



# Behind the code -

The 2020 HackerEarth  
Developer Survey



## Hello from our CEO

The explosion of tech over the last decade has, quite literally, changed everything. It has changed how we live, how we work, how we interact with one another— in fact, it is difficult to find something that tech has not changed.

It's no surprise that organizations across the globe feel that there's a tech talent shortage. But that shortage may be even more significant than you'd expected. According to a recent survey, the shortage of tech talent recorded today is at its highest level since 2008. Hence, it is imperative for recruiters and hiring managers to understand the developer landscape and understand the mindset of today's tech workforce if they hope to meet their demand for tech talent.

One of the key changes that organizations need to do to hire better is to shift their focus from the traditional methods of recruiting to a skill-based hiring process. If we move beyond our current fixation on resumes or degrees and include all the postsecondary pathways at our disposal, far more options will emerge. Skill-based hiring practices can help you cut down recruiting costs and time-to-hire, improve diversity, fill open positions faster, and find the right tech talent your organization needs in a tight labor market.

At HackerEarth, we have a 4 million strong developer community and our mission is to match them to the right opportunities. To continue supporting our mission, we are very excited to bring to you The 2020 HackerEarth Developer Survey. For the first time ever, HackerEarth is sharing the response gathered by surveying 16,000+ developers from across 76 countries.

We believe the data and insights provided in the survey will thoroughly help recruiters to understand the developer ecosystem better, adopt a skill-based hiring approach, and tap into a highly coveted market of stellar tech talent. Additionally, this survey will provide an opportunity for developers to gauge an understanding of what the market looks like today, learn what's trending, and how to upskill themselves.

I look forward to seeing you use this data to further your technical hiring efforts. Thank you for your time!

**Sachin Gupta**  
Co-Founder and CEO  
HackerEarth

# What can you expect from this report?

The 2020 HackerEarth Developer Survey is an annual snapshot of the most hard-to-recruit and highly-coveted talent out there. This report highlights the priorities and concerns of developers (students and working professionals) around the world. The survey comprised more than 16,000 participants, with women comprising more than 20% of respondents.

The report condenses and distills down the results into actionable insights that pave the way for skill-based hiring. Also, it provides developers with everything they need to know to upskill themselves, learn new ones, and have fun (obviously!)



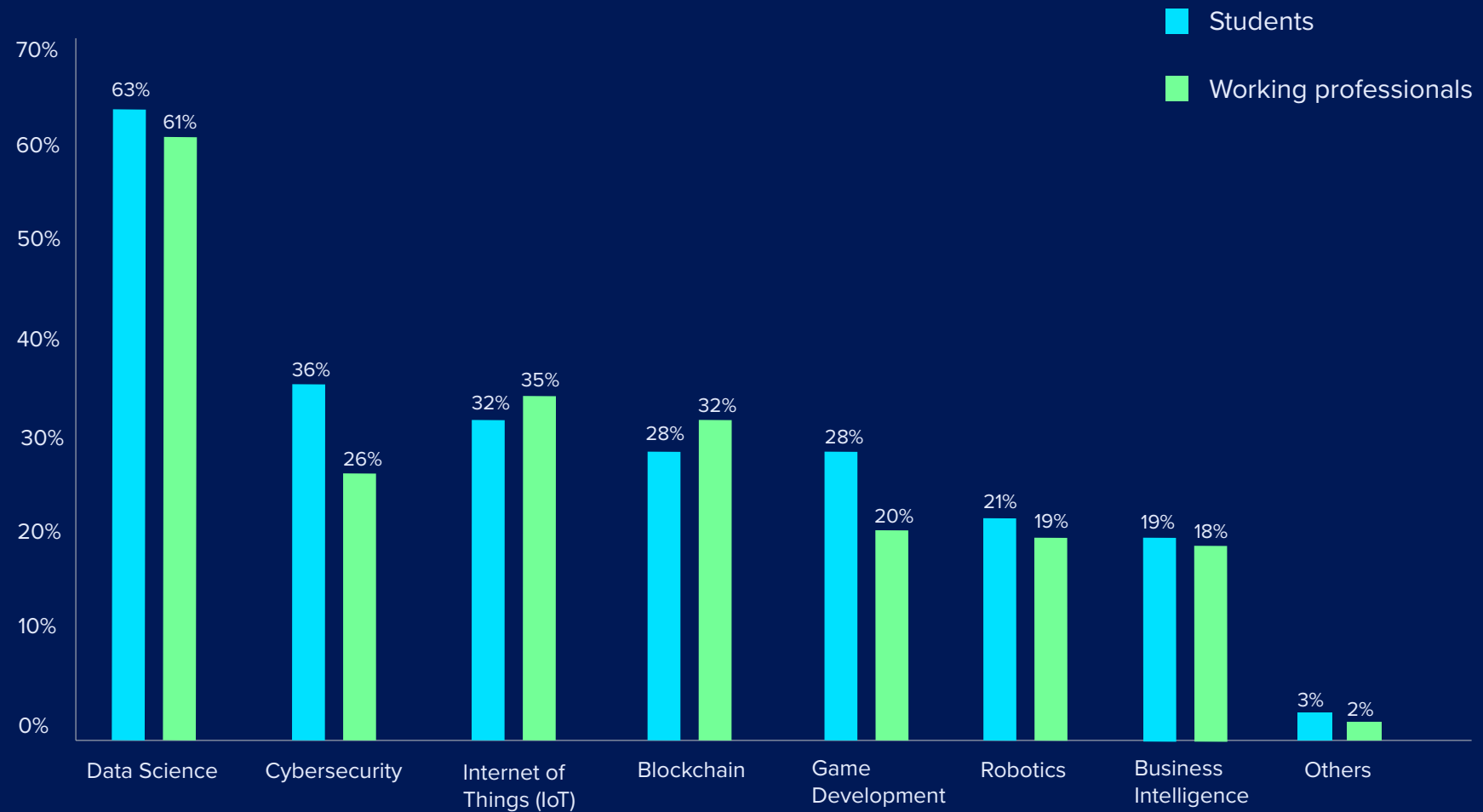
# 01

**It's 2020 and  
Data Science  
still reigns  
supreme**

Data Science knows no bounds! From student developers (63%) to working professionals (61%), everyone wants to have a slice of the Data Science pie.

Other domains of interest for student developers include Cybersecurity and IoT, while working professionals are interested in IoT and Blockchain.

## Domains that interest developers



# 02

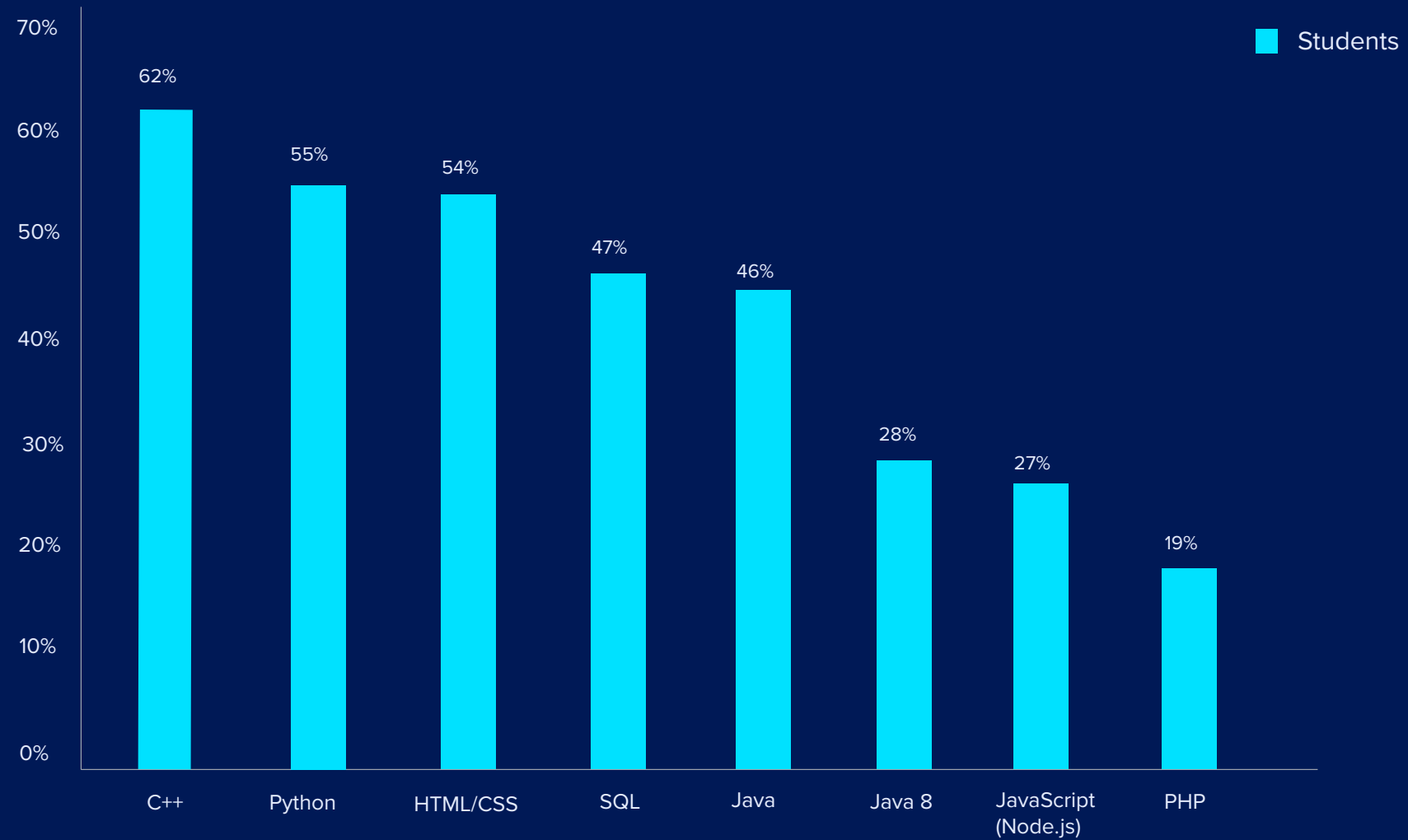
## Go is this year's most sought-after programming language

Among students (29%) and experienced developers (32%), Go has emerged as the clear winner for the most sought-after programming language.

Student developers also prefer JavaScript, Kotlin, and C#, while working professionals are looking to learn Python and Kotlin.

