UNITY GAMING REPORT 2022

Unity®

INTRODUCTION

The past few years have taught us how important community really is. Games have brought us together, providing human connection in a time of distance and isolation.

THE NUMBER OF GAMES MADE ON THE UNITY PLATFORM

INCREASED BY 93%

IN THE LAST YEAR.

The gaming industry has stepped up to feed the booming demand – the number of games made on the Unity Platform increased by 93% in the last year. And as the field grows more crowded, we want you to have the insights you need to succeed.

This report gives you the latest information to steer your decisions, whether you're a solo dev or member of a large studio. Throughout, you'll find insights about the state of the gaming industry that will help you make better games and run a stronger business as a developer or publisher.

It draws on fresh, original data from the 230,000 developers who make and operate over 750,000 apps using using the Unity Platform. To create a complete snapshot of the industry, we've placed this data in context with information from outside reports and insights from creators.

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THESE ARE THE TRENDS YOU NEED TO KNOW ABOUT.

TREND ONE:
MORE GAMES ARE BEING PUBLISHED IN EVERY CATEGORY, WITH HYPERCASUAL GAMES UP 137%.

The number of games being made on the Unity Platform is up 93% in the last year, and the number of new creators is up 31%.

TREND TWO:
THE PANDEMIC SPIKE IN GAMING HAS RAISED REVENUE BY 30% — AND THAT BUMP IS HERE TO STAY.

Unlike sectors of the economy whose pandemic bubbles have popped, the changes in gaming appear to be sustainable, bolstered by revenue growth in ad revenues and in-app purchases in the United States and Europe.

TREND THREE:
CASUAL GAMES ARE LEADING THE WAY.

Revenue for casual games increased 40% in the last year, driven by a 13% increase in the number of games in that category. But no matter what genre you are working in, the right revenue strategy can help you succeed.

TREND FOUR:
DEVELOPERS ARE TEARING DOWN THE WALLED GARDENS AROUND PLATFORMS, WITH AN EXPLOSION IN MULTIPLATFORM REACH.

With cross-platform development, game makers are tearing down the walled gardens that separated players on different devices. In 2021, the number of games released across multiple platforms more than doubled compared to just five years ago.

TREND FIVE:
LARGE STUDIOS CONTINUE TO BALLOON, BUT THEY HAVEN'T CROWDED OUT INDIE INNOVATION.

A growing number of third-party services and data analytics tools give studios of all sizes the ability to compete at the highest level.

TREND SIX:
PLAYERS WANT MORE CONTENT FOR THE GAMES THEY ALREADY LOVE.

Players are playing longer than ever, thanks to the continued popularity of live games.

TREND ONE:

MORE GAMES ARE BEING PUBLISHED IN EVERY CATEGORY, WITH HYPERCASUAL GAMES UP 137%.

→

Knockout City, by Velan Studios

THERE ARE MORE DEVELOPERS, AND THEY ARE MAKING MORE GAMES.

The production slump of the pandemic's early phase is now far behind us. Publishers on the Unity platform built 93% more games in 2021 than in 2020 – that's almost twice as many games as the year before.

What's more, there are more creators using the Unity Platform to build games than ever before. In 2021, the number of Unity creators increased 31% compared to 2020.

Subway Surfers, by SYBO Games

CHART 1.1:

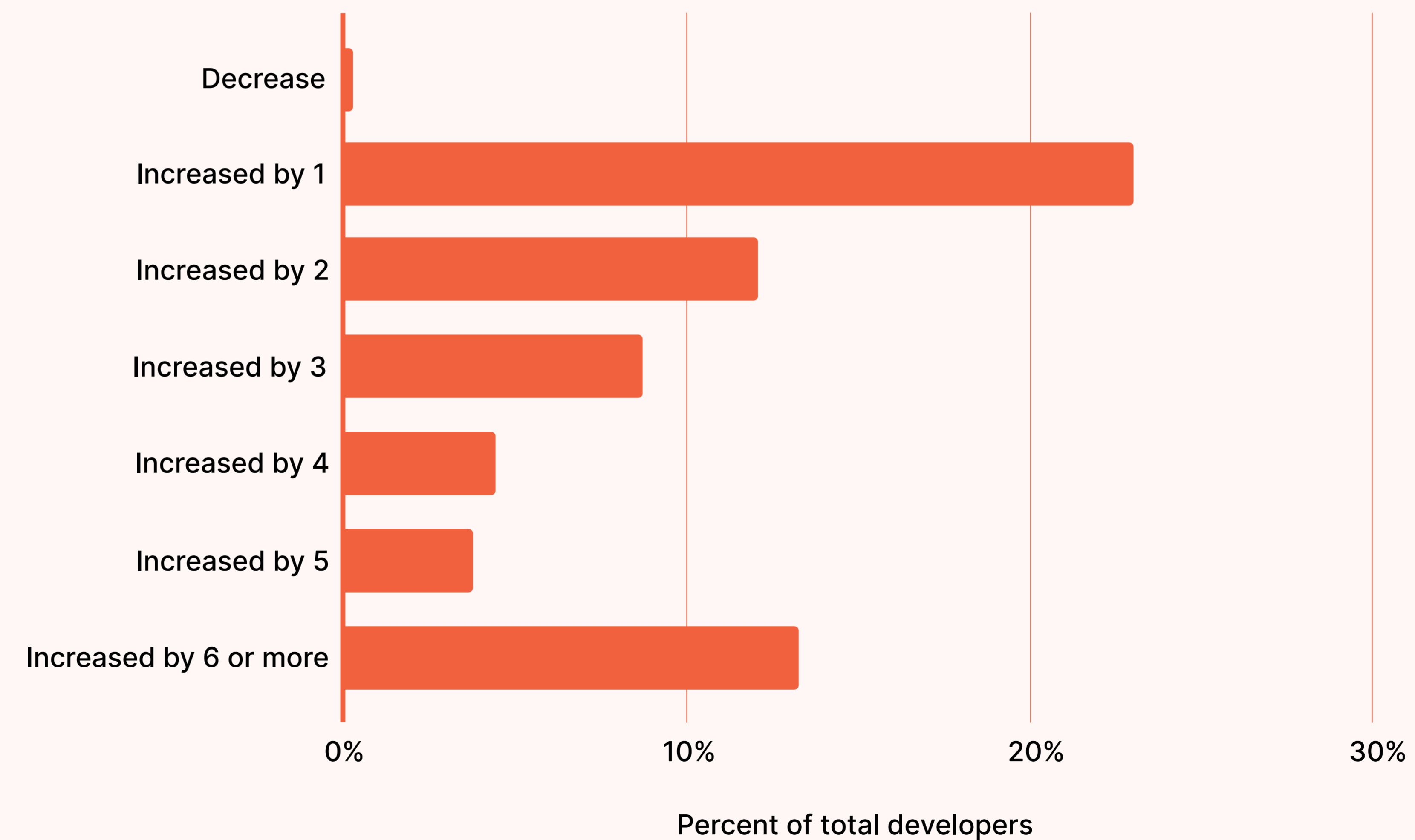## Publishers are releasing more games.
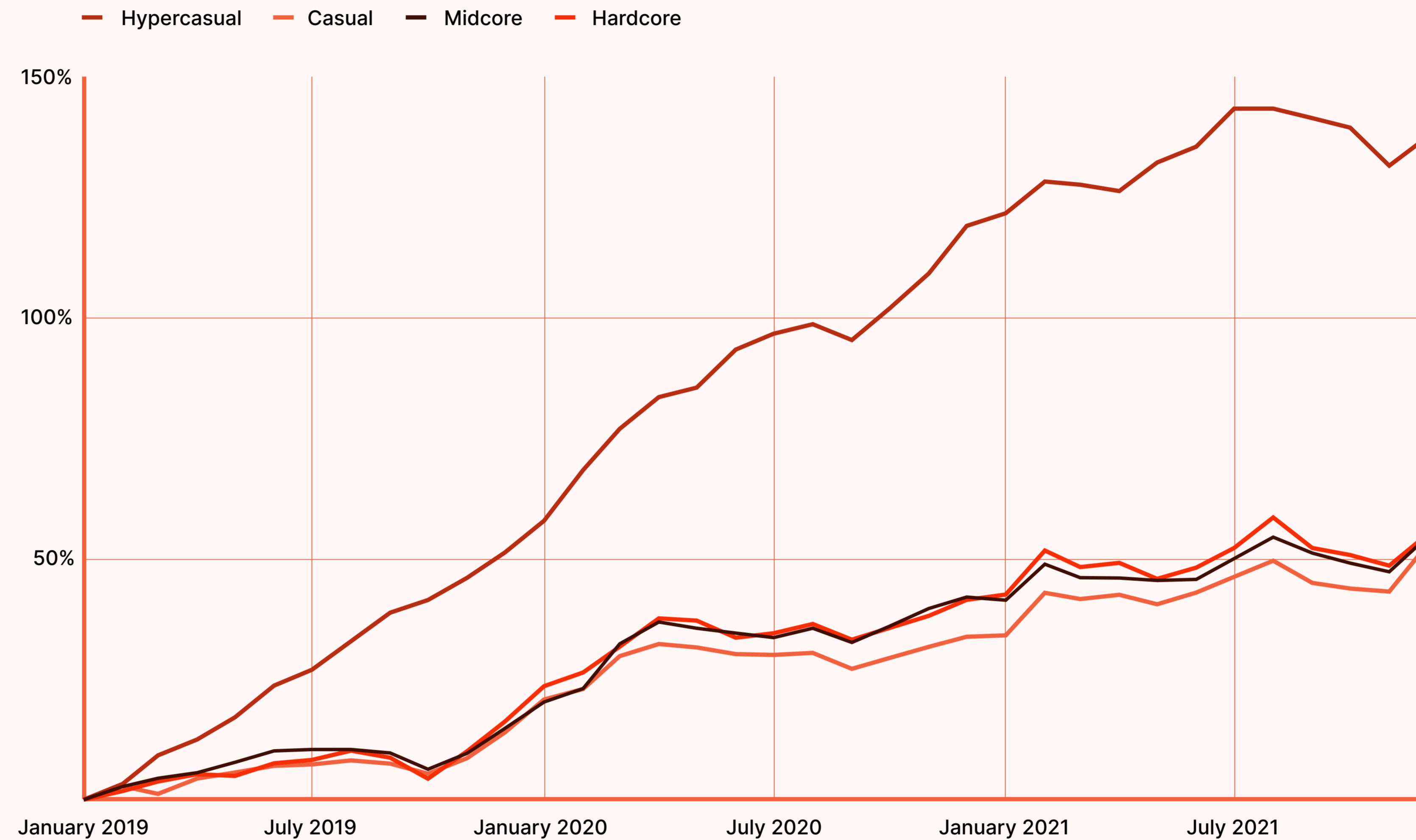

Percent of total developers

Chart 1.2 shows the number of Unity games published in the hypercasual, casual, midcore, and hardcore genres from 2019 to 2021. Each of the categories has shown significant growth, with casual live games up 53%, midcore 54%, hardcore up 55%, and hypercasual up 137%.

THERE WERE

50%

MORE MADE WITH UNITY GAMES PUBLISHED IN EVERY CATEGORY.

More games of all kinds are being made.

Legend: Hypercasual — Casual — Midcore — Hardcore

Y-axis: 150%, 100%, 50%
X-axis: January 2019, July 2019, January 2020, July 2020, January 2021, July 2021

HERE'S HOW WE GROUPED THE GAME CATEGORIES WE ARE USING IN THIS REPORT:

Casual: Adventure, arcade, board, casino, casual, puzzle, and word games

Midcore: Card, sports, racing, role-playing, and strategy games

Hardcore: Action and simulation games

Hypercasual: Games of any genre that involve a single gameplay loop with little to no progression and monetized largely by scaling ad revenue

Live games: Games of any genre in which developers offer continual content updates throughout the lifespan of the game

Casual, adventure, and simulation games are hot genres.

Genre	Value
Action	2.9%
Adventure	12.6%
Arcade	4.9%
Board	9.5%
Card	6.5%
Casino	-3.3%
Casual	13.0%
Hypercasual	9.3%
Puzzle	11.2%
Racing	8.9%
Role playing	9.6%
Simulation	14.7%
Sports	-0.8%
Strategy	4.0%
Word	4.1%

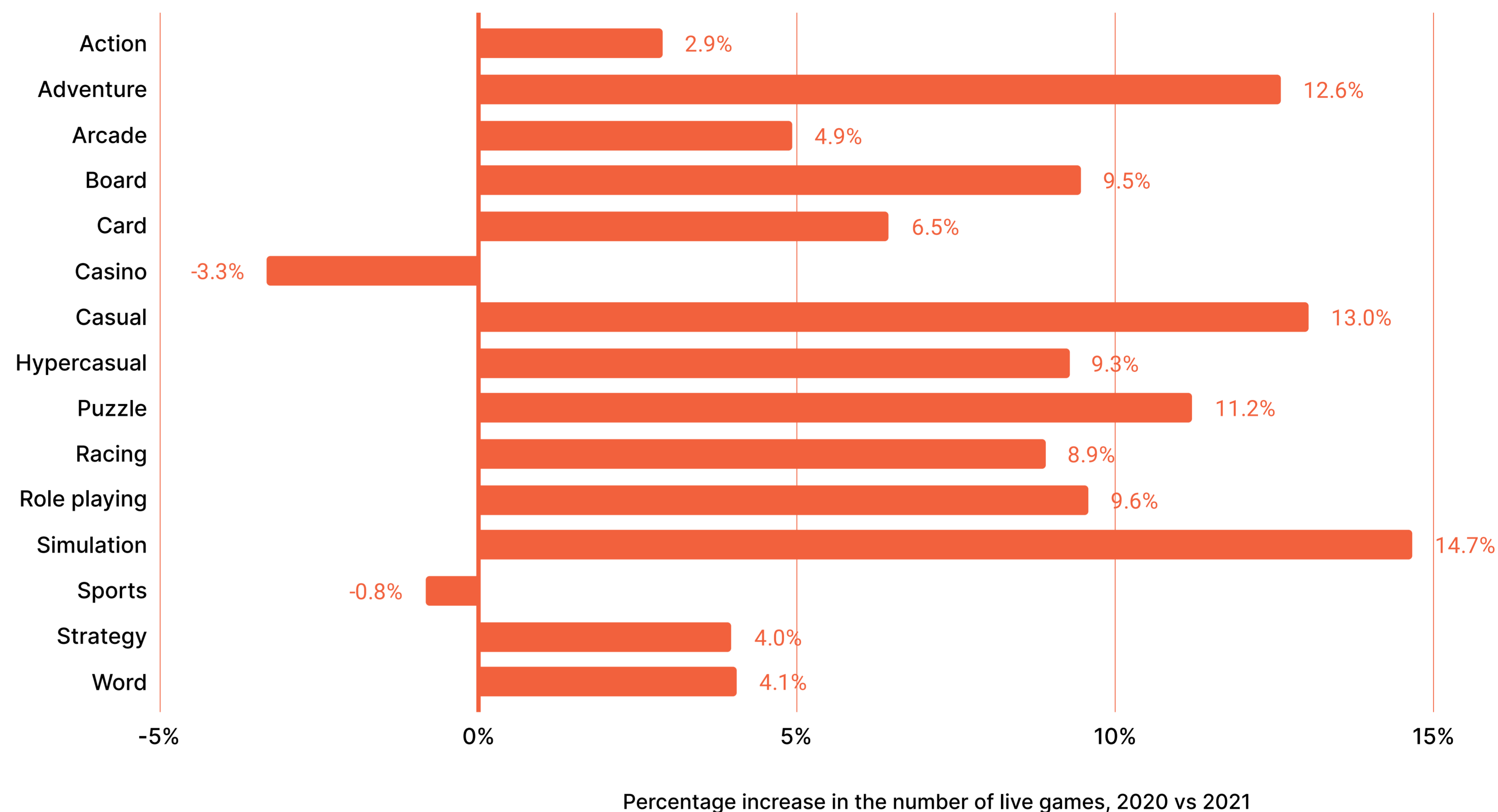Percentage increase in the number of live games, 2020 vs 2021

Chart 1.3 shows the number of games published using Unity between 2020 and 2021 by genre. The number of games dropped for the casino and sports categories, while simulation, adventure, puzzle, and casual games saw the most growth.

