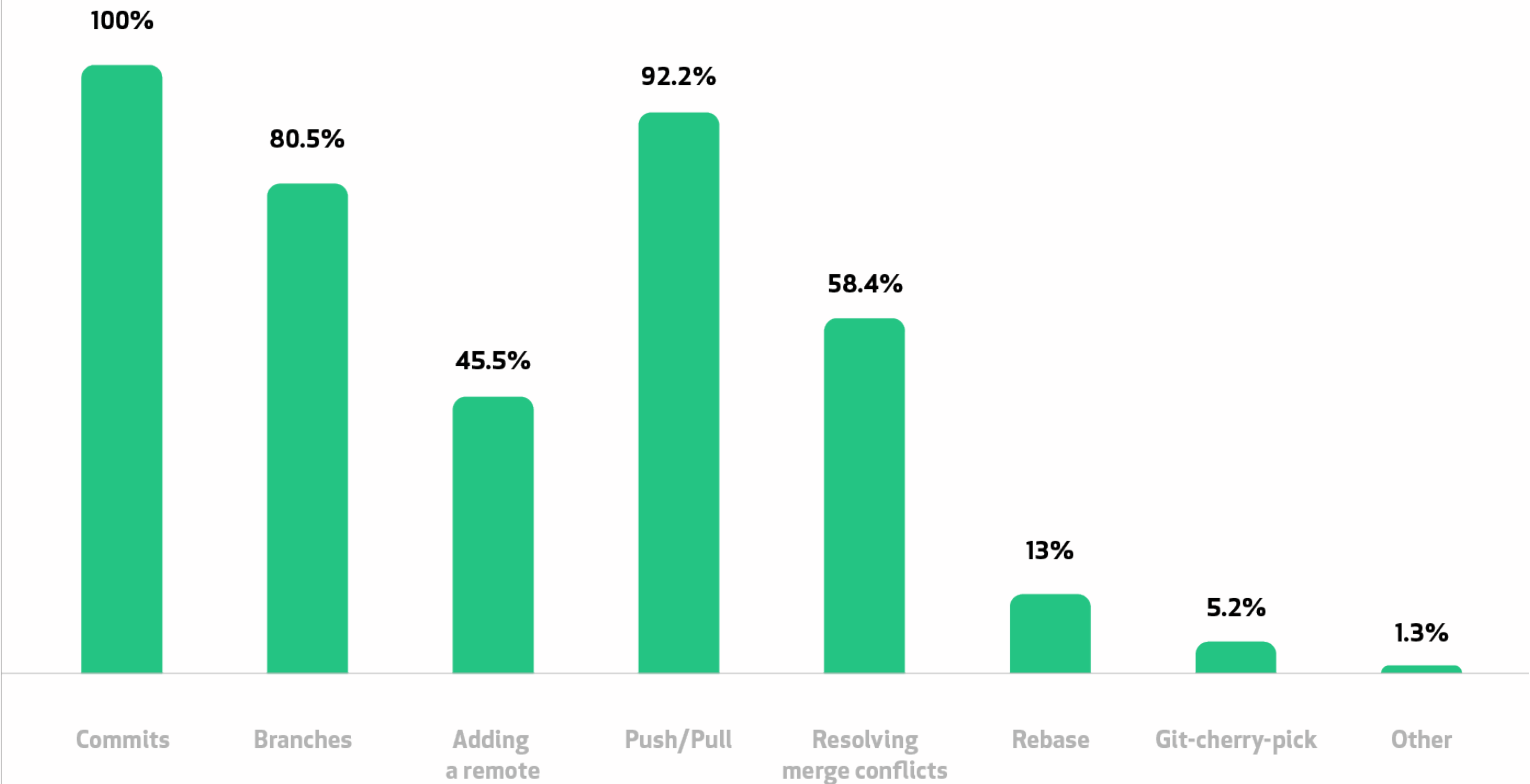
Use of GitHub features

Of the teacher survey respondents who use GitHub in their courses, over half of them use README.md, pull requests, and projects

Which of the following GitHub features do you use in your courses? (Select all that apply)