Top programming languages that student developers currently know include C++, Python, and HTML/ CSS, while senior developers frequently code in SQL, Java, and HTML/ CSS.

## Programming languages that student developers know:

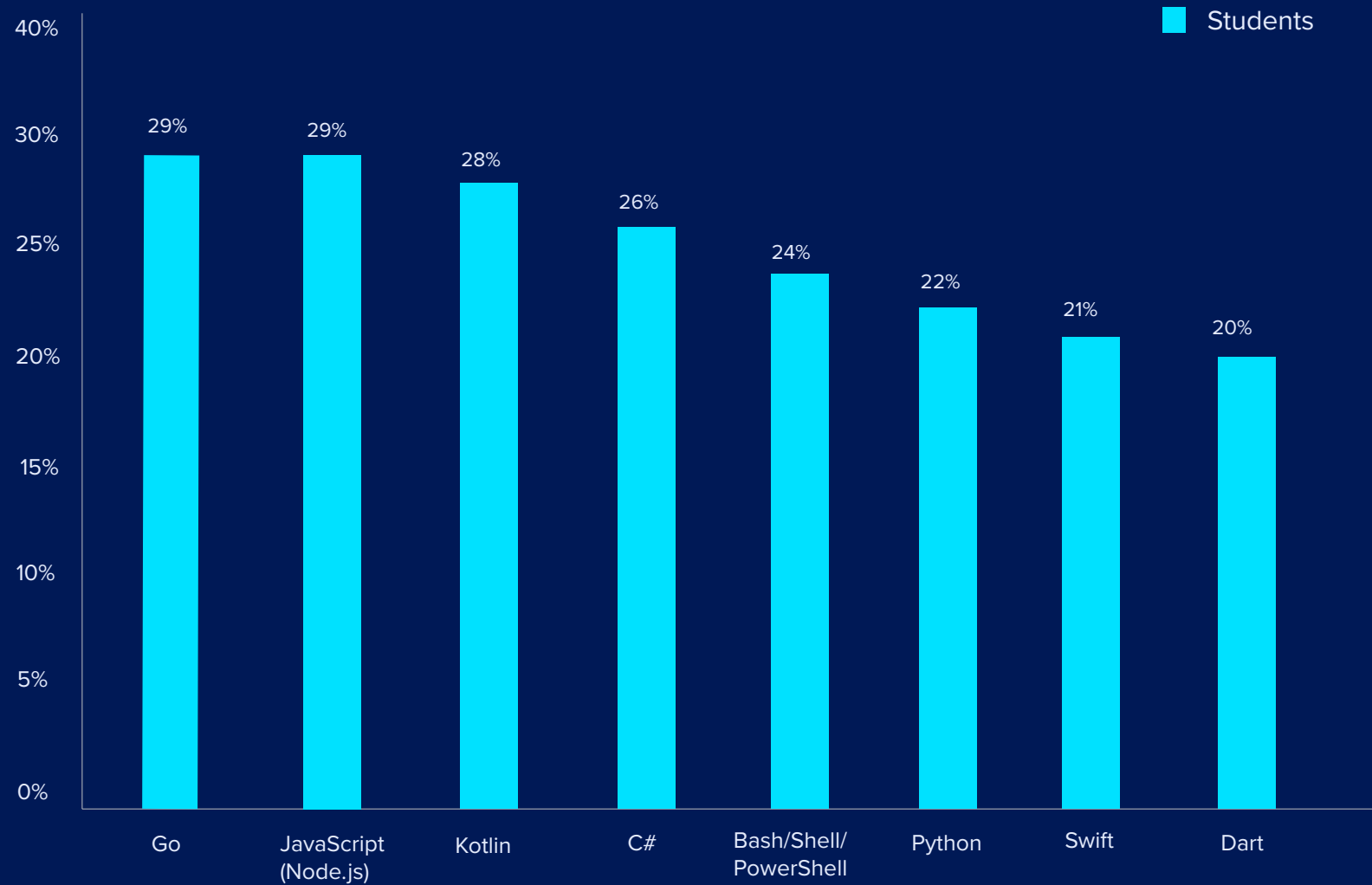




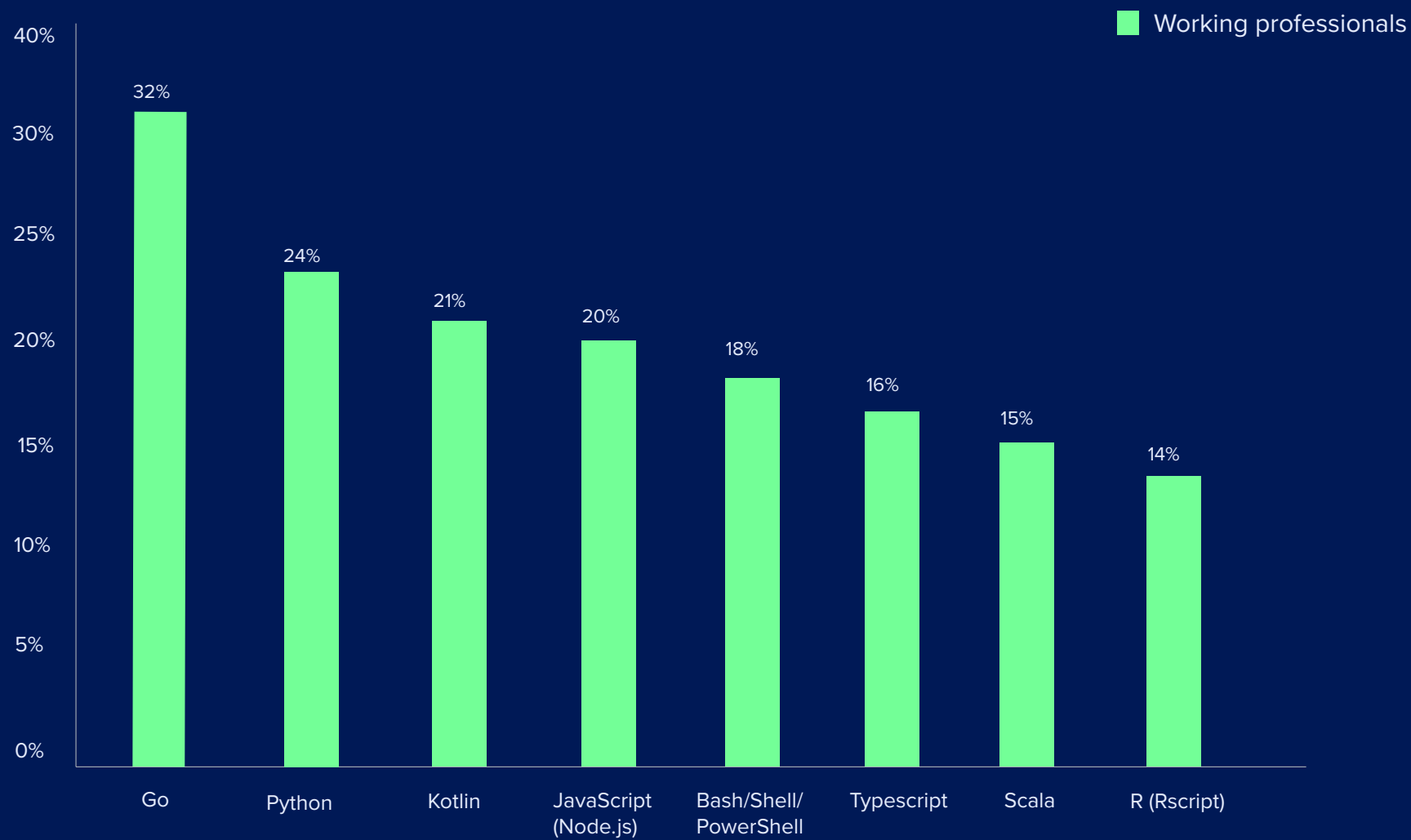
## Programming languages that working professionals know:



## Programming languages that student developers would like to learn:



## Programming languages that working professionals would like to learn:



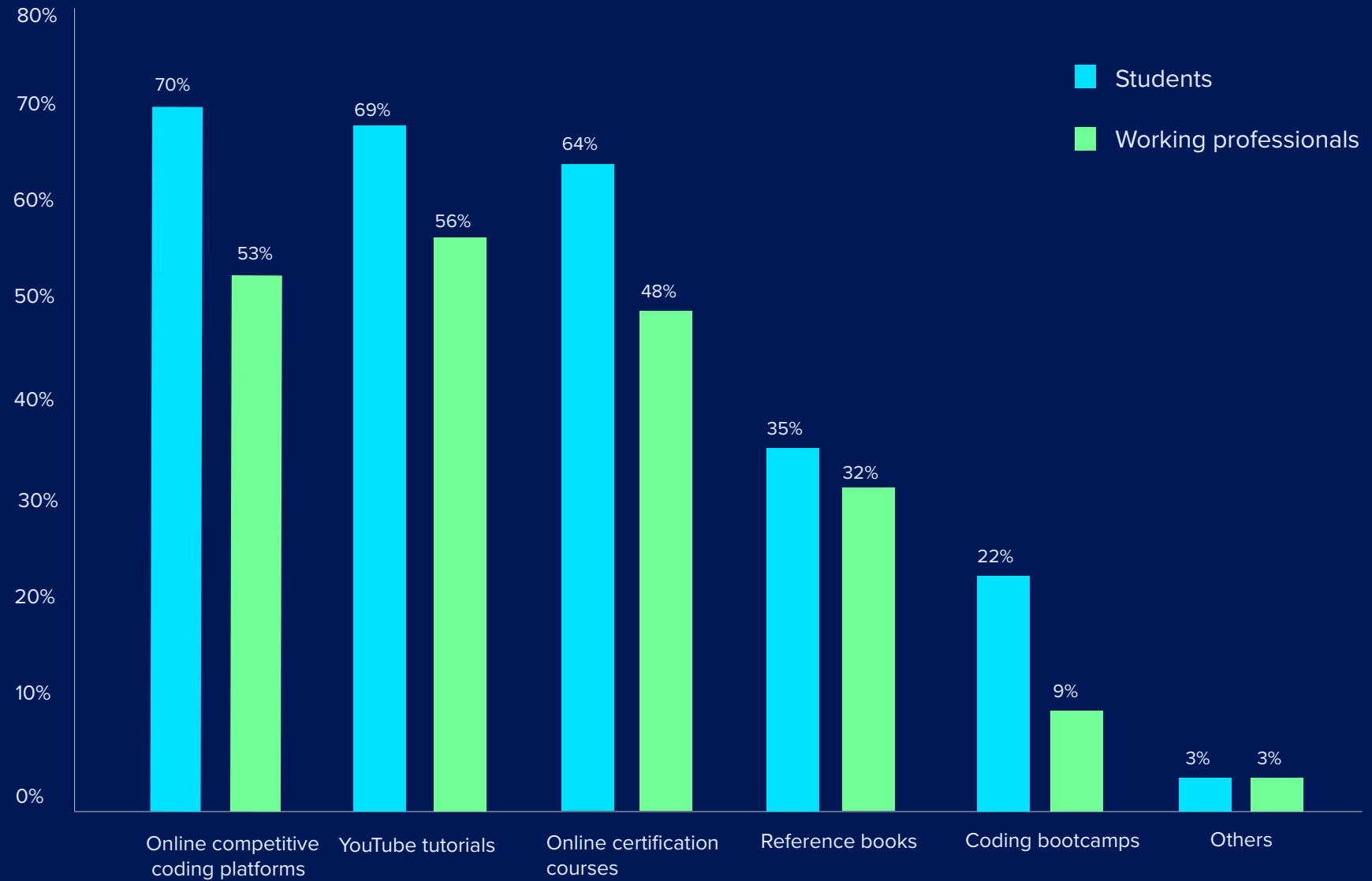
# 03

## Developers use online competitive coding platforms and YouTube tutorials to learn new skills

A majority of developers, 70% of students and 53% of working professionals make use of online coding platforms such as HackerEarth to upskill themselves. They also depend significantly on YouTube tutorials to acquire new skills.

Other upskilling avenues include online educational platforms such as Coursera and Udemy and developer platforms.

# Developers improve their skills through:



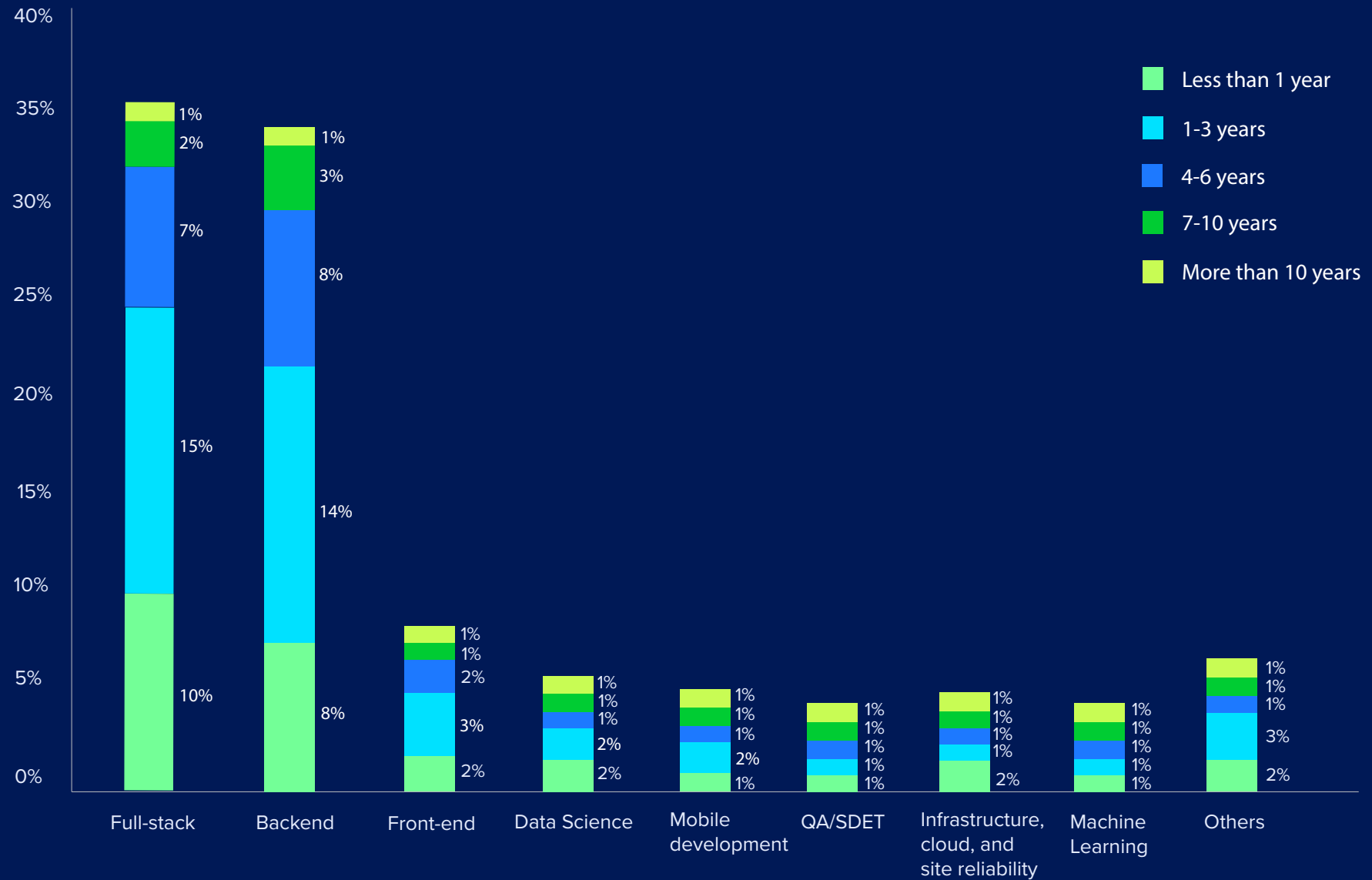
# 04

**Developers are most experienced in full-stack development and least experienced in Machine Learning**

Most developers, be it a beginner or experienced, have expertise in full-stack development, followed by front-end and backend development.

Though most developers have expressed a desire to work on Data Science projects, not many are experienced at Machine Learning.

# Years of experience vs. area of expertise



# 05

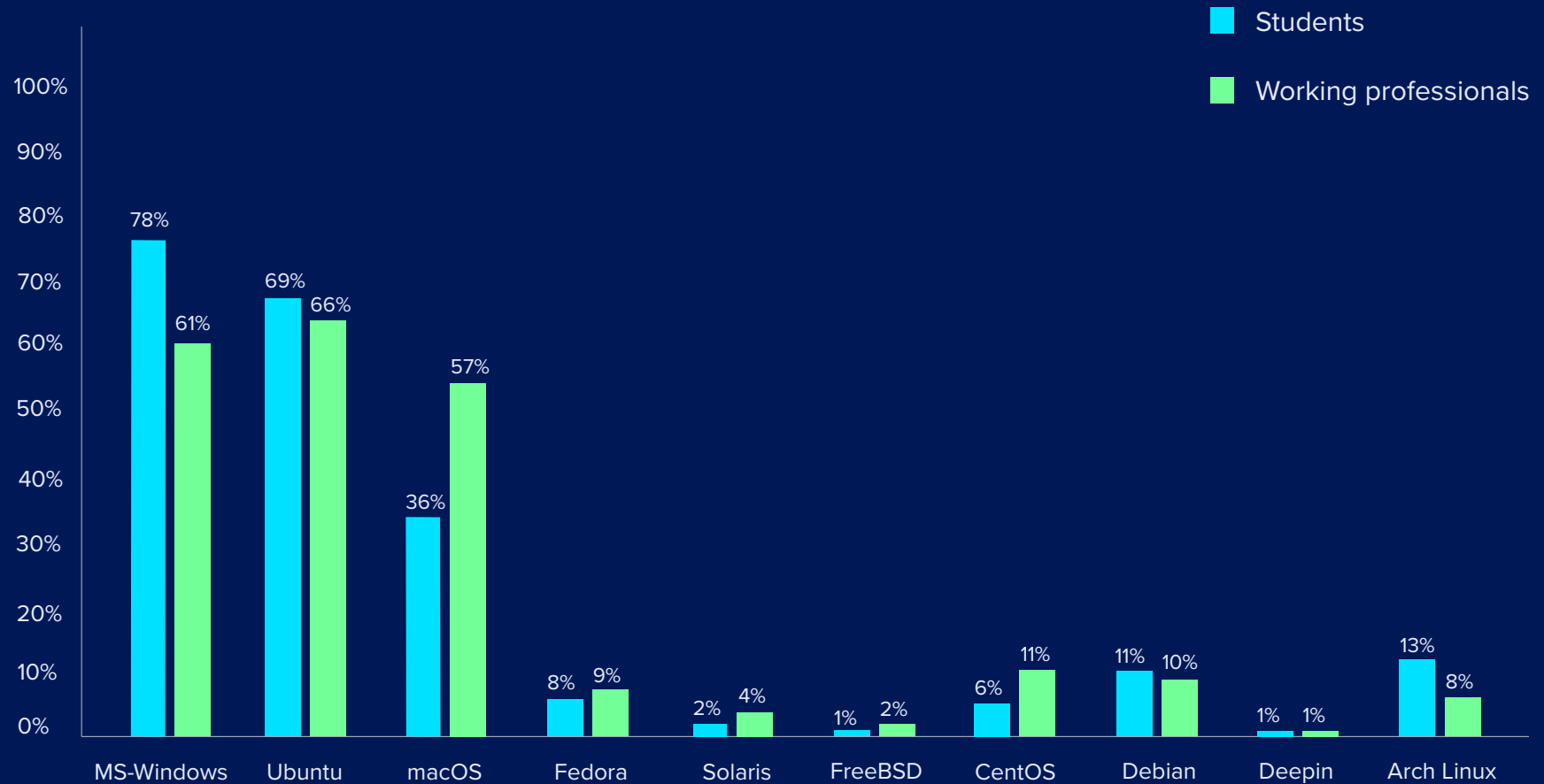
## Microsoft Windows and Ubuntu are the most preferred operating systems

Student developers prefer MS Windows (78%) and experienced developers prefer Ubuntu (66%).

Other major operating systems used by students include Ubuntu (69%), macOS (36%), and Arch Linux (13%). Experienced professionals prefer MS Windows (61%), macOS (57%), and CentOS (11%).