ADVENTURE, CASUAL, PUZZLE, AND SIMULATION GAMES

GREW BY OVER 10%

TREND TWO:

THE PANDEMIC SPIKE IN GAMING HAS RAISED REVENUE BY 30% — AND THAT BUMP IS HERE TO STAY.

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The Falconeer, by Tomas Sala

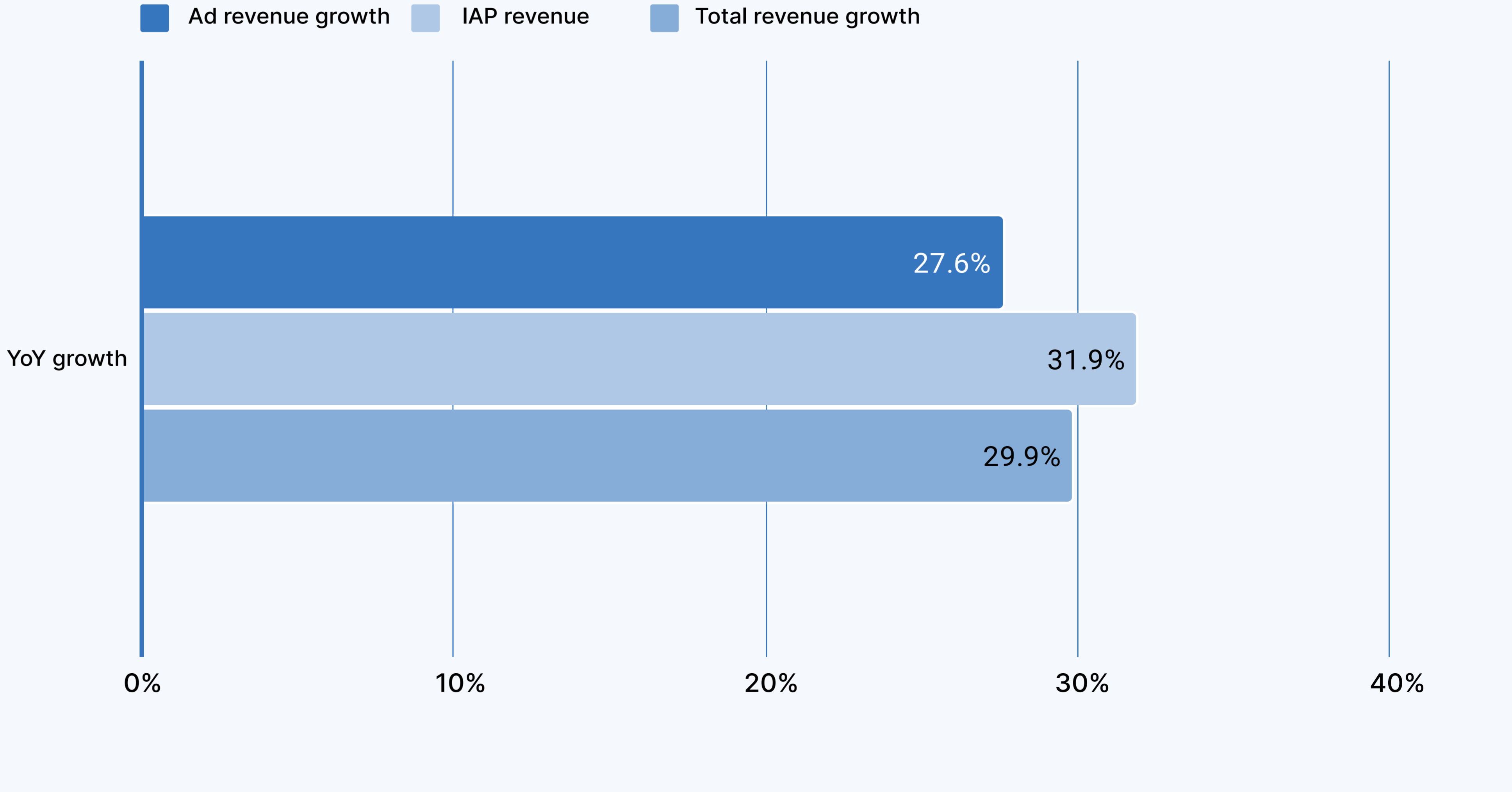# GAMING REVENUE GREW ALMOST 30% LAST YEAR.

As the world opened (and closed and opened again), many in the industry feared that the players would vanish once they had access to more entertainment choices again. That largely didn't happen. After an initial peak during the earliest phase of the pandemic, the number of people playing Unity games has stabilized.

Lost in Random, by Zoink Games

Ad, IAP, and total revenue all grew by more than 25%.

- Ad revenue growth
- IAP revenue
- Total revenue growth

YoY growth
- 27.6%
- 31.9%
- 29.9%

0%   10%   20%   30%   40%

As Chart 2.2 shows, the number of daily active users (DAU) playing games rose at the beginning of the pandemic, peaked, and then found a new normal.

New players have entered the market and existing gamers are playing more. Studies have found that during the pandemic between 55% and 71% of gamers increased the time they spent playing.

18 MONTHS AFTER MARCH 2020, GAMING IS STILL UP MORE THAN

50%

The number of people playing has peaked and stabilized.

— PC/Console   — Mobile

Daily active users (DAU) on mobile and PC/console
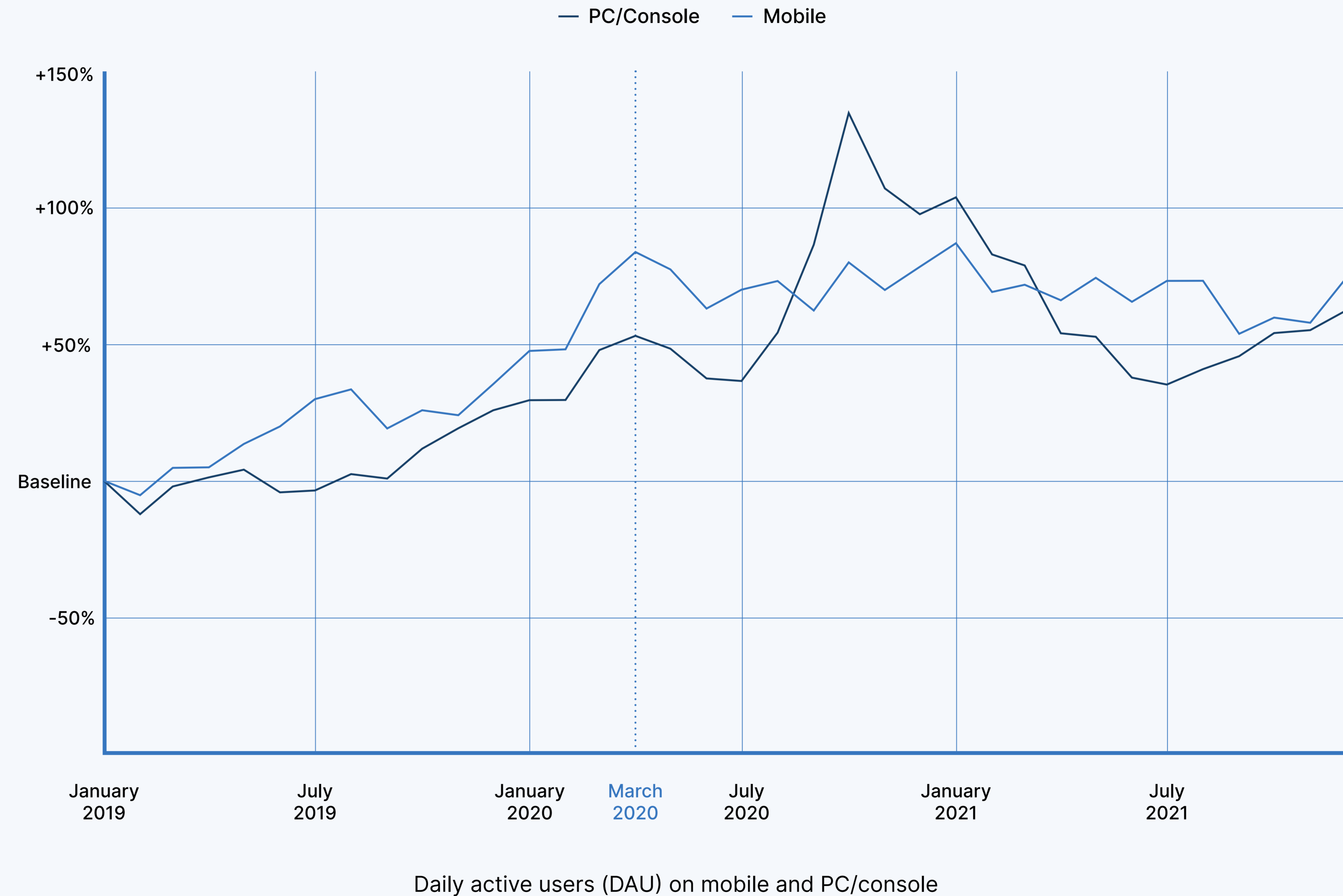
In addition to daily active users, we also looked at when people are playing. Traditionally, DAUs increase on weekends and during the summer, when children are out of school and adults tend to take longer vacations.

Chart 2.3 shows weekday and weekend gaming from 2019 to 2022. Weekends usually see more DAUs than weekdays do – though that gap lessens in the summer months. During the first pandemic summer of 2020, we saw these lines converge. In the summer of 2021, weekday gaming activity approached weekend levels again, although it was not as pronounced as in 2020. Overall, gamers are still playing more during the week than they did pre-pandemic, but their habits have largely returned to normal.

CHART 2.3:

The flux in habits has settled to normal levels.

— Monday–Thursday   — Friday–Sunday
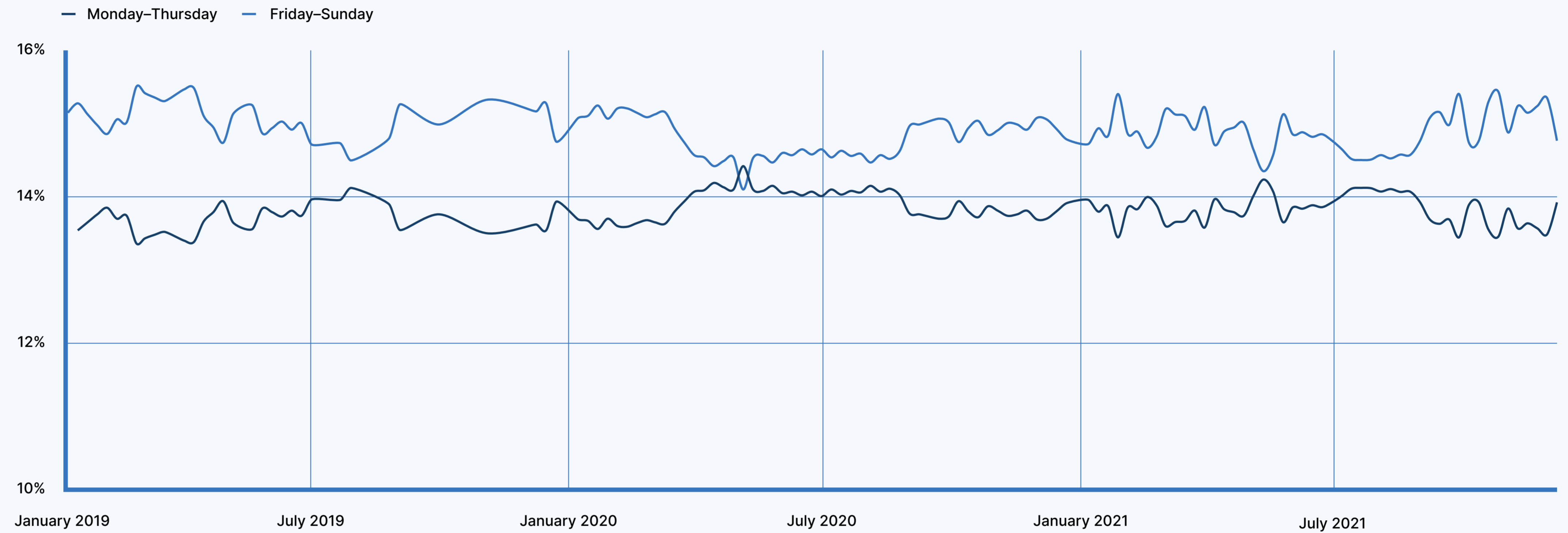
Gaming activity on weekdays and weekends

DAU NUMBERS SHOW THAT USER HABITS HAVE STABILIZED — SO THESE

HIGHER RATES OF PLAY ARE HERE TO STAY.