Issues	Labels	README.md	Pull requests	Projects	Forks	Stars	Gists	Insights	GitHub Pages	None of the above	Other
49.2%	30.8%	78.5%	60%	50.8%	36.9%	16.9%	33.9%	7.7%	41.5%	0%	1.5%
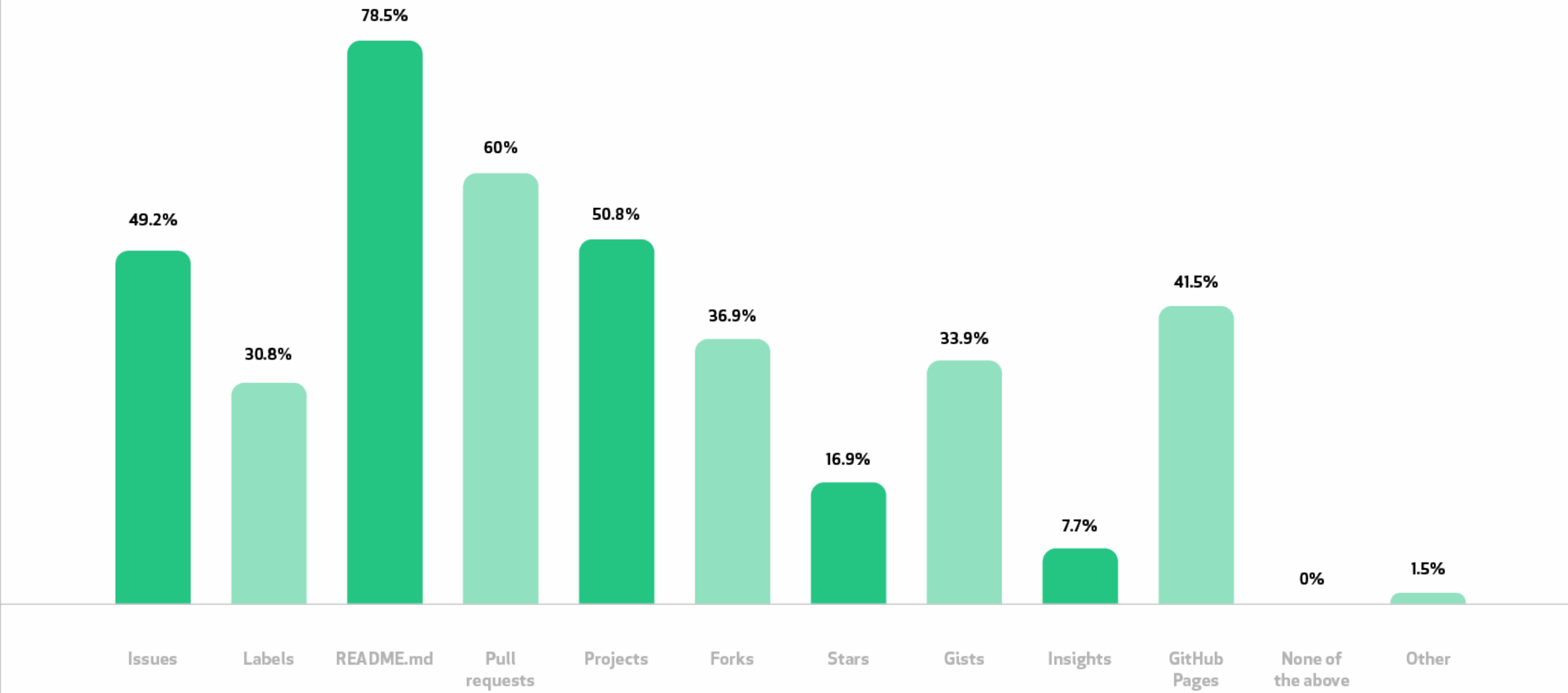
Future use of GitHub by current users

Nearly all teacher survey respondents who currently use GitHub in their course(s) felt they will continue to use GitHub in their course(s)

In the future, will you continue to use GitHub in your course(s)?