## Operating Systems that developers prefer:



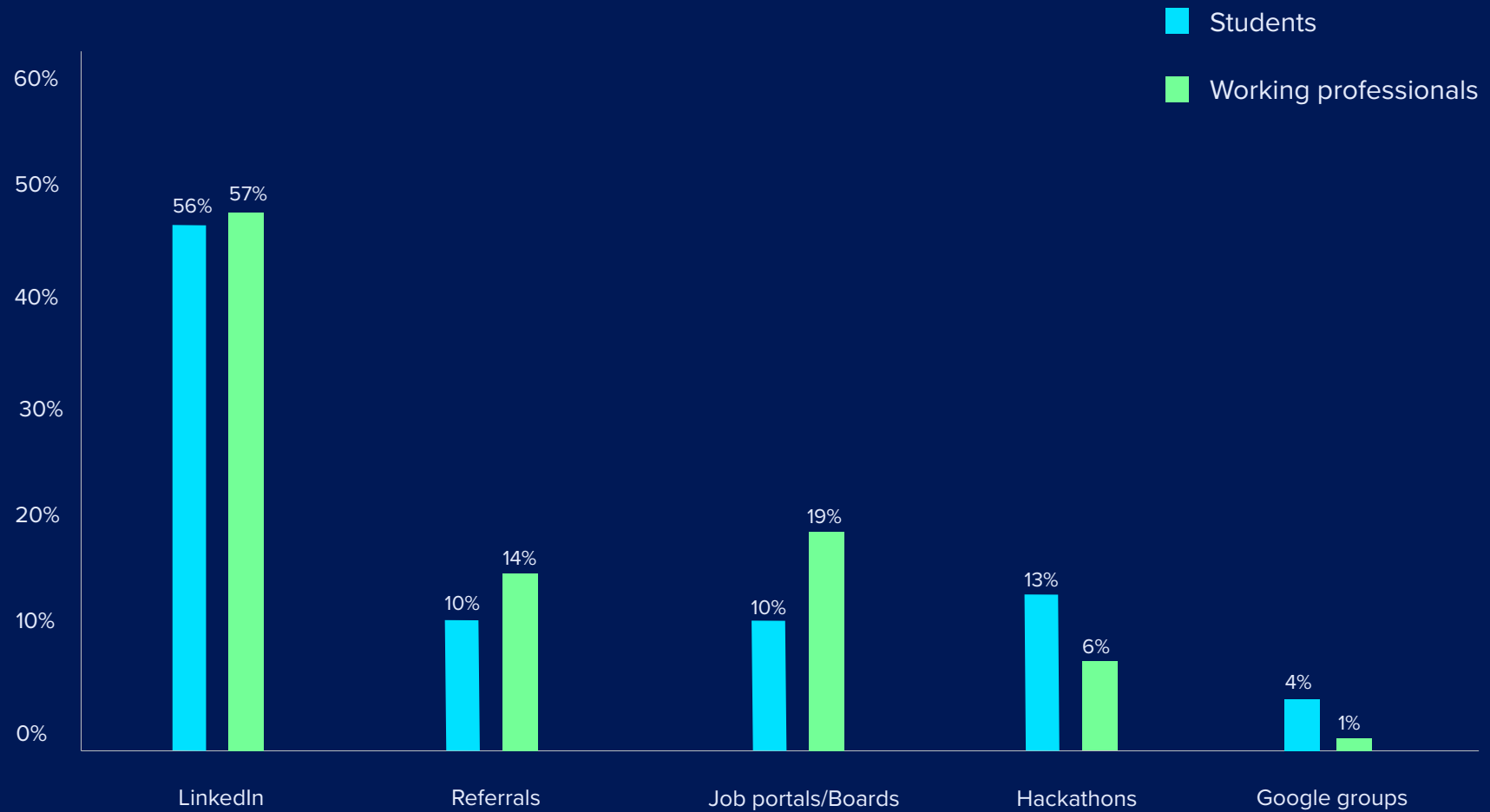
# 06

## LinkedIn is the most preferred medium for finding new jobs

Almost 56% student developers and 57% working professionals use LinkedIn more frequently than any other channels such as job boards and referrals to find new job opportunities.

Also, it is not surprising that 13% of student developers said they look at hackathons as a medium for getting new jobs. This proves why several companies invest in hackathons not only to build a talent pipeline but also better their brand among the developer community.

## Developers look out for job opportunities via:



# 07

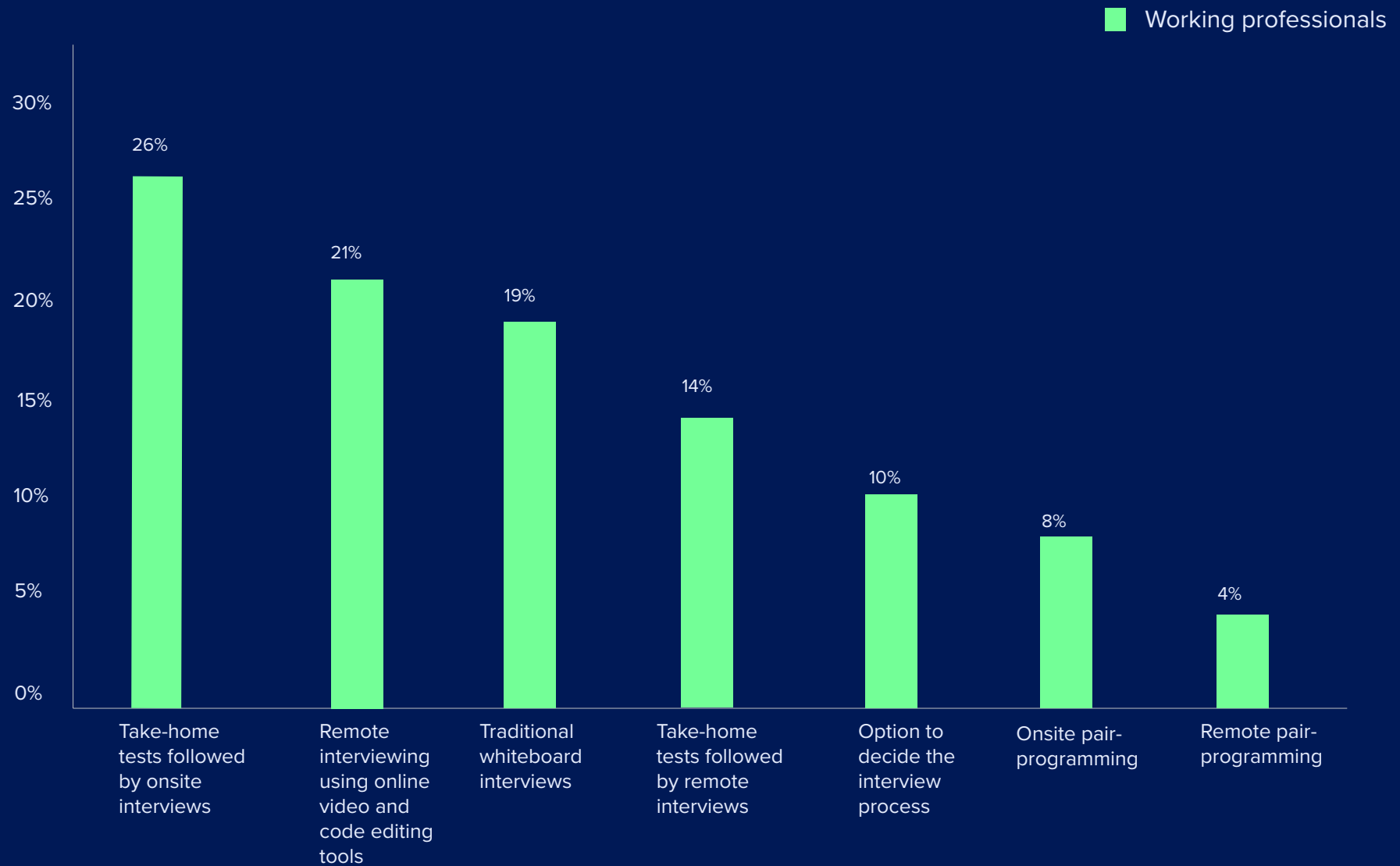
## Developers love take-home coding challenges

Most experienced developers favor take-home coding tests, followed by an onsite interview for assessing coding skills. Surprisingly, 10% of developers have said that they wanted an option to decide their interview process.

Also, online interviews trump whiteboard interviews any day! Irrespective of the YoE, most developers prefer live video interviews to whiteboard interviews. This could be because the whiteboard approach makes use of a potentially outdated scenario to test a developer's skill.

Live video interviews, on the other hand, allow candidates to develop and compile code in real-time and gives hiring managers a chance to test them for job readiness.