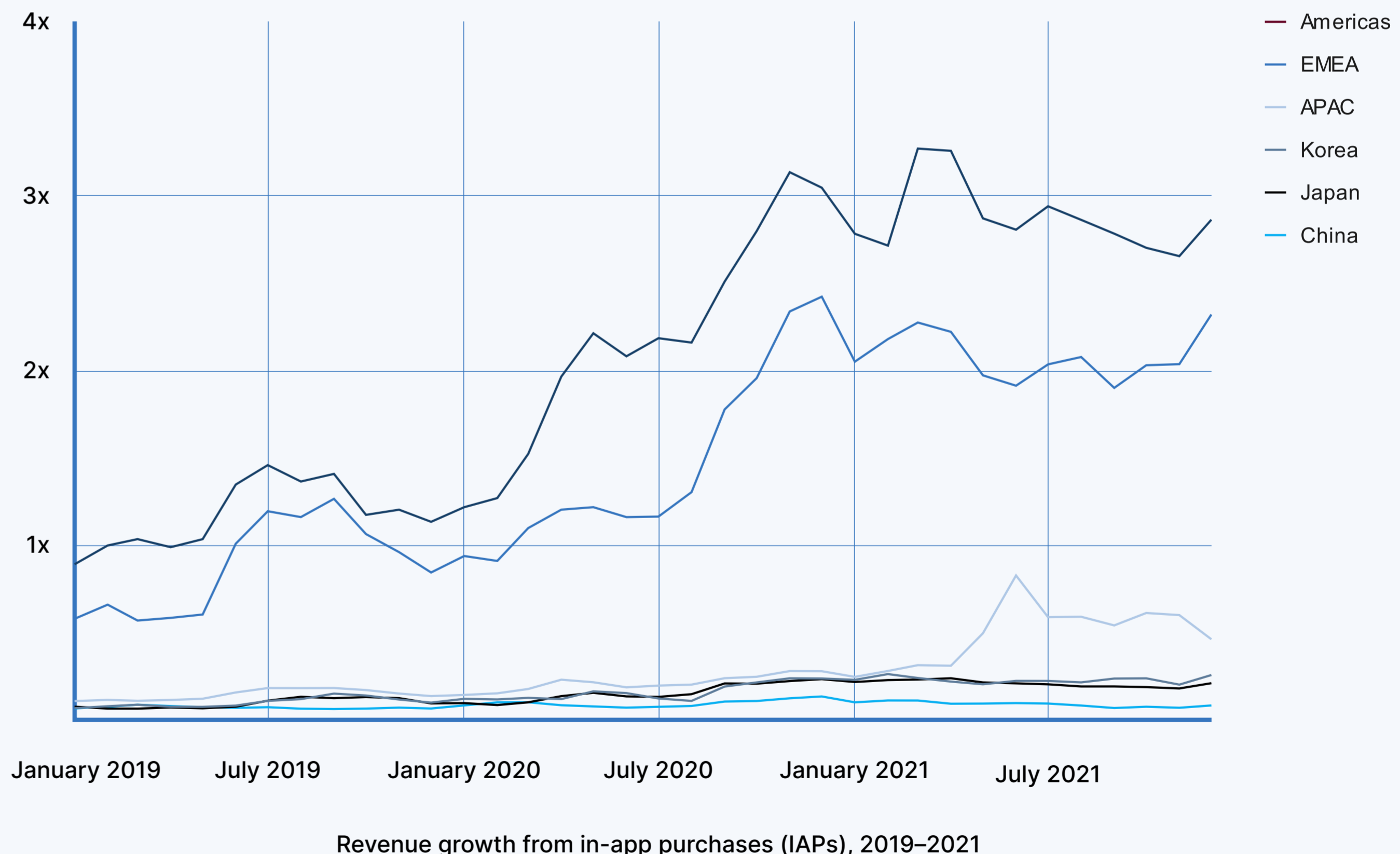# REVENUES ARE GROWING, LED BY THE AMERICAS AND EMEA.

Deprived of out-of-house entertainment outlets over the last two years, players have spent more money on games than ever before. This section looks at two important sources of revenue – in-app spending and ad revenue.

In-app purchase, which measures the purchases that players make within games, has increased significantly since 2020, as can be seen in Chart 2.4. Throughout the pandemic, in-app purchase revenues have been flat in China, Japan, and Korea, while in-app purchase revenue rose in the Americas, Europe, the Middle East, Africa, and APAC. (For more about how we categorize the regions of the world, see the sidebar.)

Throughout this report, we use APAC for the Asia-Pacific market, which includes Southeast Asia, India, Australia, and the Pacific Islands. That doesn't include China, Japan, and Korea, large markets with distinctive features. EMEA comprises Europe, the Middle East, and Africa. The Americas refers to North and South America.

Players in the Americas and EMEA are spending more on in-app purchases.

Legend: Americas, EMEA, APAC, Korea, Japan, China

Y-axis: 4x, 3x, 2x, 1x

X-axis: January 2019, July 2019, January 2020, July 2020, January 2021, July 2021

Revenue growth from in-app purchases (IAPs), 2019–2021

With more people playing mobile games than ever before, ad revenue for mobile titles also grew at accelerated rates during the pandemic. As Chart 2.5 shows, the increase in mobile ad revenue was almost entirely driven by the Americas, but there were also substantial increases in EMEA.
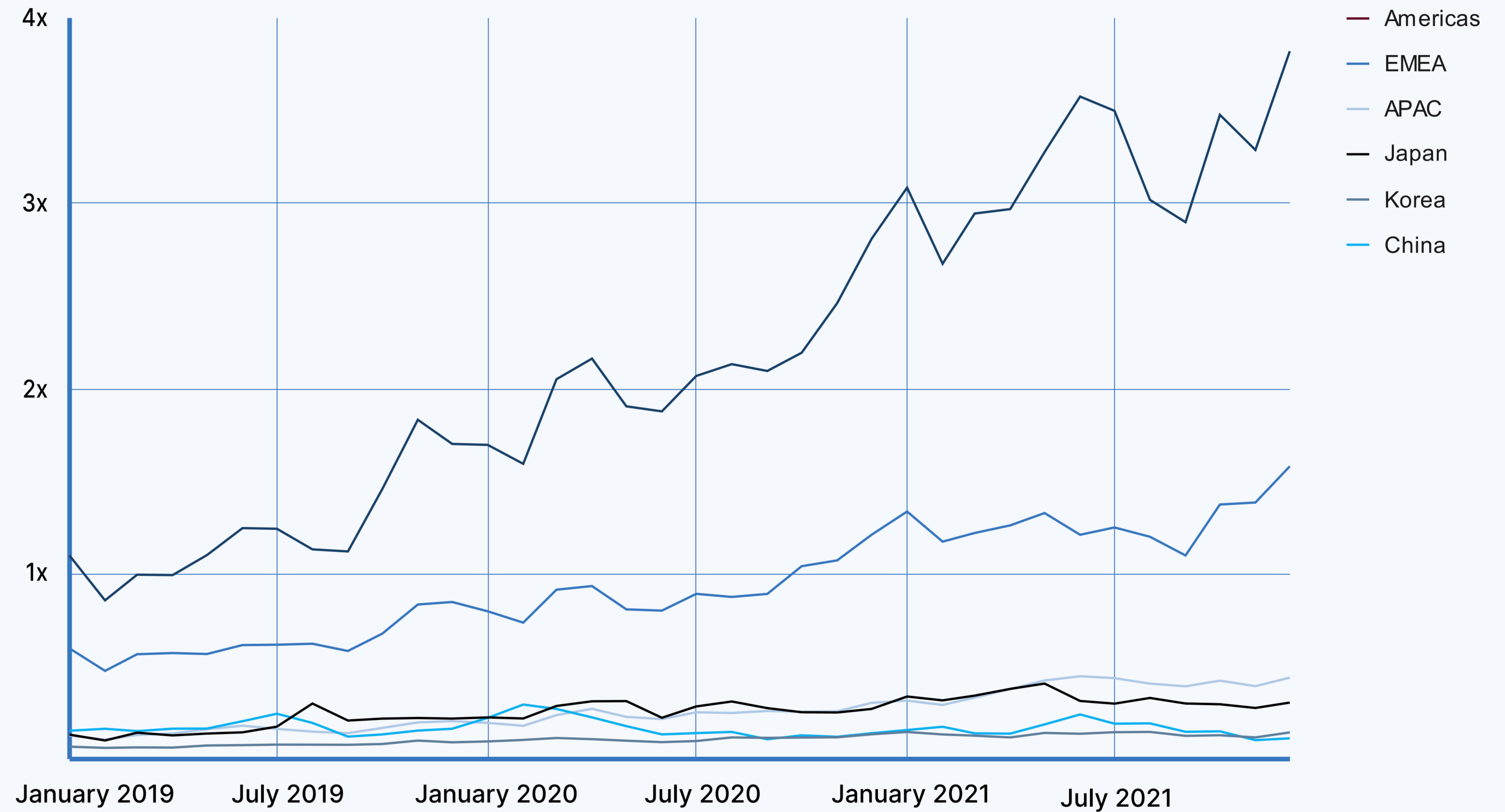
MOBILE AD REVENUE INCREASED BY MORE THAN

3X

IN THE AMERICAS.

Ad revenue is growing in the Americas and EMEA.

Legend:
— Americas
— EMEA
— APAC
— Japan
— Korea
— China

Ad revenue growth by region, 2019–2021

GAMERS ARE ACCEPTING MORE IN-GAME ADS.

As Chart 2.6 shows, the percent of daily active users who watched at least one ad increased from 21.6% in 2020 to 25.9% in 2021 – a substantial jump.

Some developers worry that ads push players out of games, as people might follow ad links and not return to the game. But ads, especially those that give in-game rewards, actually raise user retention – a trend that has consistently been documented in Unity research.

HOW WE MEASURE PLAYER RETENTION

D1, D7, and D30 retention are the most common retention metrics in the game industry. They refer to the percent of active users one, seven, and thirty days after installing an app.

CHART 2.6:

More players are watching ads.

21.6%

25.9%

2020

2021

Percentage of DAUs watching ads

CHART 2.7:

Ads improve retention.

D1

22.98%

26.3%

D7

6.64%   8.27%

D30

2.88%   3.42%

■ Without ads   ■ With ads

TREND THREE:

CASUAL GAMES ARE LEADING THE WAY.