89.2% — Yes
3.1% — No
7.7% — Maybe
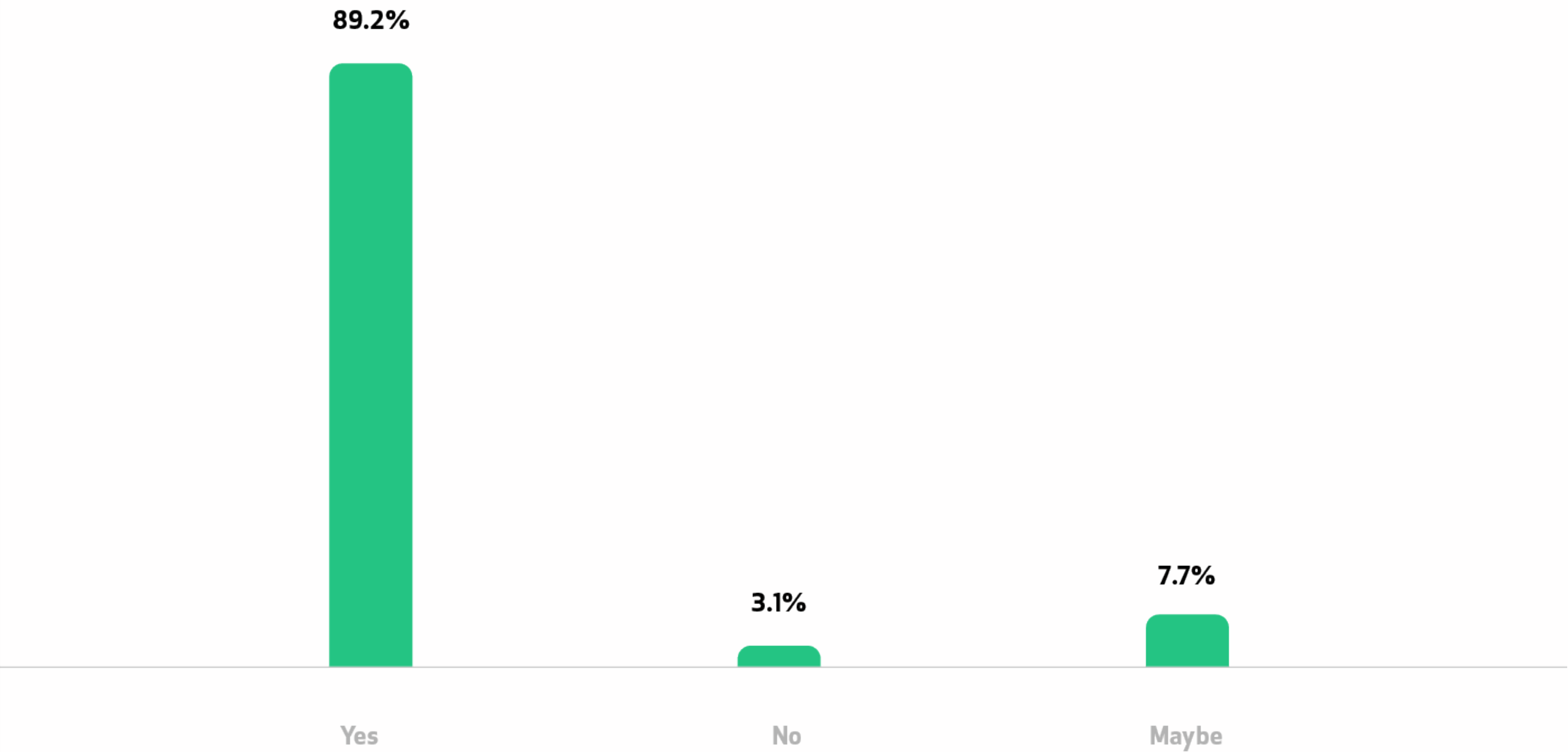
Net promoter score: Teacher survey

How likely is it that you would recommend GitHub to a friend or colleague?

	Overall	Current users	Implements GitHub in class	Uses GitHub Classroom
NPS	60	67	70	76
Detractors	7%	3%	5%	5%
Passives	27%	27%	21%	14%
Promoters	66%	70%	74%	81%