## Developers prefer:



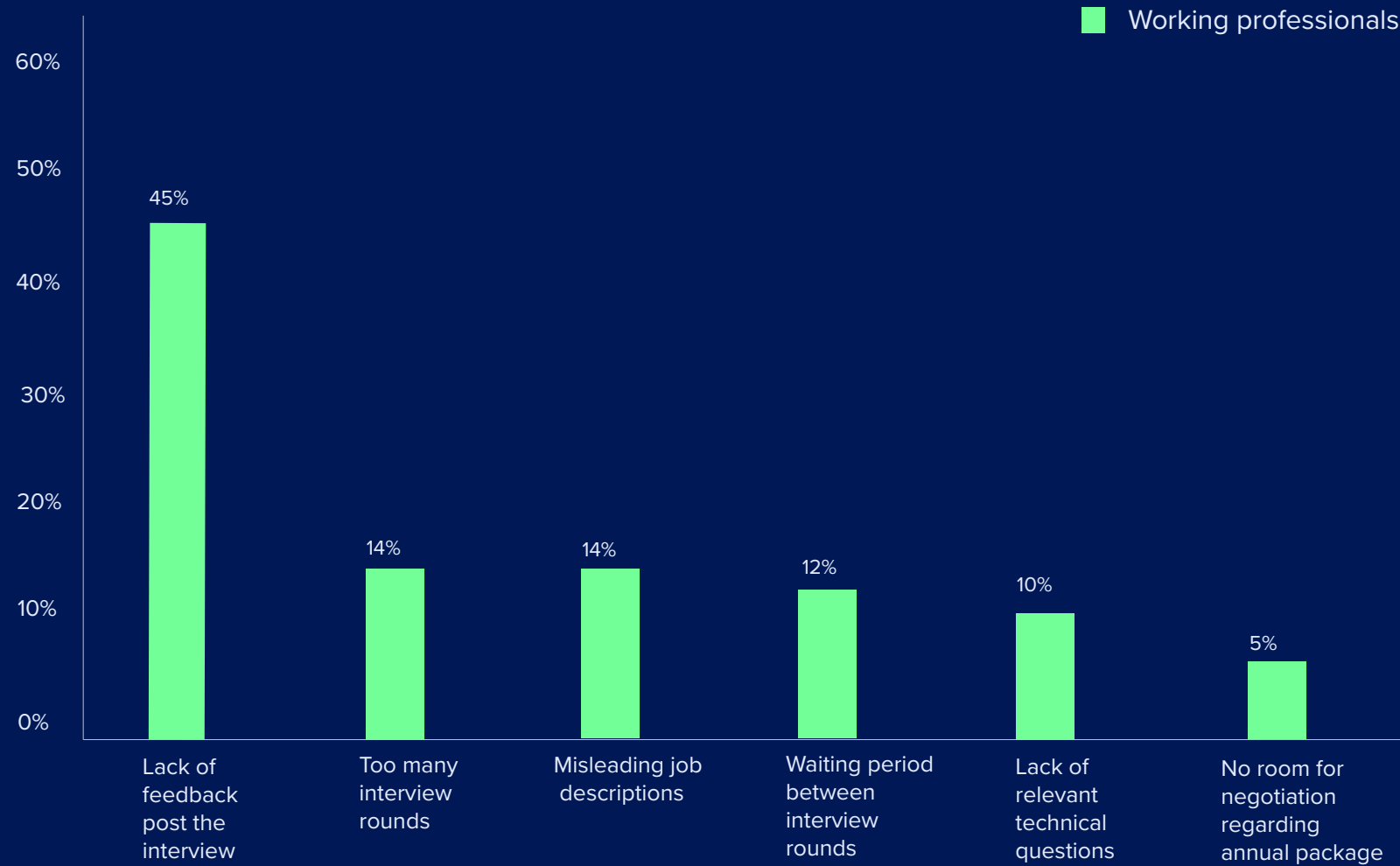
# 08

### Are you leaving developers hanging? You need to stop, NOW!

Tech interviews can be stressful, and it is the onus of a recruiter to make the process easier for candidates. Sadly, most developers receive no constructive feedback post the interview. In fact, 45% of developers agreed to this.

Other reasons that irked them about the tech hiring process include too many interview rounds (14%), misleading job descriptions (14%), waiting period between interviews (12%), and lack of relevant technical questions (10%).

## Factors that irk developers about the tech hiring process



# 09

**Fewer meetings  
mean more  
productivity (100%  
to be exact!)**

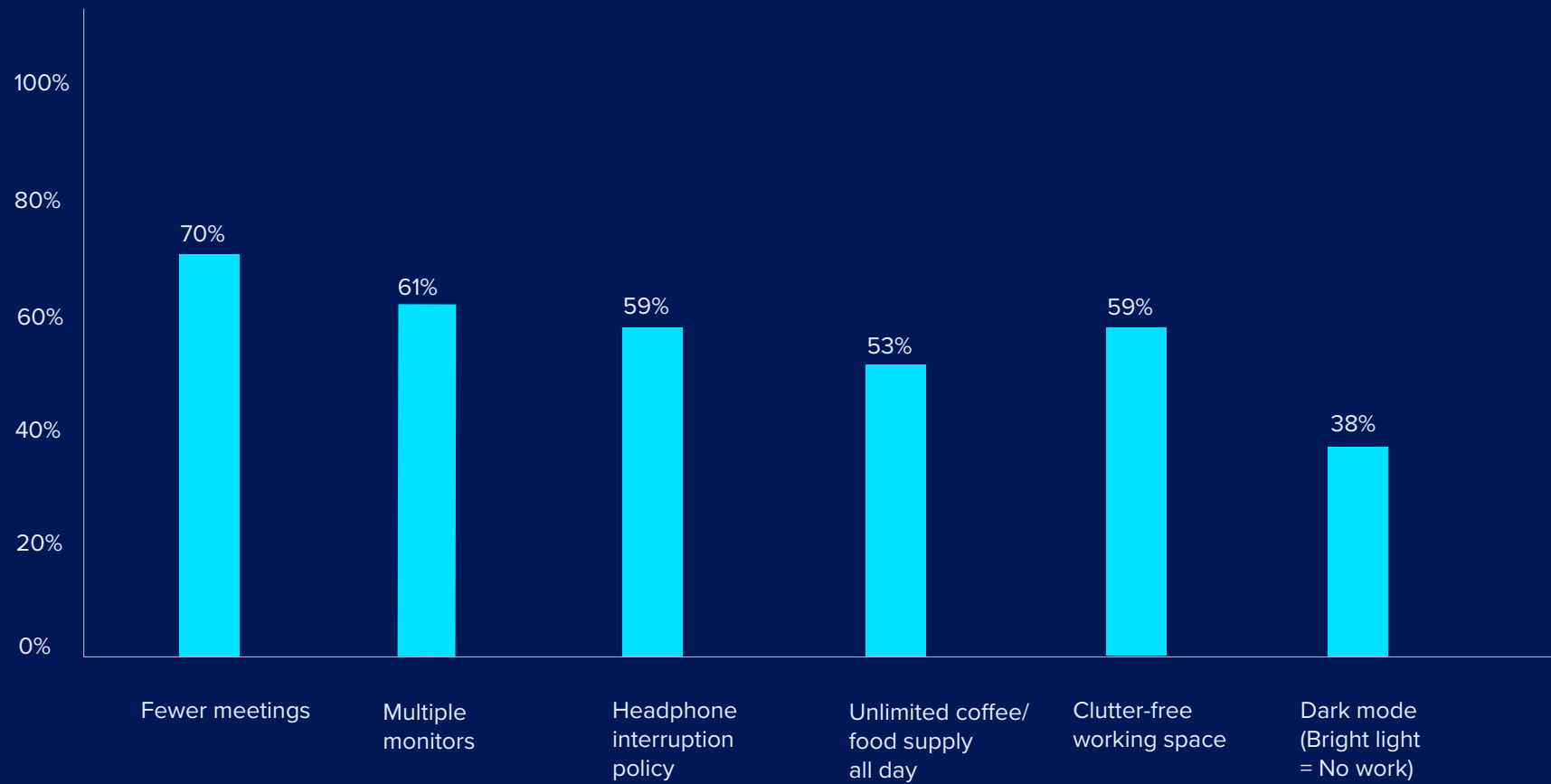
Maybe it's time you reconsidered the number of stand-up meetings that you hold with your tech team.

When asked what they would need to achieve 100% productivity at work, 70% of developers opted for fewer meetings.

Also, multiple monitors (61%), clutter-free working spaces (59%), and a no interruption policy when they have their headphones on (59%) were other options that most developers chose.



## Factors that help developers be more productive:



# 10

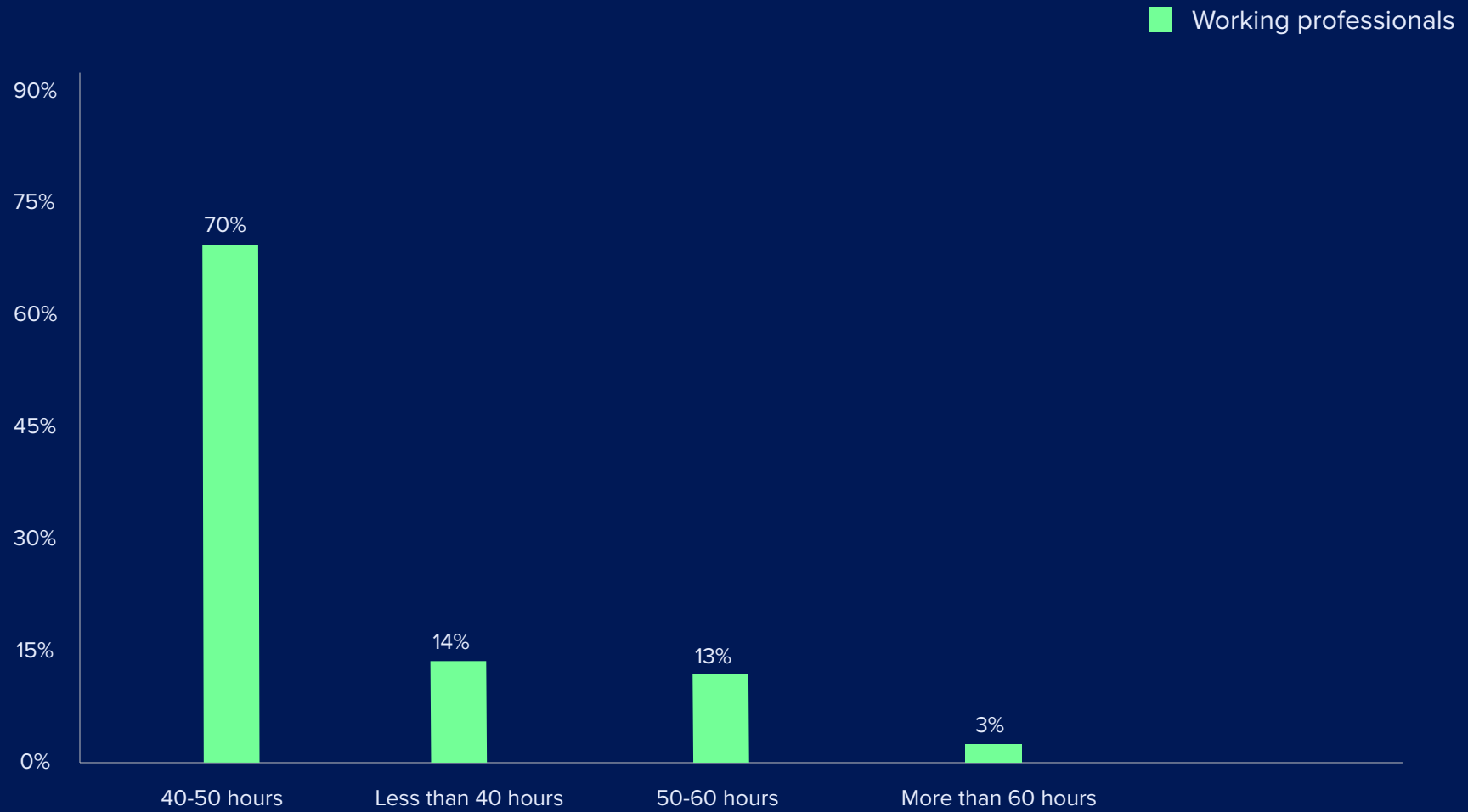
## Developer happiness is not proportional to work hours

Is all work and no play dulling your developers' happiness? We think not! Of all the developers surveyed, 70% who weren't happy with their current jobs worked for 40 to 50 hours a week.