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Lost in Random, by Zoink Games
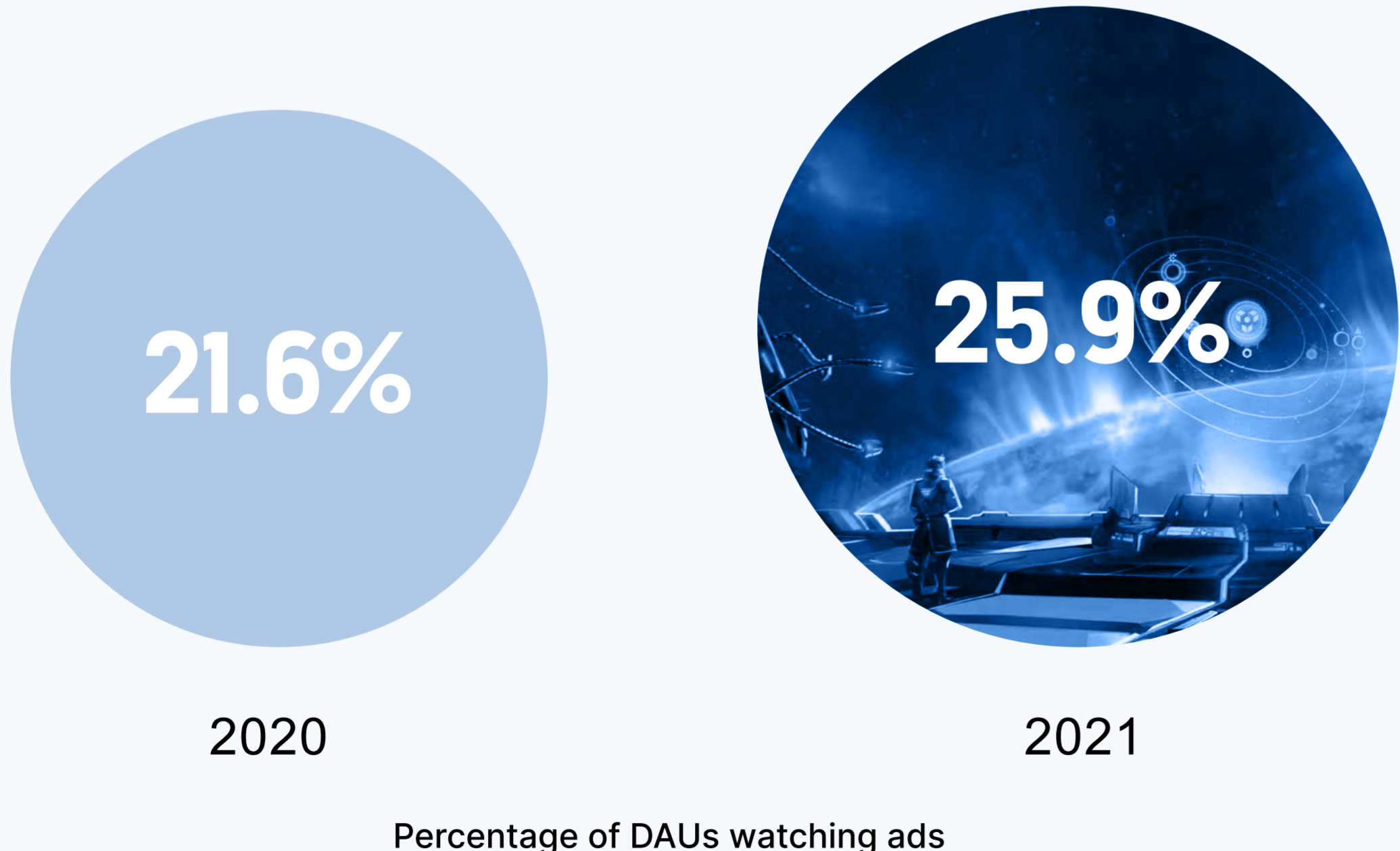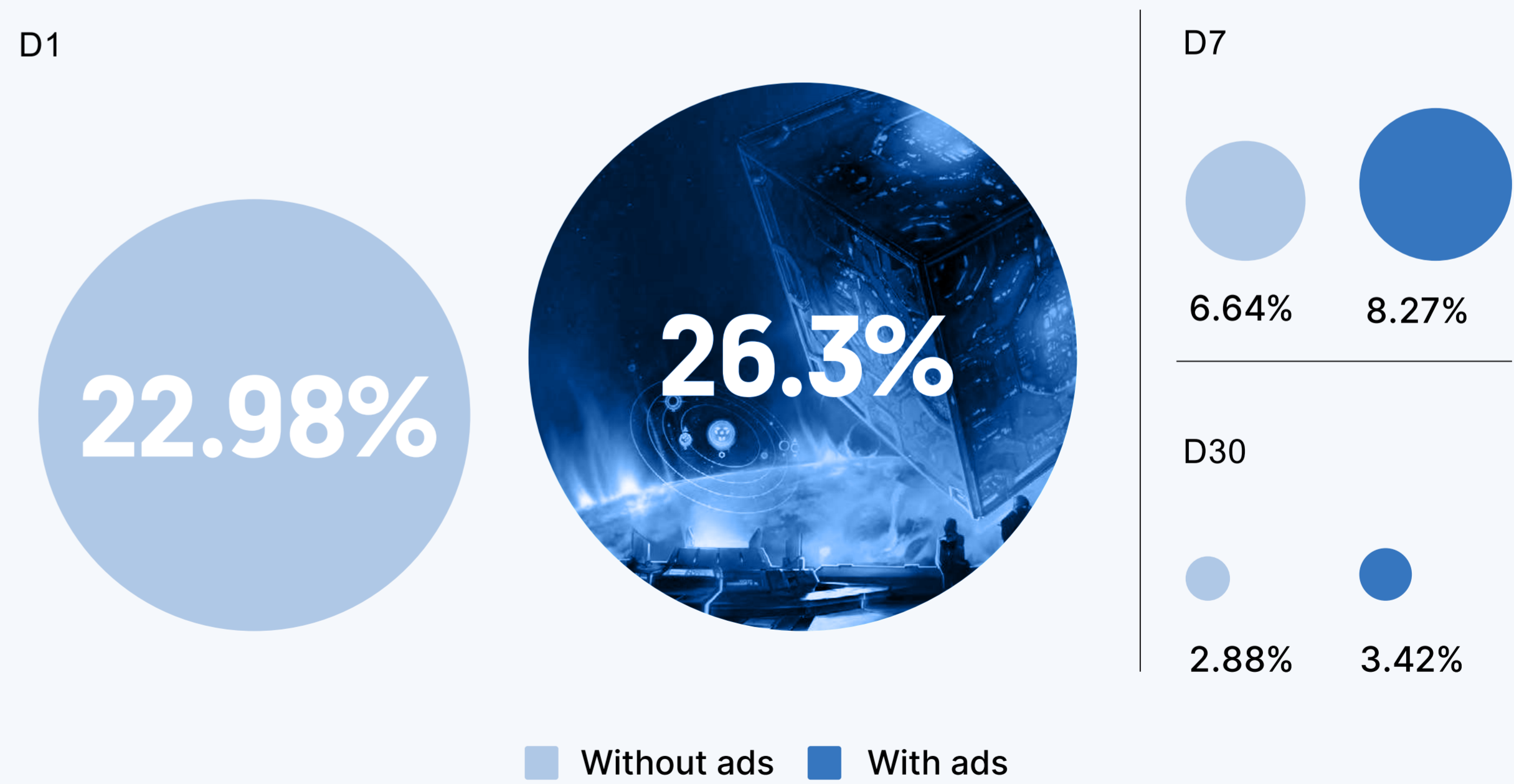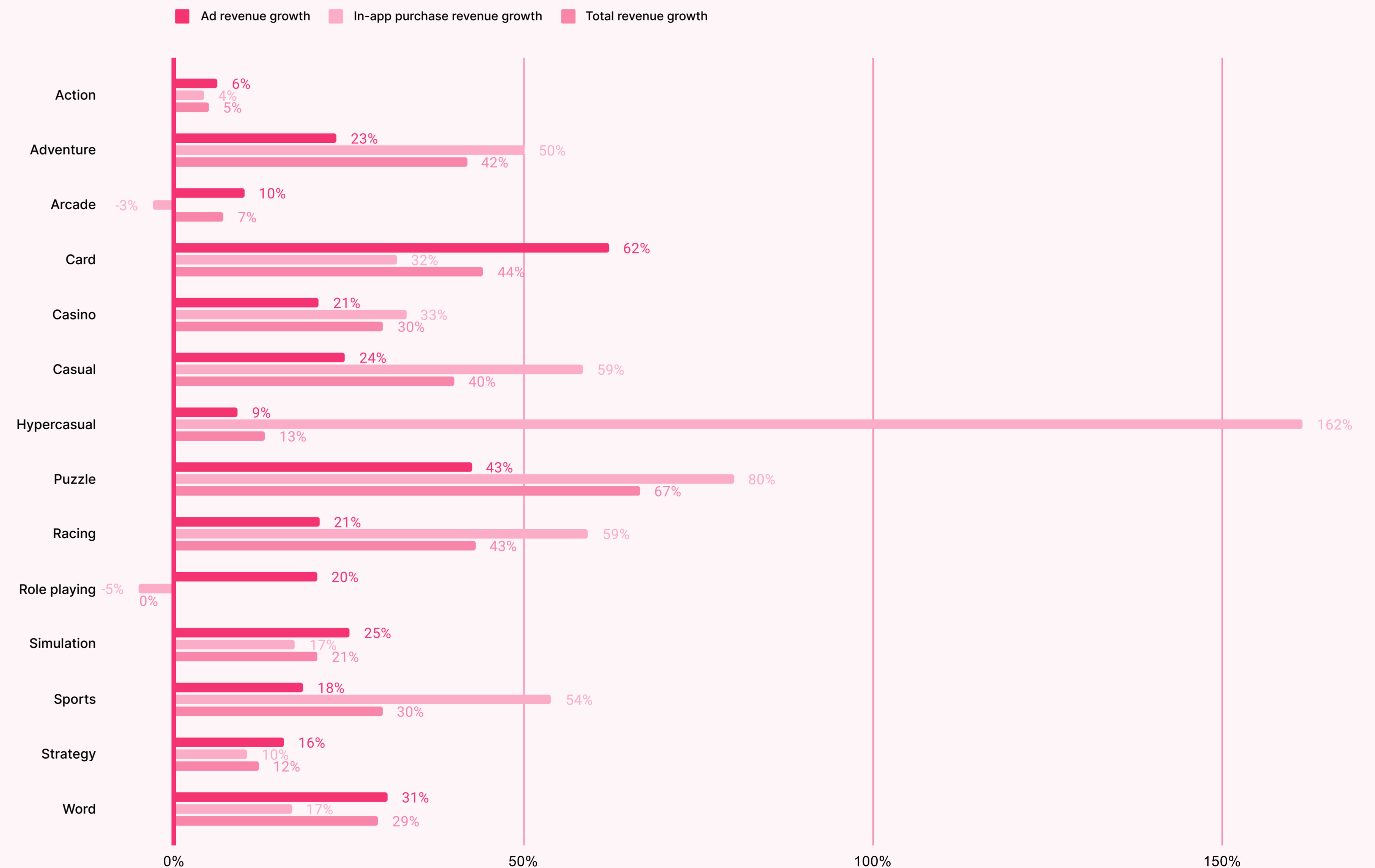
CASUAL GAMES ARE WHERE THE MONEY IS.

Although nearly all genres saw in-app purchases and ad revenues grow during 2021, as Chart 3.1 shows, total revenue growth was up the most in puzzle, card, adventure, casual, and hypercasual games. Action, role-playing, and arcade game revenues grew the least.

HYPERCASUAL GAMES' IN-APP PURCHASE REVENUE

GREW BY OVER 162%

Revenues are soaring in casual games.

■ Ad revenue growth ■ In-app purchase revenue growth ■ Total revenue growth

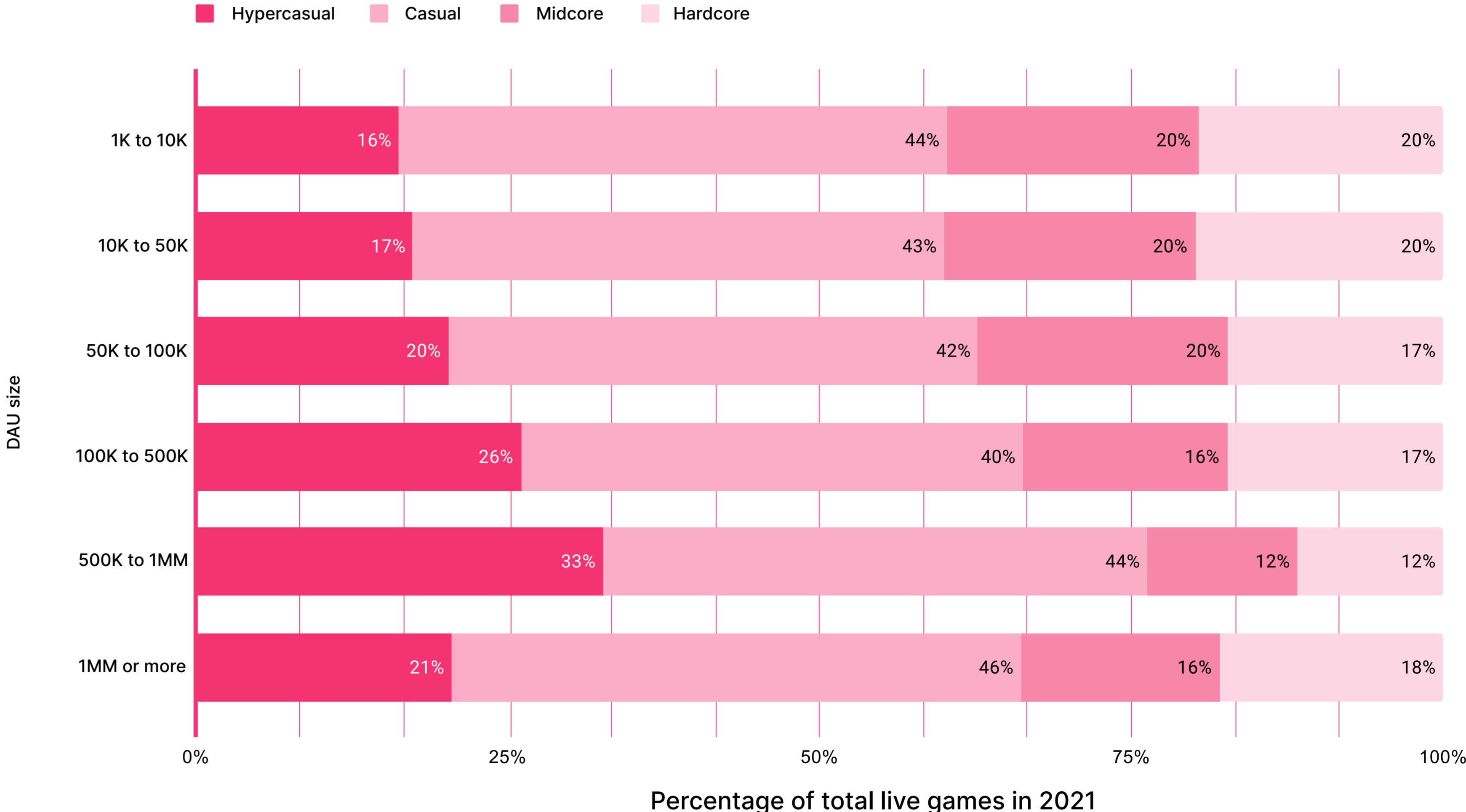| Genre	Ad revenue growth	In-app purchase revenue growth	Total revenue growth
Action	6%	4%	5%
Adventure	23%	50%	42%
Arcade	10%	-3%	7%
Card	62%	32%	44%
Casino	21%	33%	30%
Casual	24%	59%	40%
Hypercasual	9%	162%	13%
Puzzle	43%	80%	67%
Racing	21%	59%	43%
Role playing	20%	-5%	0%
Simulation	25%	17%	21%
Sports	18%	54%	30%
Strategy	16%	10%	12%
Word	31%	17%	29%

HYPERCASUAL GAMES HAVE A CAP ON AUDIENCE SIZE.

As a general trend, hypercasual games took up a larger share of the mix as the size of the player base increased. However, this trend was reversed for games with DAUs of one million or more. This suggests a cap on the size of an audience that hypercasual games can maintain. To hold on to a larger audience over the long term, games need deeper gameplay.

CASUAL GAMES TAKE
40% OF THE PIE
AT EVERY AUDIENCE SIZE.

Hypercasual games lose market share after reaching the million-player mark.

Legend: ■ Hypercasual ■ Casual ■ Midcore ■ Hardcore

DAU size	Hypercasual	Casual	Midcore	Hardcore
1K to 10K	16%	44%	20%	20%
10K to 50K	17%	43%	20%	20%
50K to 100K	20%	42%	20%	17%
100K to 500K	26%	40%	16%	17%
500K to 1MM	33%	44%	12%	12%
1MM or more	21%	46%	16%	18%

Percentage of total live games in 2021

Deeper gameplay drives IAP revenue.

■ Percentage of ad revenue   ■ Percentage of IAP revenue

Genre	Ad revenue	IAP revenue
Action	23.41%	76.59%
Adventure	24.30%	75.70%
Arcade	67.10%	32.90%
Board	69.73%	30.27%
Card	46.48%	53.52%
Casino	23.81%	76.19%
Casual	36.71%	63.29%
Hypercasual	94.09%	5.91%
Puzzle	25.18%	74.82%
Racing	26.64%	73.36%
Role playing	19.06%	80.94%
Simulation	34.72%	65.28%
Sports	56.43%	43.57%
Strategy	29.42%	70.58%
Trivia	59.48%	40.52%
Word	80.16%	19.84%