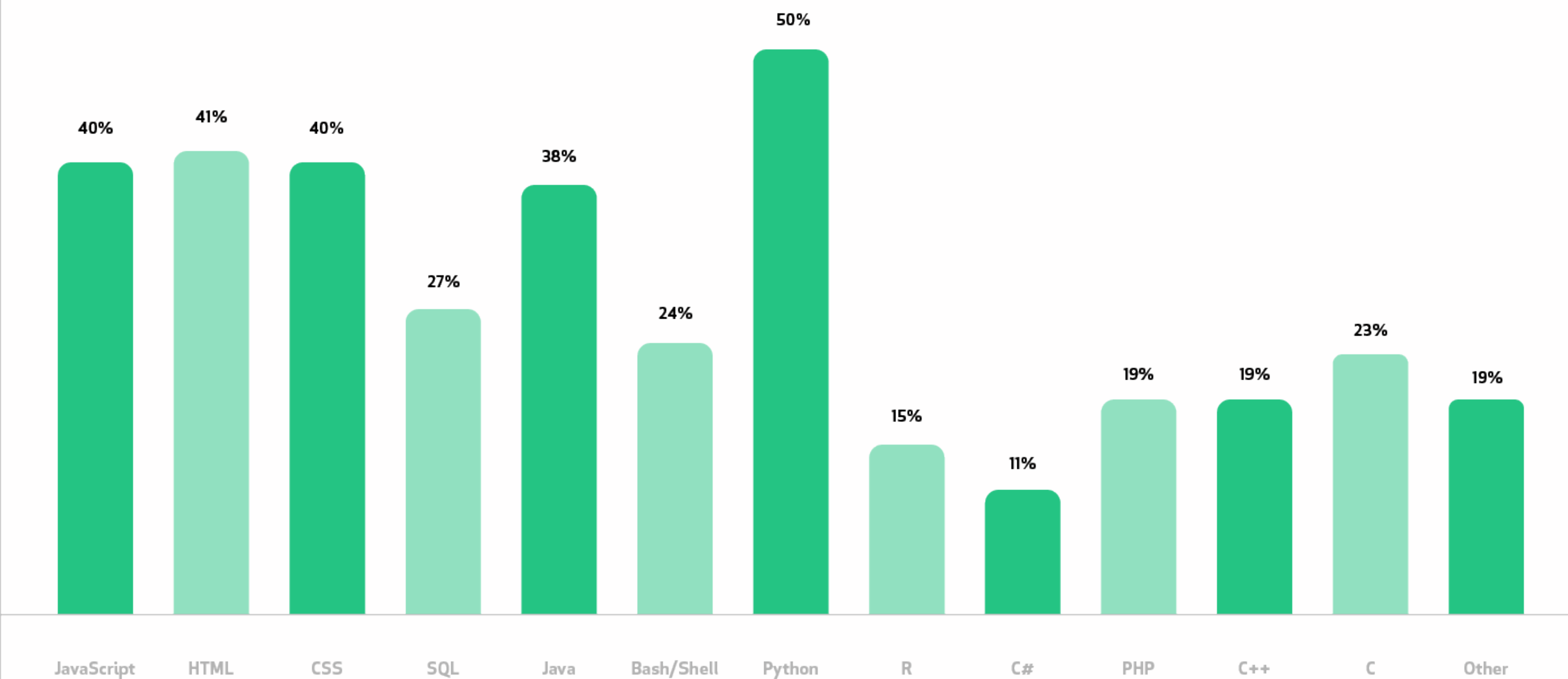# Teachers are trendsetters in tech

Programming languages taught

Which programming language(s) do you teach? (Select all that apply)

JavaScript	HTML	CSS	SQL	Java	Bash/Shell	Python	R	C#	PHP	C++	C	Other
40%	41%	40%	27%	38%	24%	50%	15%	11%	19%	19%	23%	19%

Programming languages

HTML, JavaScript, CSS, and Python are among the most commonly used programming languages by respondents who redeemed student coupons in 2014-2016

Which of the following programming language(s) have you used? (Select all that apply)

Language	Percentage
JavaScript	78.7%
HTML	79.9%
CSS	75.3%
SQL	67.5%
Java	64.4%
Bash/Shell	61.3%
Python	75.2%
R	17.1%
C#	33.5%
PHP	37.1%
C++	50.2%
C	46.8%
Other	21.1%

Integrated development environments

Visual Studio Code, Sublime Text, Vim, and IntelliJ are among the most commonly used IDEs by respondents who redeemed student coupons in 2014-2016

Which of the following integrated development environments (IDEs) do you typically use? (Select all that apply)