Considering that a 40-hour workweek is standard for most employees, it can be said safely that developers look for meaningful work, and just sitting at their desks doesn't contribute to their happiness.

This can be affirmed by the fact that only 3% of developers who spend more than 60 hours at work are unhappy with their job.

# Happiness quotient vs. number of working hours per week



# 11

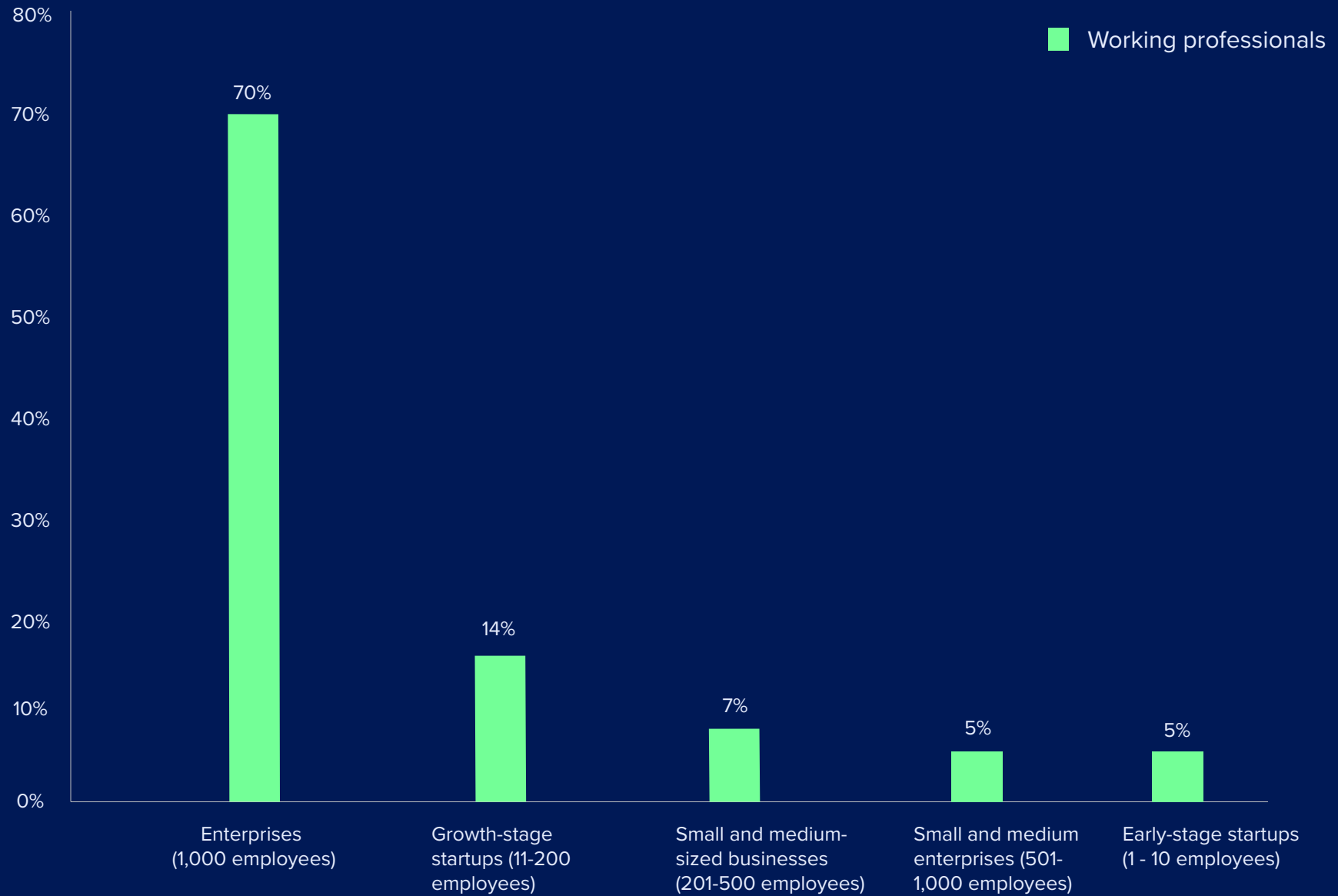
**Developers at enterprises and growth startups scored the least on the happiness scale**

Developers who work at an enterprise company scored the least on the happiness index, with 70% of them saying they weren't happy with their jobs.

Around 14% of developers at growth startups also said they weren't happy with their jobs.

Though they are the unhappiest lot, most developers would still like to move to enterprises and growth startups, with enterprise employees preferring to jump to other enterprises. The reasons could be better compensation, job stability, among others.

# Developers are the least happy at:



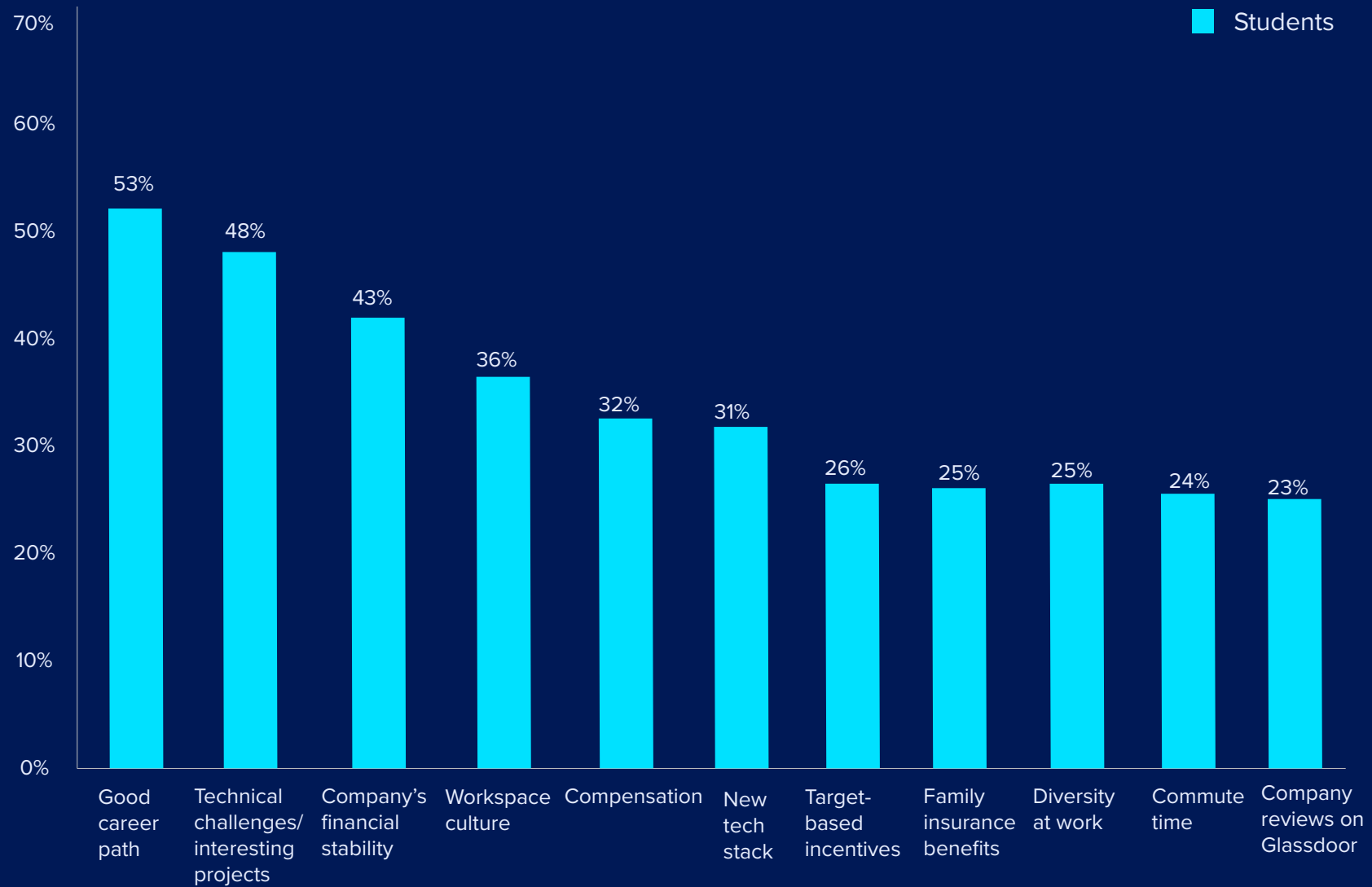
# 12

**A great career path and a stable job matter the most to student developers**

Are you looking to hire great developers and retain them in the long run? It's time you created a great career growth plan for your developers. Around 53% of students said a career path is a must-have benefit.

Other must-have benefits include a company's financial stability, challenging projects, and a good compensation plan.