0%   25%   50%   75%   100%

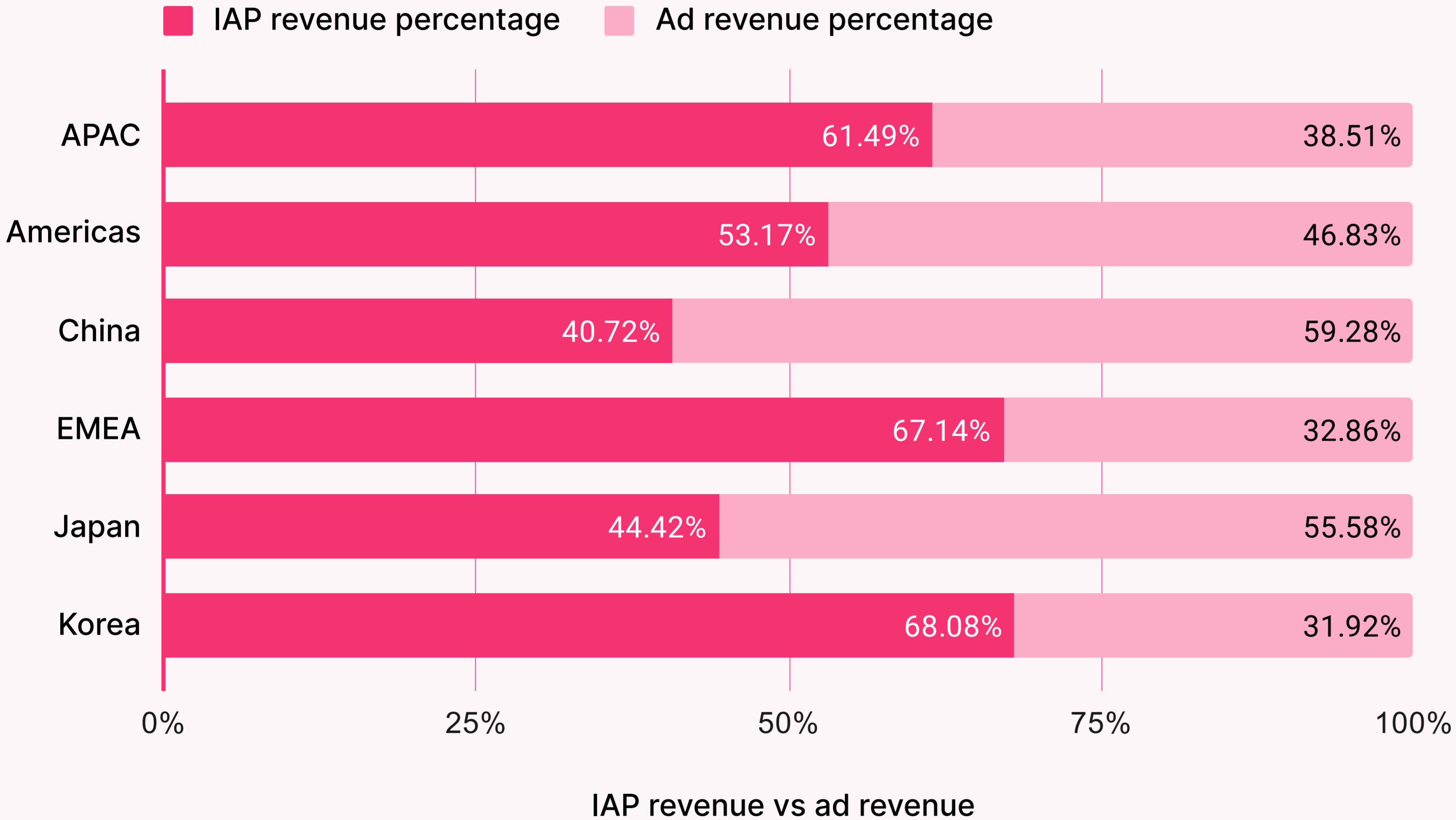# FOR DEEPER GAMEPLAY, IAP IS THE LEADING REVENUE STRATEGY.

As Chart 3.3 shows, in genres like hypercasual and word games, developers make the bulk of their revenue from ads. In other categories of games, like RPGs, in-app purchases drive revenue.

The difference is this: Hardcore genres like RPGs and strategy (as well as casino games that revolve around player transactions) derive most of their revenue from in-app purchases. Genres like word, arcade, and casual games lean more heavily on ad revenue, with hypercasual games almost entirely reliant on ads.

As Chart 3.4 shows, games of all genres in China and Japan rely more heavily on ad revenue, while those in other regions lean more heavily on in-app purchases. In the Americas, it's almost a 50/50 split.

Ad revenue matters most in China and Japan.

- IAP revenue percentage
- Ad revenue percentage

Region	IAP revenue percentage	Ad revenue percentage
APAC	61.49%	38.51%
Americas	53.17%	46.83%
China	40.72%	59.28%
EMEA	67.14%	32.86%
Japan	44.42%	55.58%
Korea	68.08%	31.92%

IAP revenue vs ad revenue

DEVELOPERS IN

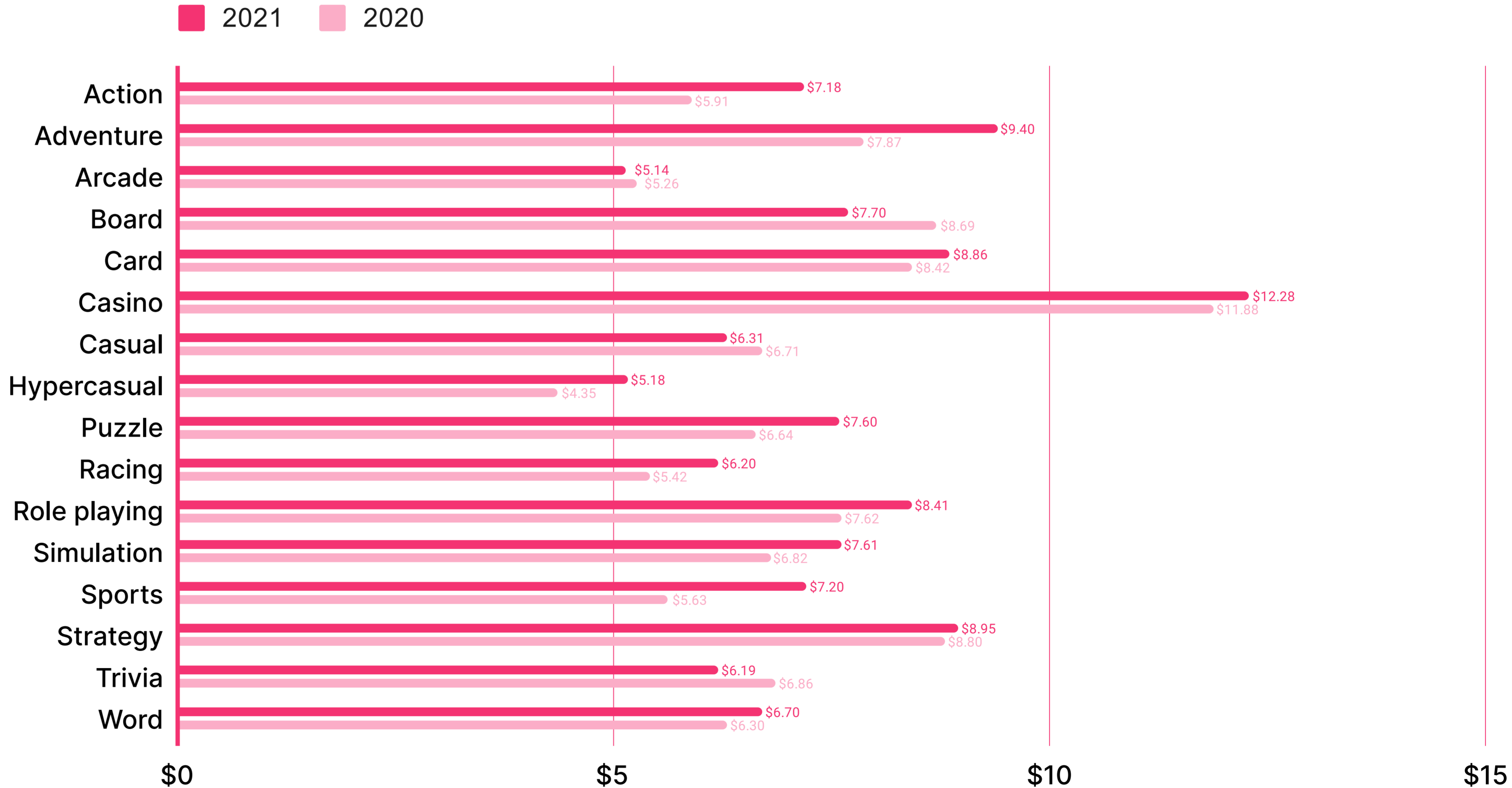## CHINA AND JAPAN

RELY MORE HEAVILY ON AD REVENUE.

IN 12 OUT OF 16 GENRES, AVERAGE SPEND PER TRANSACTION IS RISING.

It was as true in 2021 as always: Only a small portion of people playing free-to-play games players will ever pay. But those who do pay, pay a lot.

The Americas, Japan, and Korea led the world in the amount of paying players, likely bolstered by the popularity in those regions of collector RPGs (also known as gacha games) like *Raid: Shadow Legends*. Players in those regions often spend four times as much as players in APAC.

As Chart 3.5 shows, the average spend per transaction grew in 2021 in 12 out of 16 genres. The highest spending categories were casino, adventure, and card games. There was tremendous growth in action, adventure, sports, and hypercasual games, while arcade, board, casual, and trivia games saw declines.

In most genres, gamers are spending more money per transaction.

Legend: ■ 2021   ■ 2020

Genre	2021	2020
Action	$7.18	$5.91
Adventure	$9.40	$7.87
Arcade	$5.14	$5.26
Board	$7.70	$8.69
Card	$8.86	$8.42
Casino	$12.28	$11.88
Casual	$6.31	$6.71
Hypercasual	$5.18	$4.35
Puzzle	$7.60	$6.64
Racing	$6.20	$5.42
Role playing	$8.41	$7.62
Simulation	$7.61	$6.82
Sports	$7.20	$5.63
Strategy	$8.95	$8.80
Trivia	$6.19	$6.86
Word	$6.70	$6.30

GAMING IS GLOBAL, BUT REGIONAL TASTES VARY.

Some games are truly global, but many gamers have differences in taste depending on where they live. As a consequence, developers offer different mixes of game types in different regions. For example, players in the Americas and EMEA play up to 50% more hypercasual games than players in China, Japan, and Korea, where only 11.6% of games being played in 2021 were hypercasual.

Let's look at the degree to which game production varies by region by zooming in on two very different markets, Japan and EMEA.

While EMEA and America are hotbeds for hypercasual players, players in China, Japan, and Korea tend to prefer genres like action and simulation.
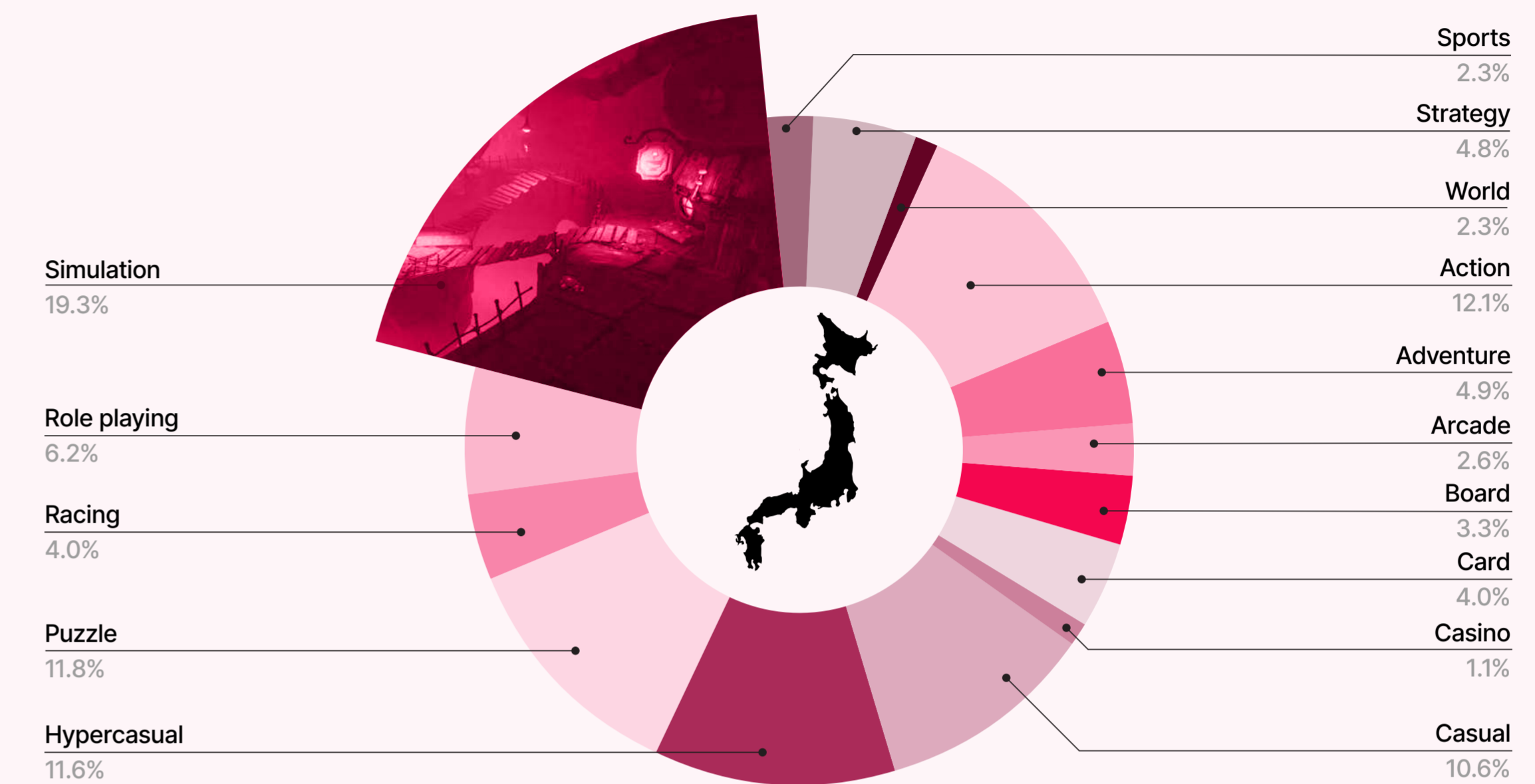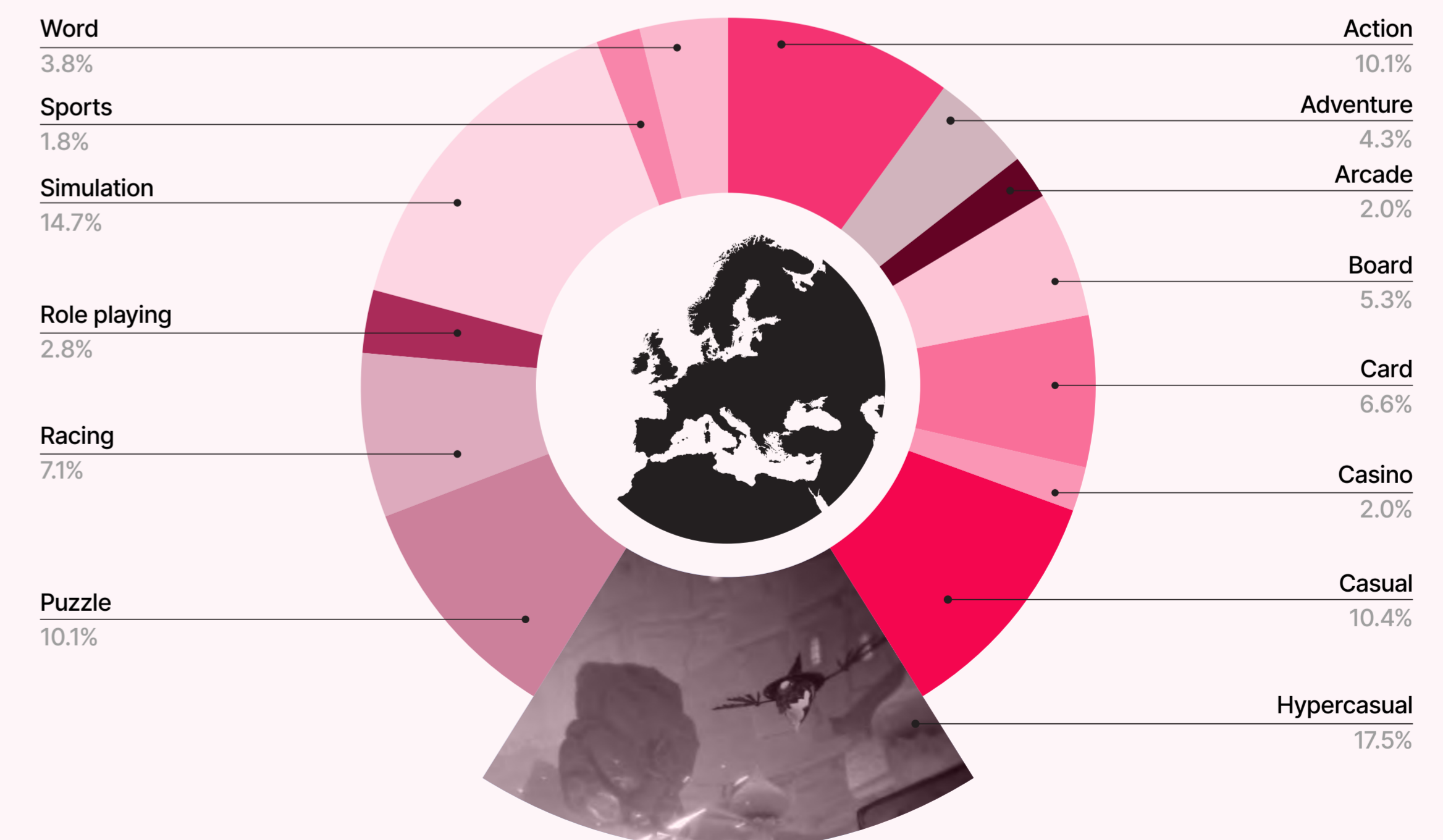
Percentage of live games per genre in Japan, 2021.