IDE	Percentage
Android Studio	20%
Atom	21%
Eclipse	15%
Emacs	5%
IntelliJ	30%
IPython/Jupyter	15%
NetBeans	6%
Notepad++	23%
PHPStorm	7%
PyCharm	20%
Rstudio	6%
Sublime Text	32%
Vim	32%
Visual Studio	23%
Visual Studio Code	53%
Xcode	12%
Other	6%
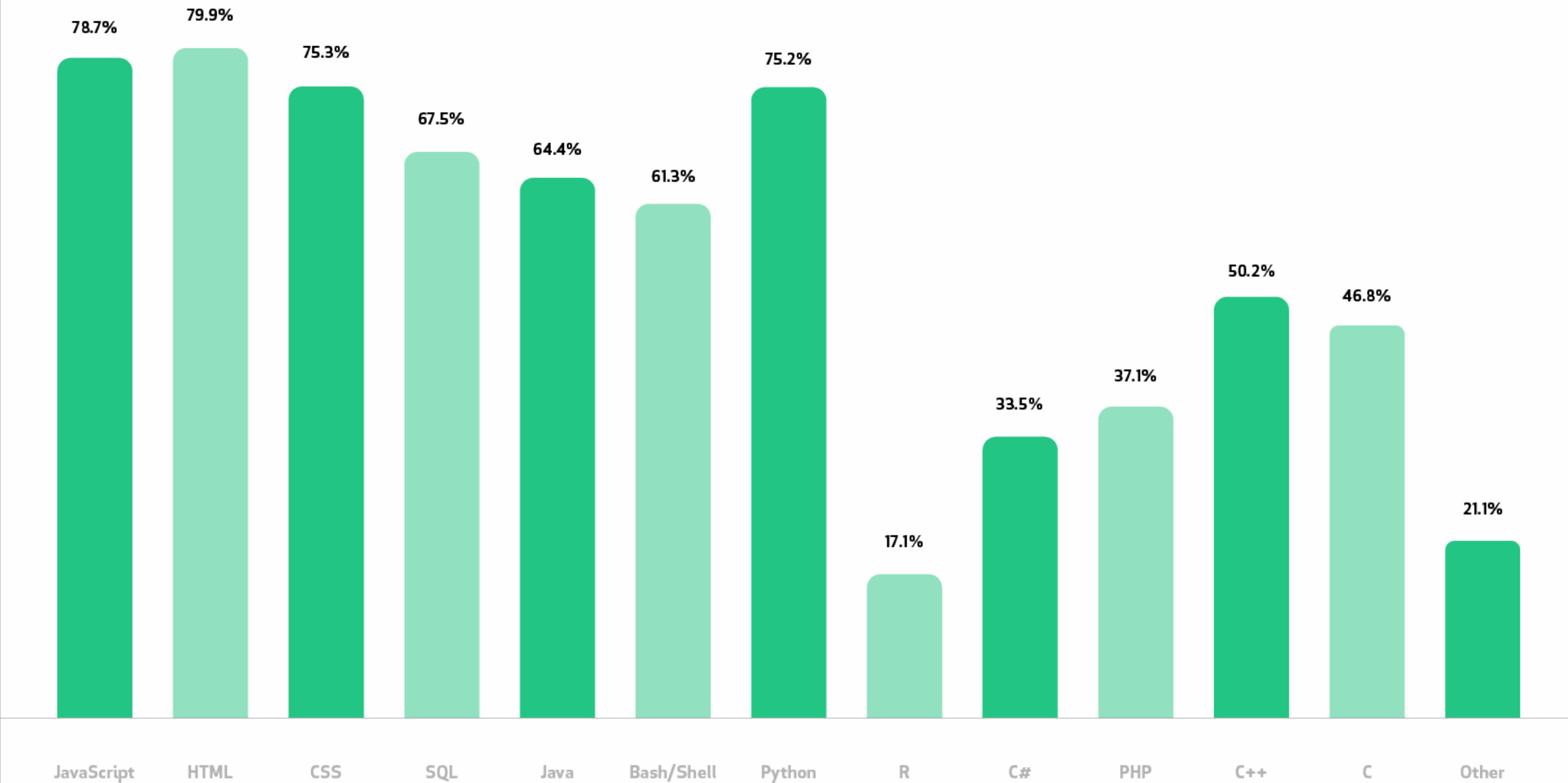
Participation in non-degree education

Most respondents who redeemed student coupons in 2014-2016 have taught themselves a new language, framework, or tool without taking a formal course

Which of the following types of non-degree education have you used or participated in? (Select all that apply)

Category	Percentage
Participated in a hackathon	49.6%
Full-time developer training program or bootcamp	14.8%
Taught yourself a new language framework, or tool without taking a formal course	78.9%
Received on-the-job training in software development	34%
Taken an Online course in programming or software development	59.6%
Taken a part-time in-person course in programming or software development	15.6%
Completed an industry certification program	14%
Participated in online coding competitions	27.1%
Contributed to open source software	37.5%
None of the above	3.9%
Other	1.2%