# Must-have benefits for students



# 13

**Experienced developers are looking for a challenging role and good compensation**

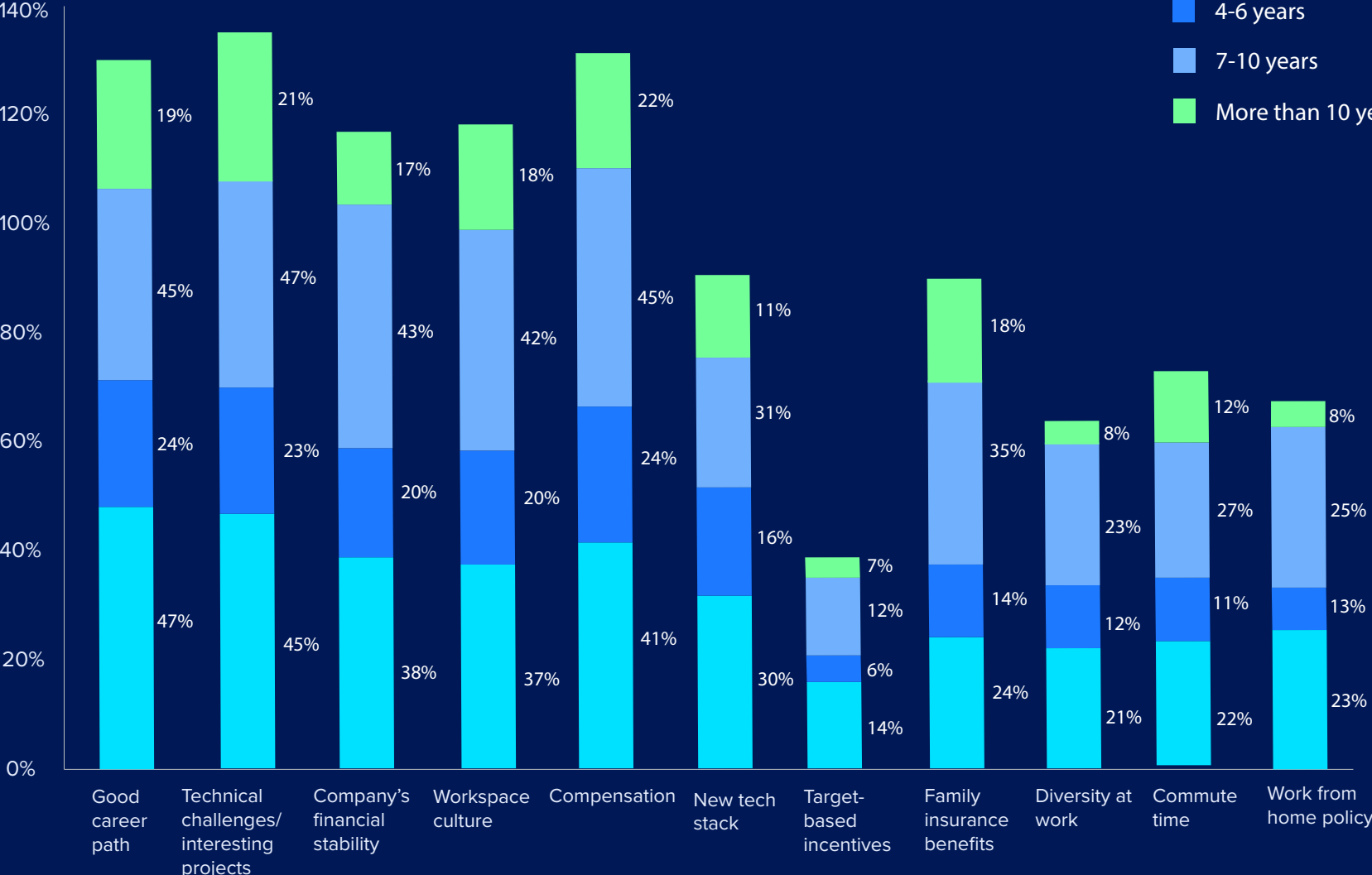
Experienced developers are looking for challenging roles and high compensation. Other benefits they look for include flexibility, such as work from home options, and diversity at work.

Also, ESOPs and Glassdoor reviews don't matter to most developers.



# Must-have benefits for working professionals

- 1-3 years
- 4-6 years
- 7-10 years
- More than 10 years



# 14

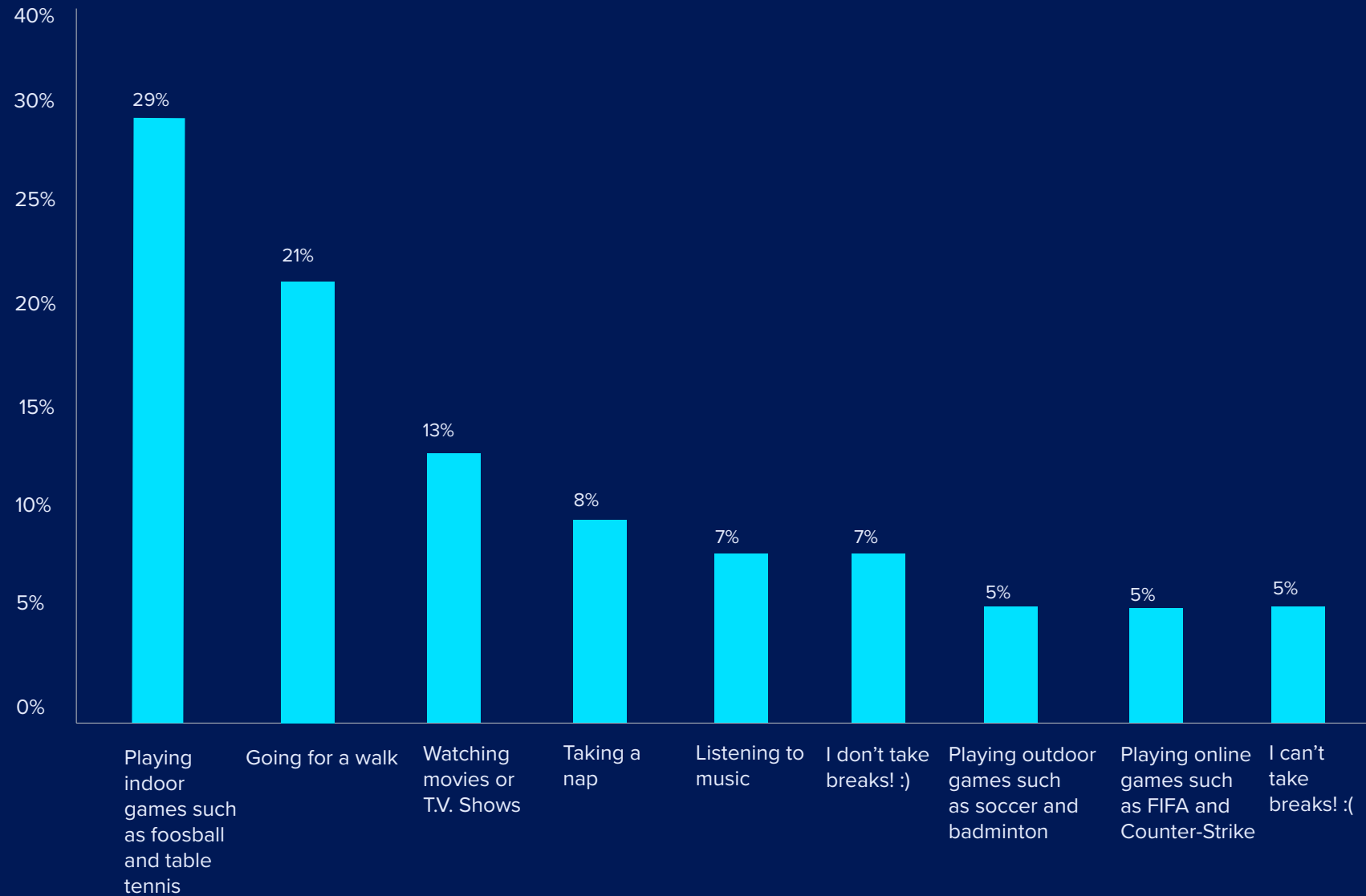
### Developers spend downtime playing indoor games and taking walks

When they are not coding, most developers spend their time playing indoor games such as foosball and table tennis (29%).

Going for a walk (21%), watching movies and TV shows (13%), and taking a nap (8%) were other popular ways to unwind.

Around 5% of developers said they couldn't afford to take a break!