- Sports 2.3%
- Strategy 4.8%
- World 2.3%
- Action 12.1%
- Adventure 4.9%
- Arcade 2.6%
- Board 3.3%
- Card 4.0%
- Casino 1.1%
- Casual 10.6%
- Hypercasual 11.6%
- Puzzle 11.8%
- Racing 4.0%
- Role playing 6.2%
- Simulation 19.3%

CHART 3.7:

Percentage of live games per genre in EMEA, 2021.

- Word 3.8%
- Sports 1.8%
- Simulation 14.7%
- Role playing 2.8%
- Racing 7.1%
- Puzzle 10.1%
- Action 10.1%
- Adventure 4.3%
- Arcade 2.0%
- Board 5.3%
- Card 6.6%
- Casino 2.0%
- Casual 10.4%
- Hypercasual 17.5%

CHINA'S GAMING CRACKDOWN IS WORKING.

In the last year, Chinese authorities have restricted video games in their country, with one official newspaper labeling them "spiritual opium."

In the fall of 2021, the Chinese government enacted some of its strictest regulations yet, barring gamers under 18 from playing on weekdays, and limiting their weekend playtime to just three hours.
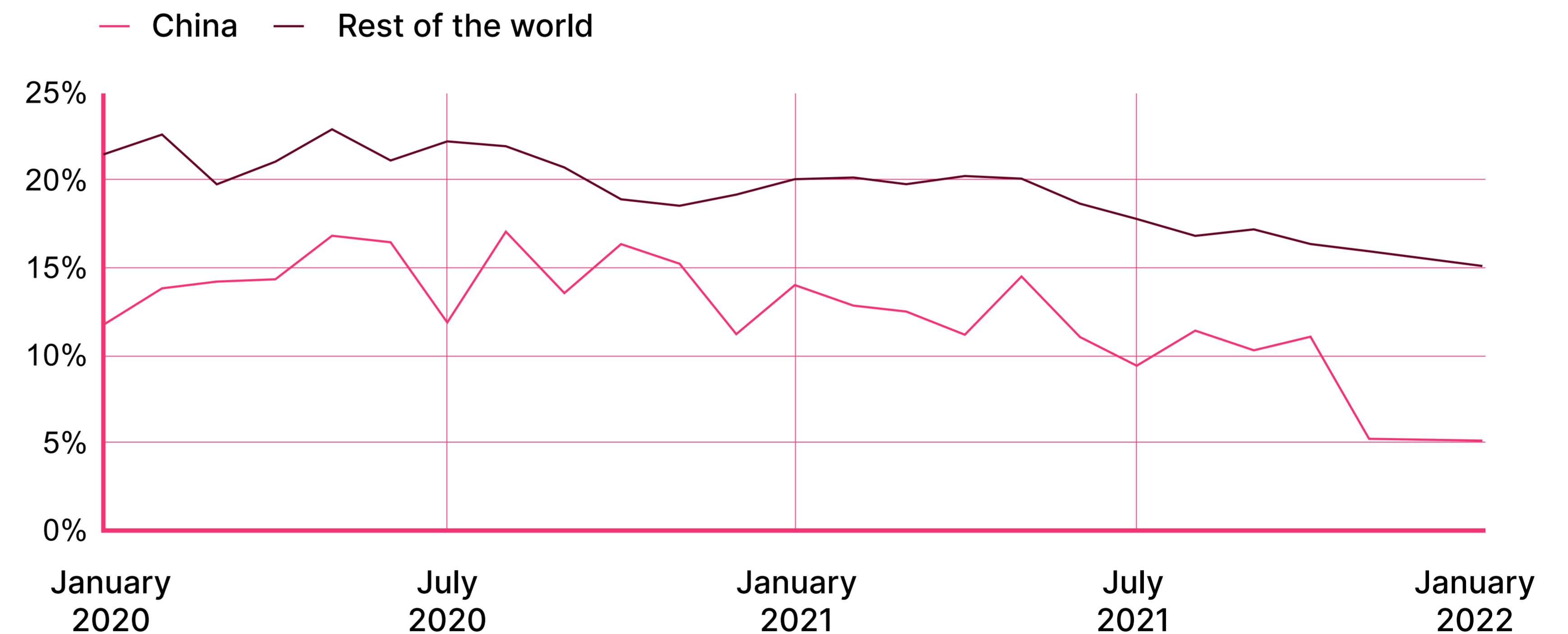
The crackdown has made an impact. Although stickiness – the percentage of daily players who returned each month – has declined around the world, in China, there was a very noticeable drop. There was a particularly pronounced drop in 2021 that coincided with the new regulations.

CHART 3.8:

China's gaming crackdown is changing how games are played.

— China   — Rest of the world

Game stickiness in China and the rest of the world

TREND FOUR:

DEVELOPERS ARE TEARING DOWN THE WALLED GARDENS AROUND PLATFORMS WITH AN EXPLOSION IN MULTIPLATFORM REACH.

→

Crying Suns, by Alt Shift

DEVELOPERS NEED TO REACH PLAYERS ON MULTIPLE PLATFORMS.

Regardless of what's happening in the world outside, people are turning to games to spend time with each other.

Whether it's developing games across platforms or devices, bringing new ways to play something people already love, or just building places where people can be together, the gaming industry continues to find new ways to draw people closer no matter which platforms they choose to play on.

There are many ways to be multiplatform. Developers can build a game to work on a single platform before porting it to others, or they can build a game on multiple platforms simultaneously. Once a game is launched, they can allow players to access their accounts from multiple platforms. And developers can also offer crossplatform play, which allows people to play with each other no matter their device.

If a game can follow a player from their home console to their mobile phone or tablet, it cuts down the chance that they'll switch to another game when they change devices. It also improves the player experience, making it easy for players to access their save files, in-game purchases, and content anywhere.

> " WE WANT TO MEET OUR PLAYERS WHERE THEY ARE, RATHER THAN ASK THEM TO COME TO ONLY THE PLATFORMS THAT WE HAPPEN TO SUPPORT. WE KNEW WE'D HAVE TO MAKE ADAPTATIONS ALONG THE WAY, AND UNITY'S FLEXIBILITY HELPED US ALL KEEP AN OPEN MIND AND GO AFTER THE BEST SOLUTIONS POSSIBLE.
>
> — TED GILL, PRESIDENT, UNKNOWN WORLDS

Subnautica: Below Zero, by Unknown Worlds

While cross-platform play may still be in the future for many games, one of the breakout hits of 2020 was the action-RPG *Genshin Impact*, which could be played cross-platform on PlayStation 4, iOS, Android, and PC. It was a massive hit, making an estimated $2 billion in revenue in its first year on the App Store and Google Play.
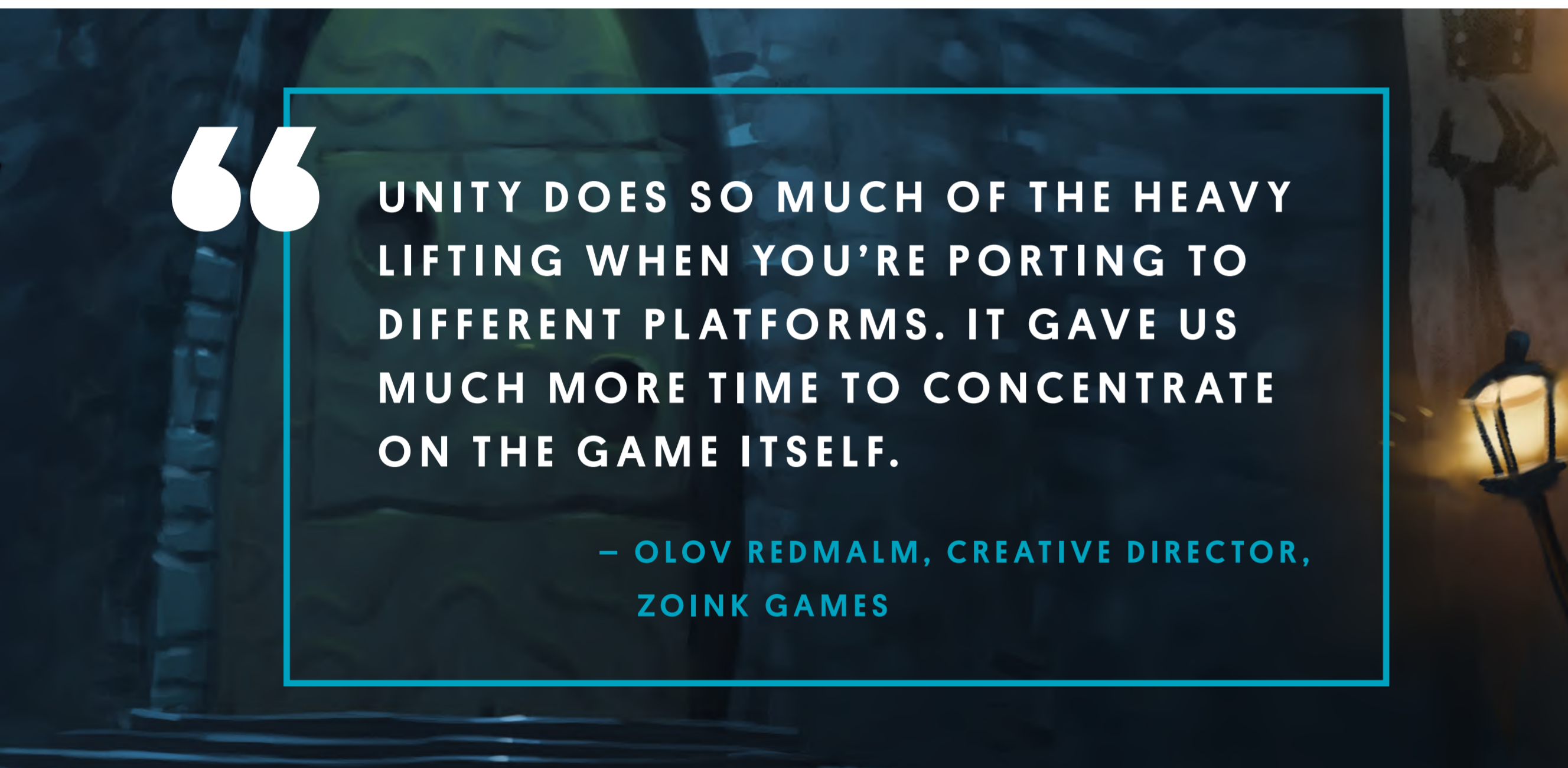
> " UNITY DOES SO MUCH OF THE HEAVY LIFTING WHEN YOU'RE PORTING TO DIFFERENT PLATFORMS. IT GAVE US MUCH MORE TIME TO CONCENTRATE ON THE GAME ITSELF.
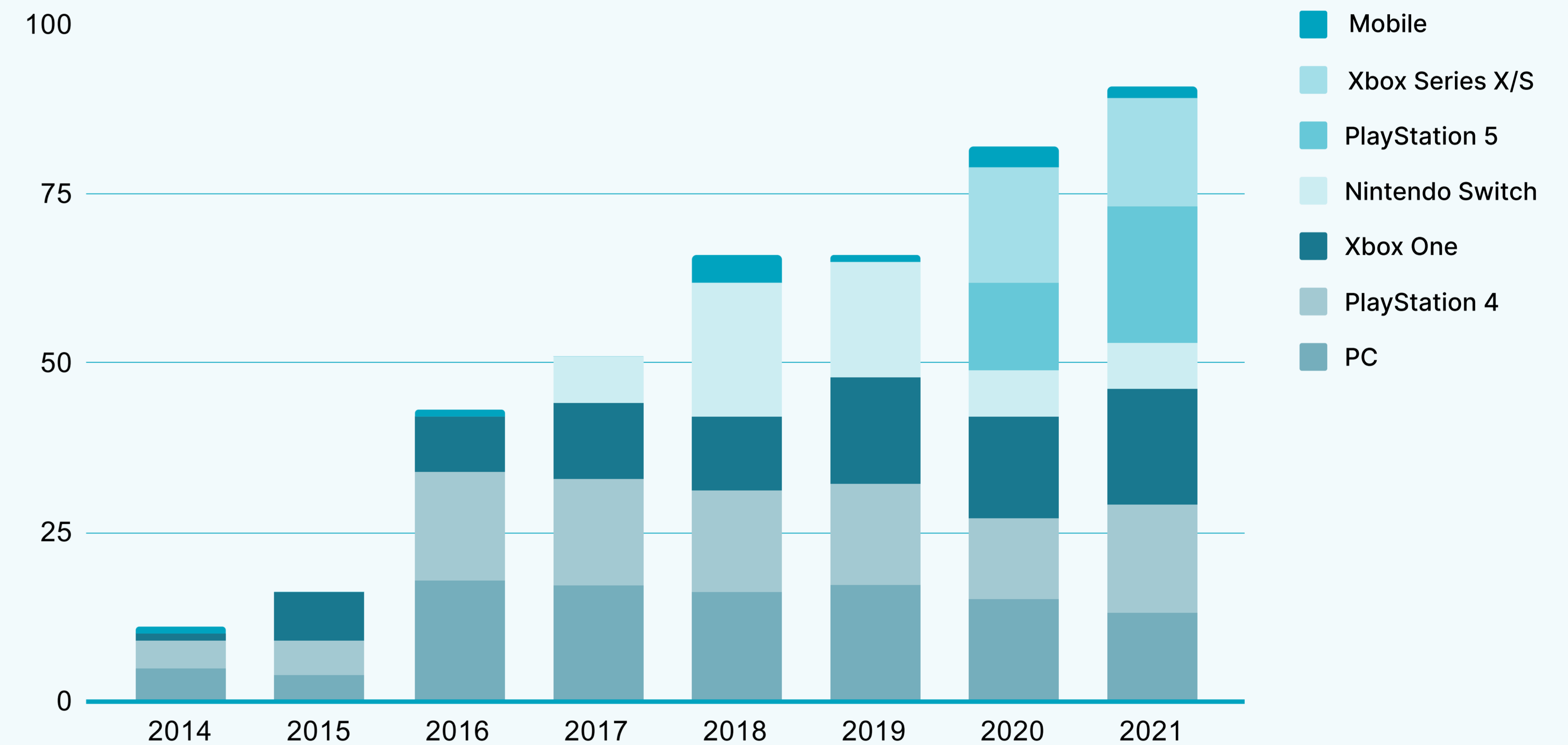>
> — OLOV REDMALM, CREATIVE DIRECTOR, ZOINK GAMES