## Developers unwind by:



## How Developers Unwind

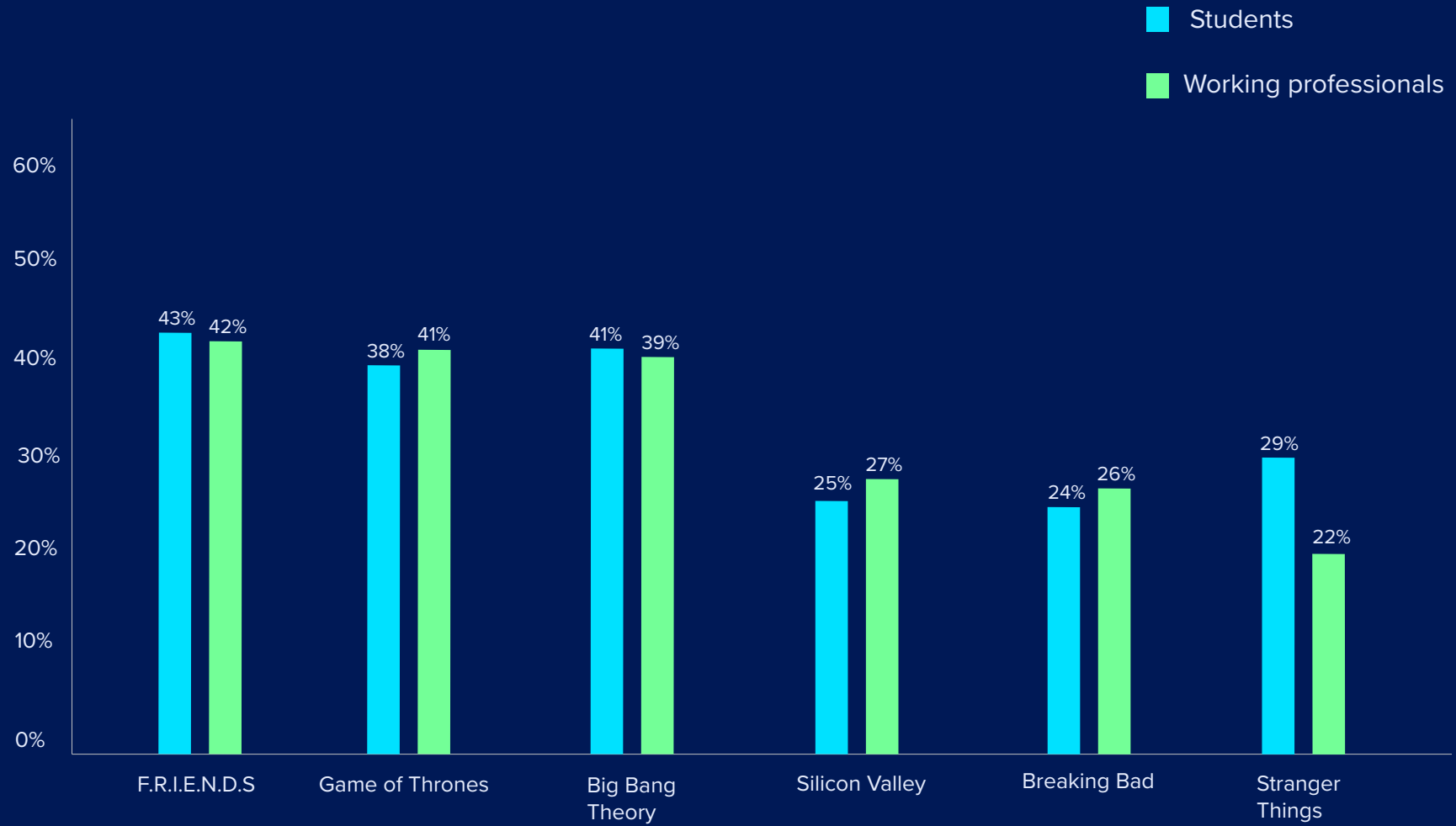
# 15

**When they've some extra time on their hands, they love watching F.R.I.E.N.D.S :)**

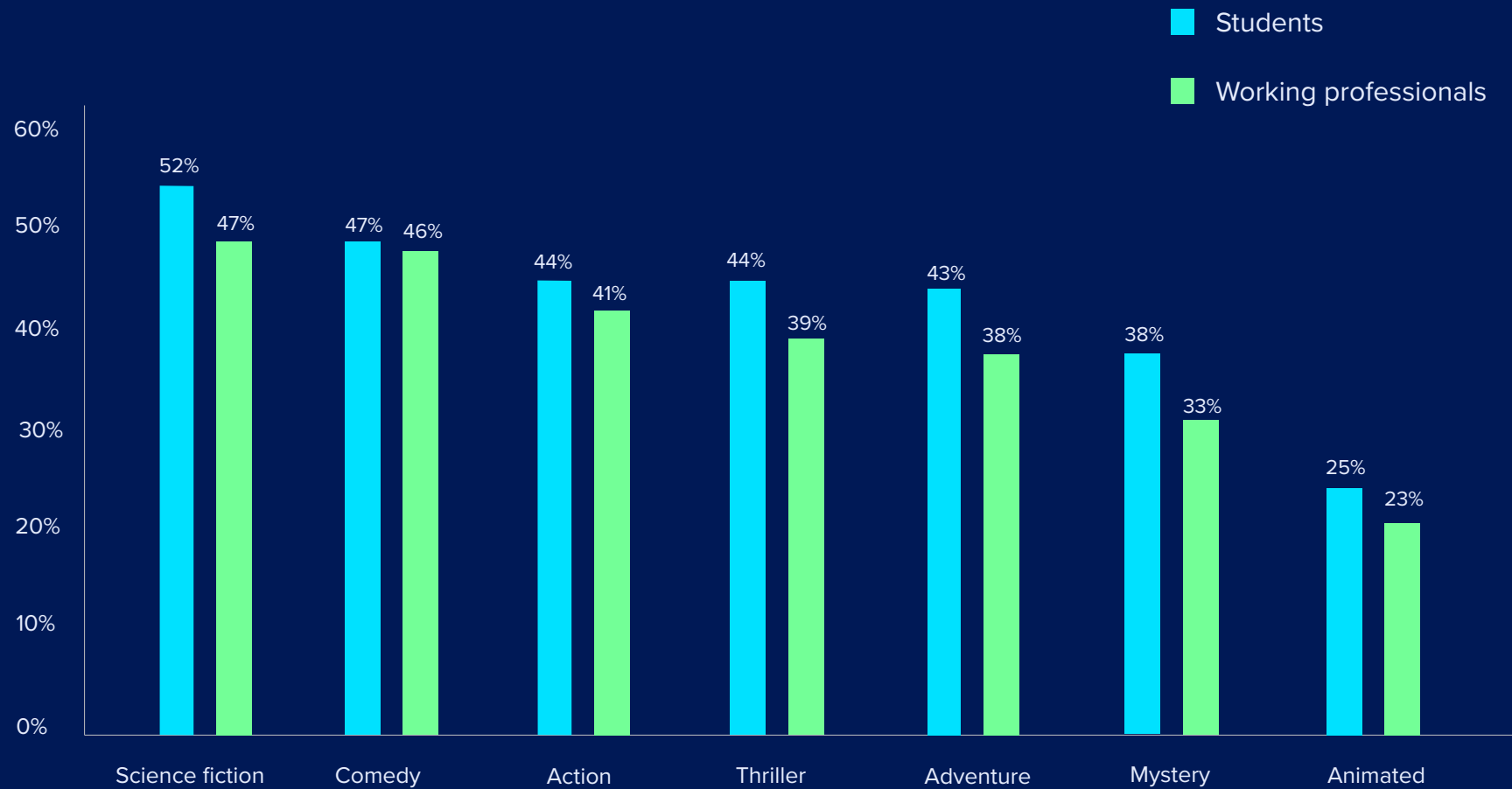
When asked about their favorite TV show, both students (43%) and experienced developers (42%) said it was F.R.I.E.N.D.S. Other TV shows that they love watching include Game of Thrones and Big Bang Theory.

Around 52% of students and 47% of experienced developers liked movies in the science fiction genre, followed by comedy and action.

## TV shows that developers like



## Movie genres that developers like



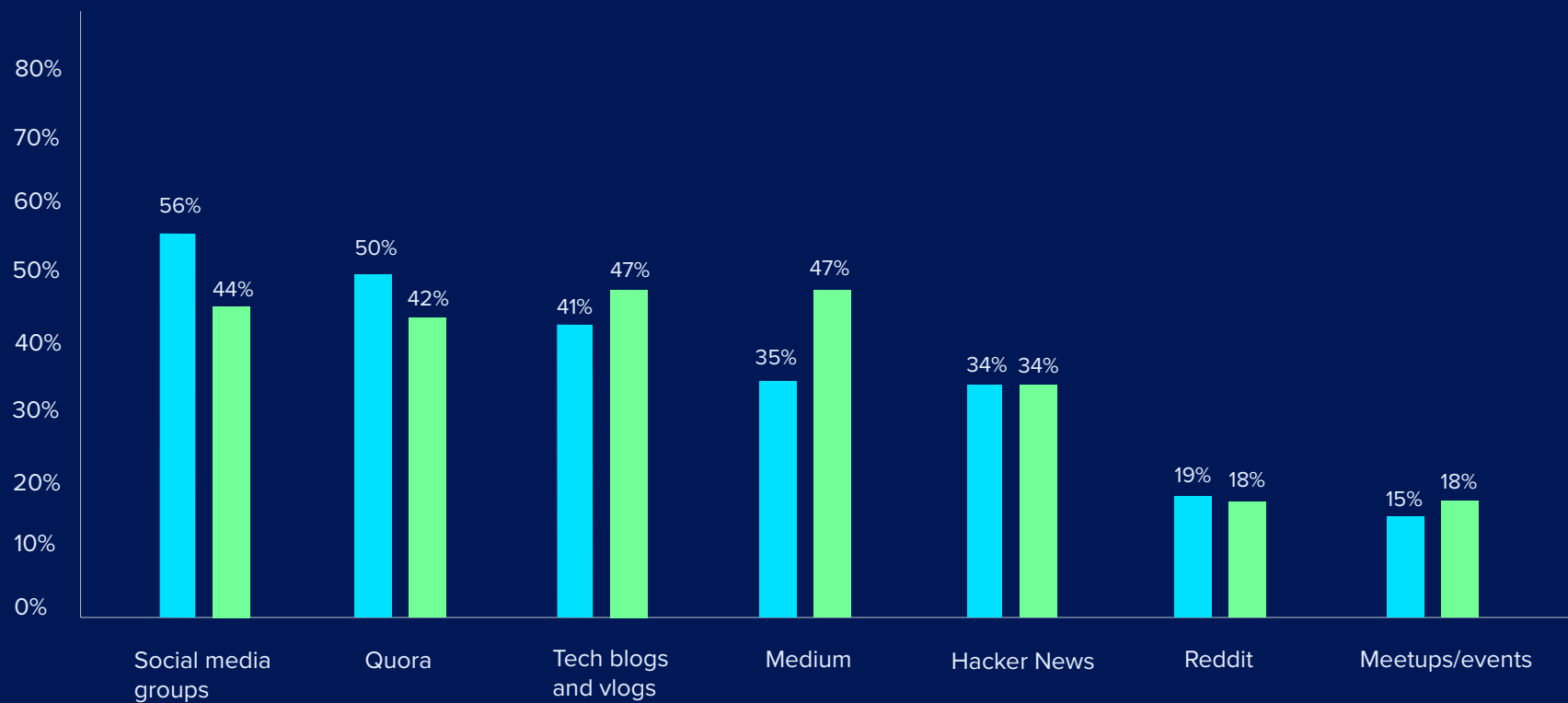
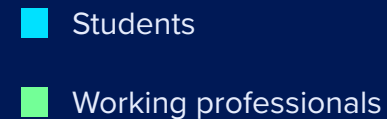
# 16

## Developers get their daily dose of tech news from social media groups and Medium

Students predominantly use social media groups for their latest tech updates (56%), whereas experienced developers depend on Medium (47%).

Other popular channels for students include Quora (50%) and tech blogs and vlogs (41%). Working professionals, on the other hand, also refer to tech blogs and vlogs (47%) and social media groups (44%).

## Developers get their daily dose of tech news through:





# Methodology

## **Our thinking was global**

HackerEarth's mission is to match developers around the globe to the right opportunities. A community of 4 million developers globally uses our platform to hone their skills and learn from each other. Hence, to identify trends in the developer community, we surveyed developers (students and working professionals) worldwide to get their valuable feedback.

## **Our understanding was derived from several developer responses around the globe**

This study presents the results of a survey we conducted in January 2020 to February 2020. We received a total of 16,655 responses from developers across 76 countries.

## **Our approach was comprehensive**

We tried to cover all aspects that have an impact on the developer community, including but not limited to, the most sought-after programming language, the most preferred operating system, the most preferred medium for finding new jobs, and more. Our in-house team of experts analyzed the results. Percentages may not always add to 100% due to rounding.

## **List of abbreviations**

AoE: Area of expertise  
ESOP: Employee stock option plans  
YoE: Years of experience



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