Lost in Random, by Zoink Games

For those raised on schoolyard debates over which consoles were better, the importance of platform loyalty appears to be waning. Players now expect to play against one another no matter the device. We expect to see all forms of multiplatform game development continue to grow, as Chart 4.1 shows.

Multiplatform reach is rising.

Multiplatform game releases by year, per platform

Legend: Mobile, Xbox Series X/S, PlayStation 5, Nintendo Switch, Xbox One, PlayStation 4, PC

The chart shows games with cross-platform functionality like multiplayer or persistent accounts. Games needed to have this functionality on two or more platforms to qualify. It does not represent Made with Unity games on each platform.

COMING ATTRACTIONS: AR, VR, AND THE METAVERSE

Our industry often chases the next big thing. Right now, that's the metaverse. We're not sure about the name, but we're excited about the idea. That said, even with the success of augmented reality games like *Pokémon GO*, we don't expect to see widespread use of AR and VR in the next year, despite the popularity of innovative games like *Beat Saber* and *Dr. Grordbort's Invaders*.

That's not to say there won't be growth. Over the next five years, the number of people playing AR and VR games will generate an estimated $216 million. But for now, the market is small. According to one estimate, sales of augmented reality and virtual reality games amounted to $5.4 billion in 2021 – a sliver of the $336 billion market in gaming as a whole. (Another estimate put the size of AR and VR at $12 billion.)

Part of this might be people's resistance to the "box-on-the-face" problem – so far, VR gaming may have seemed hard to access or even anti-social to some players. But as *Pokémon GO* and a new wave of social VR multiplayers show, immersive games on next-gen technologies may be the future of gaming.

By contrast, the present of gaming is still mobile. In 2021, mobile sales were $79.1 billion. In many parts of the world, the near-universal rates of mobile adoption mean mobile devices are synonymous with gaming, unlike in places like the United States, where consoles retain significant market share. As 5G networks continue to expand – now up to one-third of all smartphones – we expect gamers in the rest of the world to catch up.

> " COMMUNITY INTERACTION IS EXTREMELY IMPORTANT. BUILDING A COMMUNITY IS JUST AS IMPORTANT AS BUILDING THE ACTUAL GAME ITSELF.
>
> – ANDY TSEN, CEO, RAMEN VR

Zenith, by Ramen VR
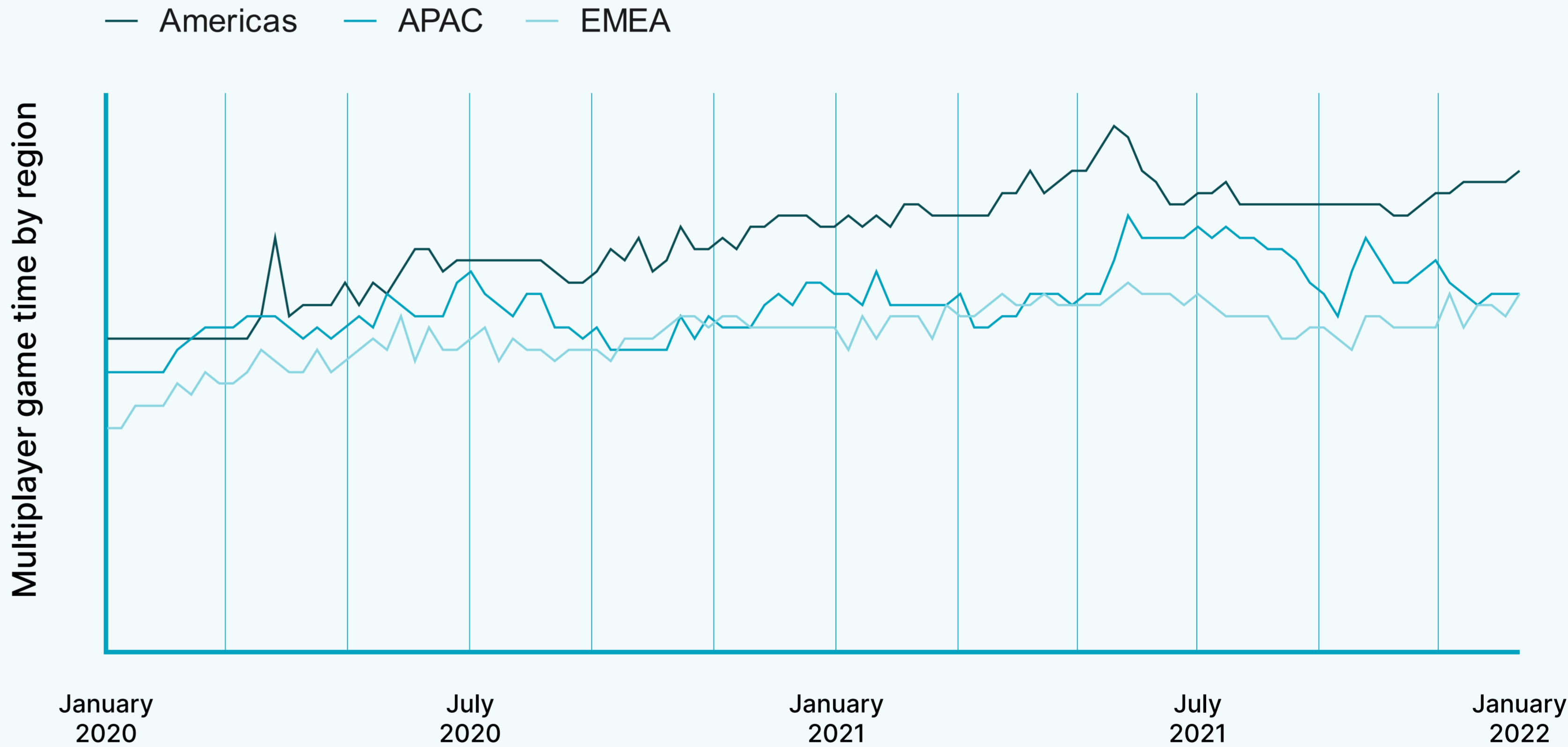
PLAYERS WANT MULTIPLAYER GAMES.

In 2021, over half of all Americans played multiplayer games, a type of game that appeals to a wide audience – 62% of men and 50% of women.

The amount of time that people spend on multiplayer games has increased steadily since at least 2020, as Chart 4.2 shows.

THE AMERICAS LEAD THE PACK IN MULTIPLAYER GAME PLAY.

People are spending more time in multiplayer games.

Americas — APAC — EMEA

Multiplayer game time by region

January 2020 — July 2020 — January 2021 — July 2021 — January 2022

TREND FIVE:

LARGE STUDIOS CONTINUE TO BALLOON, BUT THEY HAVEN'T CROWDED OUT INDIE INNOVATION.

→

Call of Colors, by Passion Punch Studio

ENTERPRISE DEVELOPERS ARE BIG (AND GETTING BIGGER).

A wave of consolidation has reached the gaming industry. In the space of a month, Take-Two Interactive bought mobile game company Zynga; Microsoft announced it would acquire Activision Blizzard, and Sony announced it would purchase developer Bungie. In the aggregate, those deals represent $85 billion – and the industry is still poised for growth.

With more resources and development teams, AAA developers are able to spend more to keep games going. On average, larger development studios have 73% more games in live operation than small and medium-sized studios. But as more tools and services are being made for developers of all sizes, we can expect to see this gap shrink.

ON AVERAGE, LARGE STUDIOS HAVE
73% MORE GAMES
IN LIVE OPERATION.

BUT INDIES CONTINUE TO DRIVE INNOVATION.

It's still possible to succeed even with limited resources. *Valheim* became one of the most popular games in the world last year, and was built by a development team of five people.

One way indie games can stand is with focused, smaller-scope games. Indie developers can also set themselves apart by taking creative risks, creating experimental gameplay designs, or telling daring stories, as in innovative recent titles like *Twelve Minutes*, a mechanically rich reimagining of the point-and-click genre, *Death's Door*, which balanced simplicity and difficulty, and *Turnip Boy Commits Tax Evasion*, one of the funniest games in a long time.

Today, indie developers have access to better tools than they ever have before – and many of them need those tools to compete. Even the leanest development team can harness others' expertise by fleshing out their creative arsenal with assets and tools from the Asset Store, strengthening their testing and DevOps solutions, managing game operations with Unity Gaming Services, and accessing free learning resources to step up their skill sets.

> " WITH UNITY, I THINK THE SMALLEST STUDIO CAN EASILY PUBLISH ON ANY PLATFORM THEY WANT.
>
> — TOMAS SALA, CREATOR, *THE FALCONEER*

The Falconeer, by Tomas Sala

DEVELOPERS WITH DIVERSE PORTFOLIOS DO BETTER.

Many developers specialize in just one genre of game. As Chart 5.1 shows, 76% of developers publish only a single kind of game.

But there are significant financial upsides to diversified portfolios, as Chart 5.2 indicates.

Developers that publish three or more styles of games have daily revenue 119% higher than developers that publish only two kinds, which in turn have 78% more revenue than those that publish only one. (That's roughly a 197% jump from single-genre publishers to those that publish three or more.)

CHART 5.1:

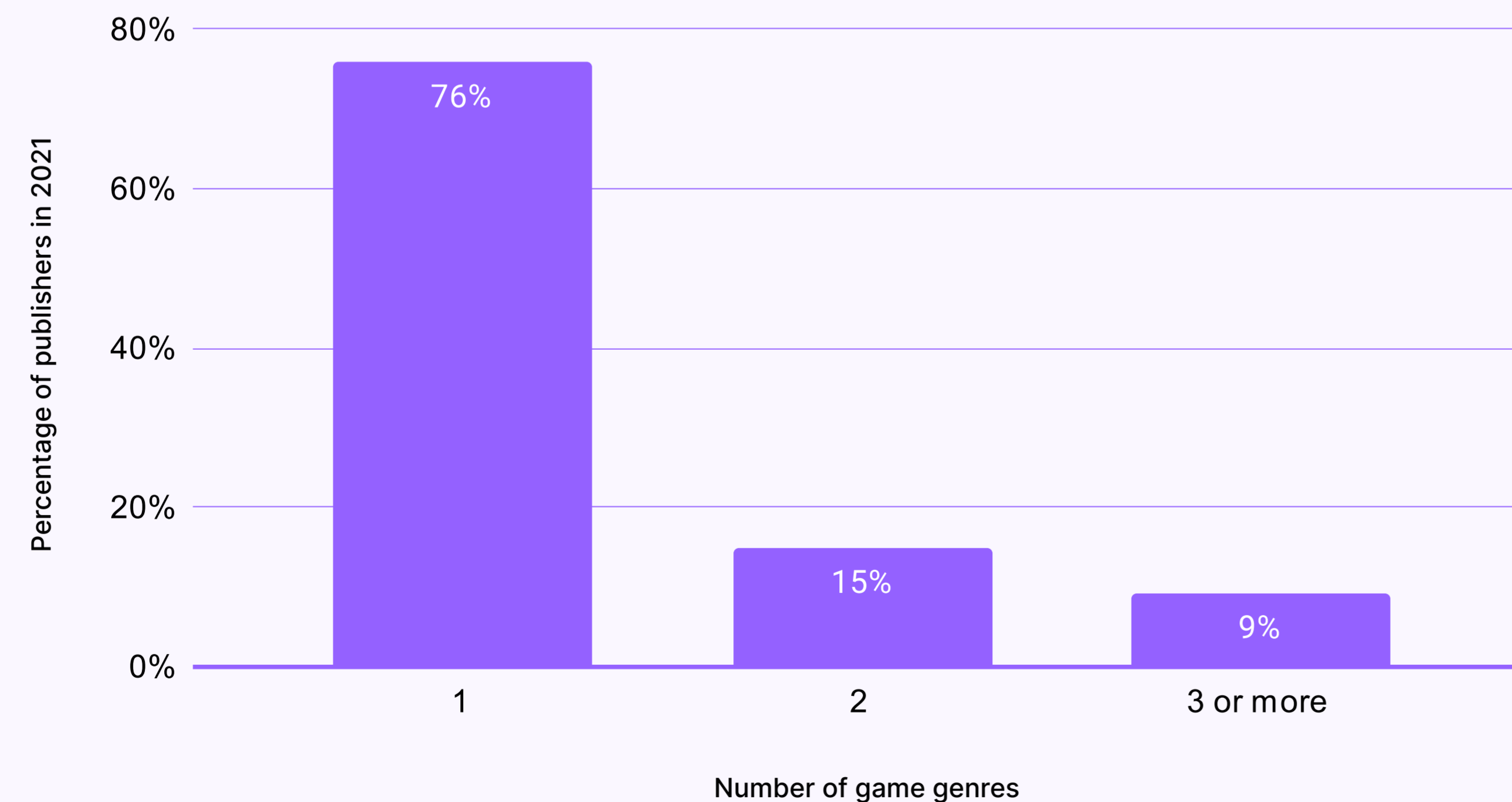## Most publishers specialize in one genre.

Percentage of publishers in 2021

- 76% (1)
- 15% (2)
- 9% (3 or more)

Number of game genres

CHART 5.2:

But the ones that diversify make more revenue.

Publisher daily in-app purchase (IAP) and ad revenue

+78%

+119%

Number of game genres per publisher
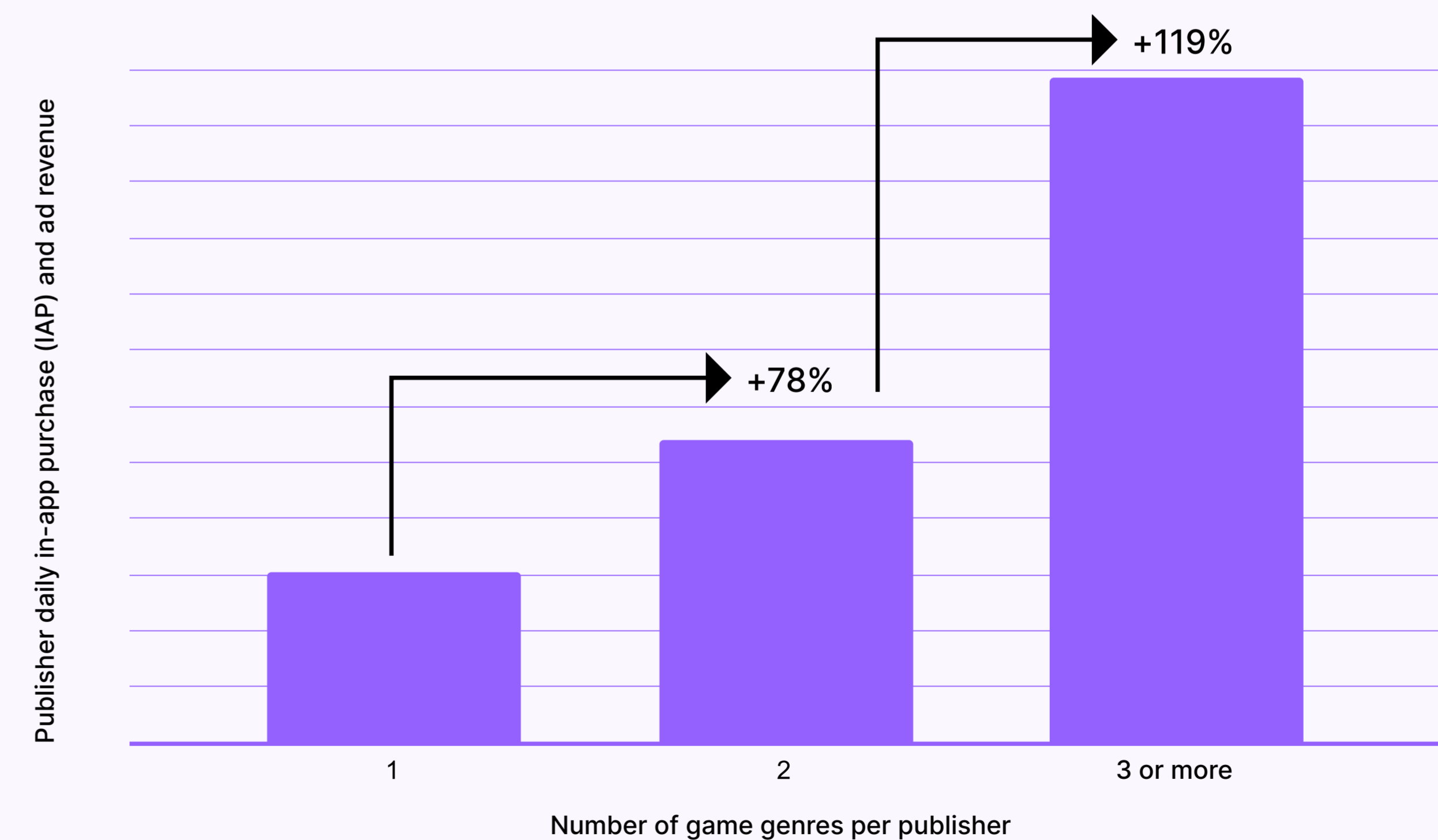
NINE OUT OF 10 STUDIOS USE PLAYER ENGAGEMENT SERVICES.

Not every tool needs to be built in-house, so developers are increasingly turning to sophisticated third-party tools to help manage their games.

Differently sized studios use a different mix.

Among enterprise studios over 91% use player engagement and segmentation services; 88% use in-app purchase services; and 76% use analytic, authentication, and privacy services.
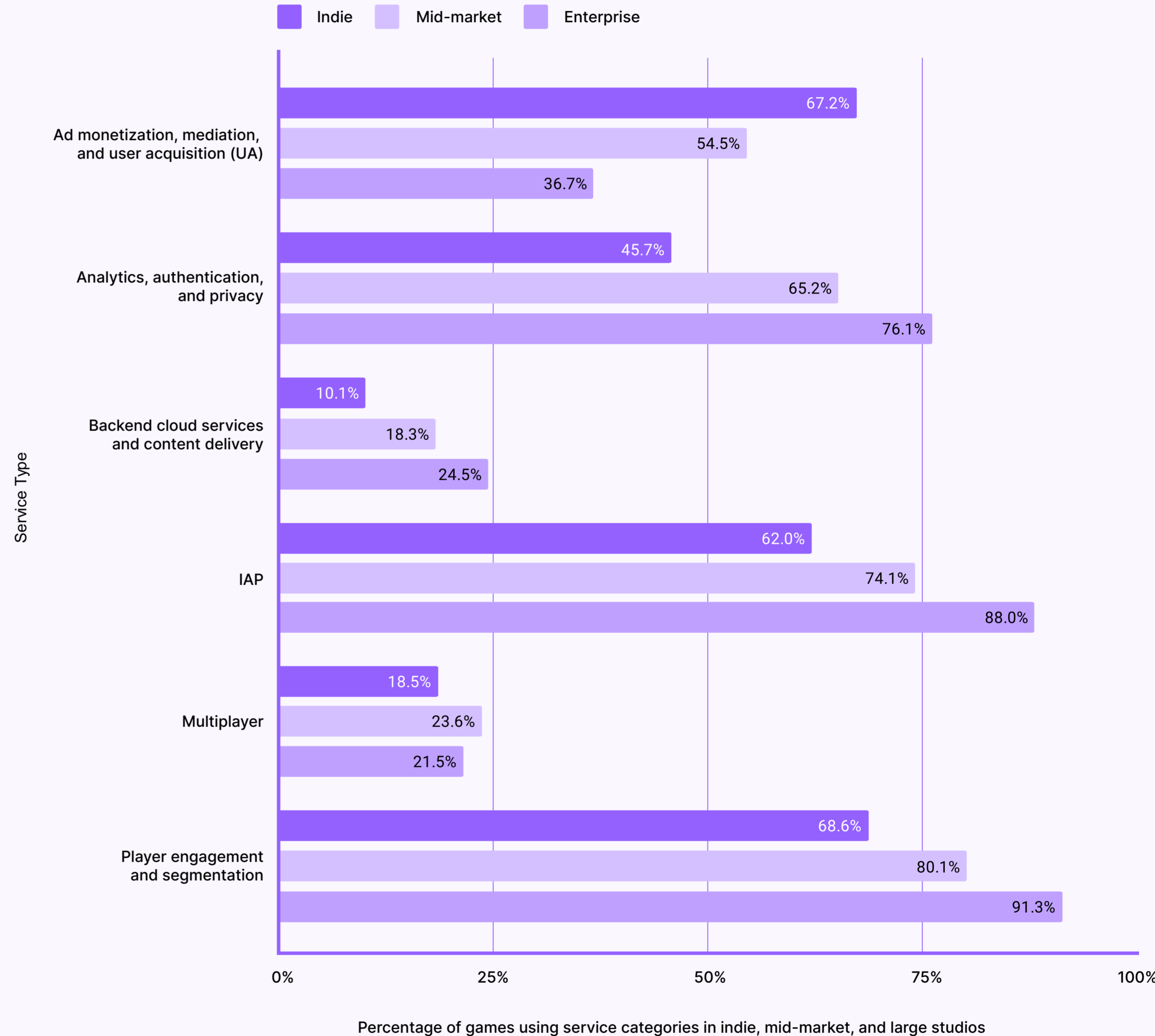
Small studios tend to use services in those categories as well, but also lean heavily on services for ad monetization, mediation, and user acquisition.

> ❝
> OUR MOTIVATION WAS TO REMAIN NIMBLE AND UPDATE CONTENT OVER THE AIR WITHOUT HAVING TO SUBMIT A NEW BUILD EVERY TIME. BEING ABLE TO TEST OUT CONTENT WITHOUT AFFECTING LIVE PLAYERS — THAT FLEXIBILITY AND SECURITY WAS REALLY IMPORTANT TO US.
>
> — IBS RAGEH, VP OF ENGINEERING, NIFTY GAMES

CHART 5.3:

What services are developers using?

Legend: ■ Indie ■ Mid-market ■ Enterprise

Ad monetization, mediation, and user acquisition (UA)
- 67.2%
- 54.5%
- 36.7%

Analytics, authentication, and privacy
- 45.7%
- 65.2%
- 76.1%

Backend cloud services and content delivery
- 10.1%
- 18.3%
- 24.5%

IAP
- 62.0%
- 74.1%
- 88.0%

Multiplayer
- 18.5%
- 23.6%
- 21.5%

Player engagement and segmentation
- 68.6%
- 80.1%
- 91.3%

Service Type (y-axis) — 0%, 25%, 50%, 75%, 100% (x-axis)

Percentage of games using service categories in indie, mid-market, and large studios
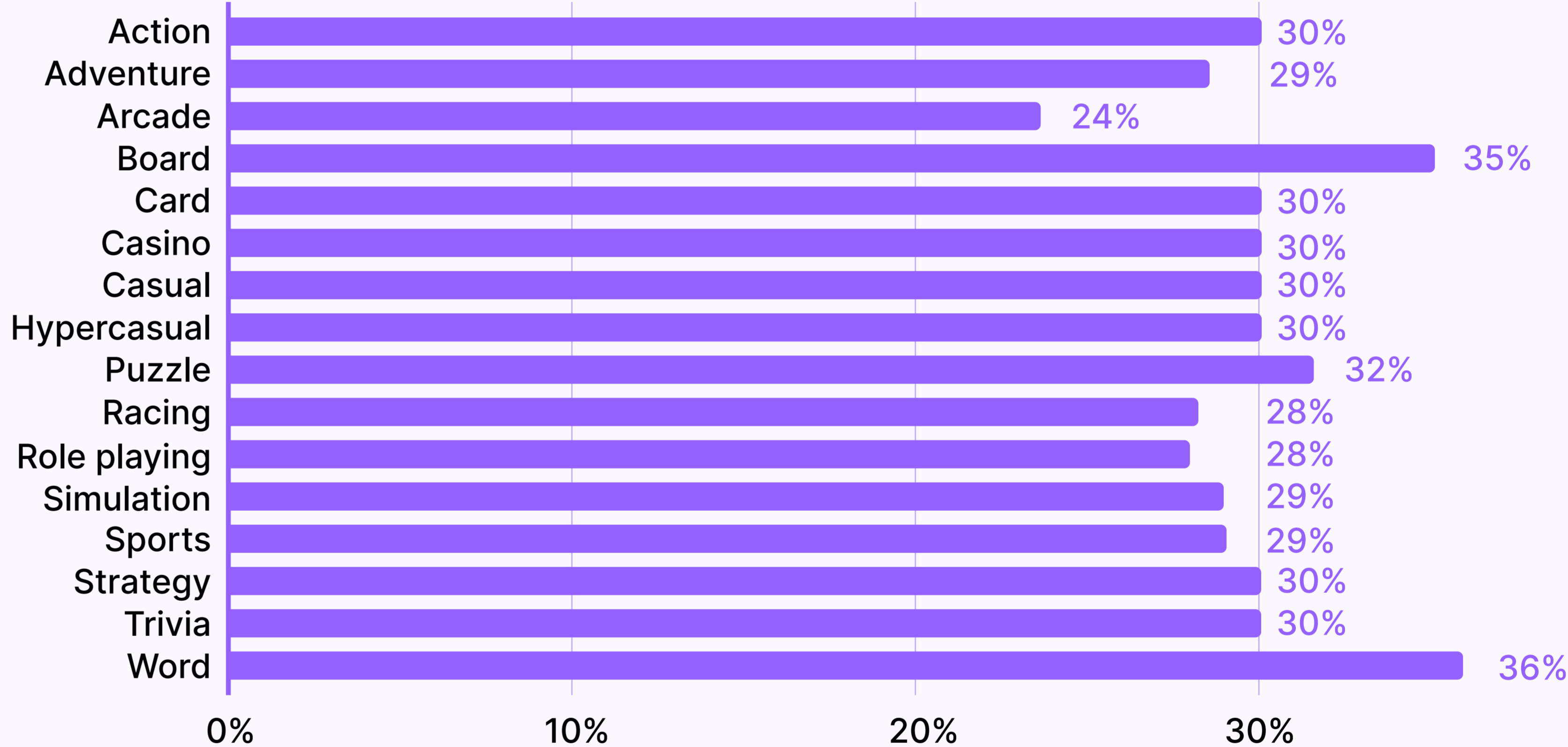
DATA MAKES THE DIFFERENCE IN USER RETENTION.

One of those most important metrics is user retention — effective user retention strategies can yield 5–30% increases in revenue growth.

Here are the retention metrics by game category for games using the Unity platform in 2021.

EFFECTIVE USER RETENTION STRATEGIES CAN YIELD A

5–30% INCREASE

IN REVENUE GROWTH.

D1 retention is similar for all genres.

Genre	Retention
Action	30%
Adventure	29%
Arcade	24%
Board	35%
Card	30%
Casino	30%
Casual	30%
Hypercasual	30%
Puzzle	32%
Racing	28%
Role playing	28%
Simulation	29%
Sports	29%
Strategy	30%
Trivia	30%
Word	36%

Retention rates vary across game categories, especially at the 30-day mark. Games tend to cluster around 30% user retention on day one, but after a month, the differences are pronounced. Categories with high retention rates like board, card, and word games have a D30 retention rate around seven times that of the lowest-performing category, arcade games.

MOST CATEGORIES SEE AROUND A
20% RETENTION DROP
BETWEEN D1 AND D7.

CHART 5.5:
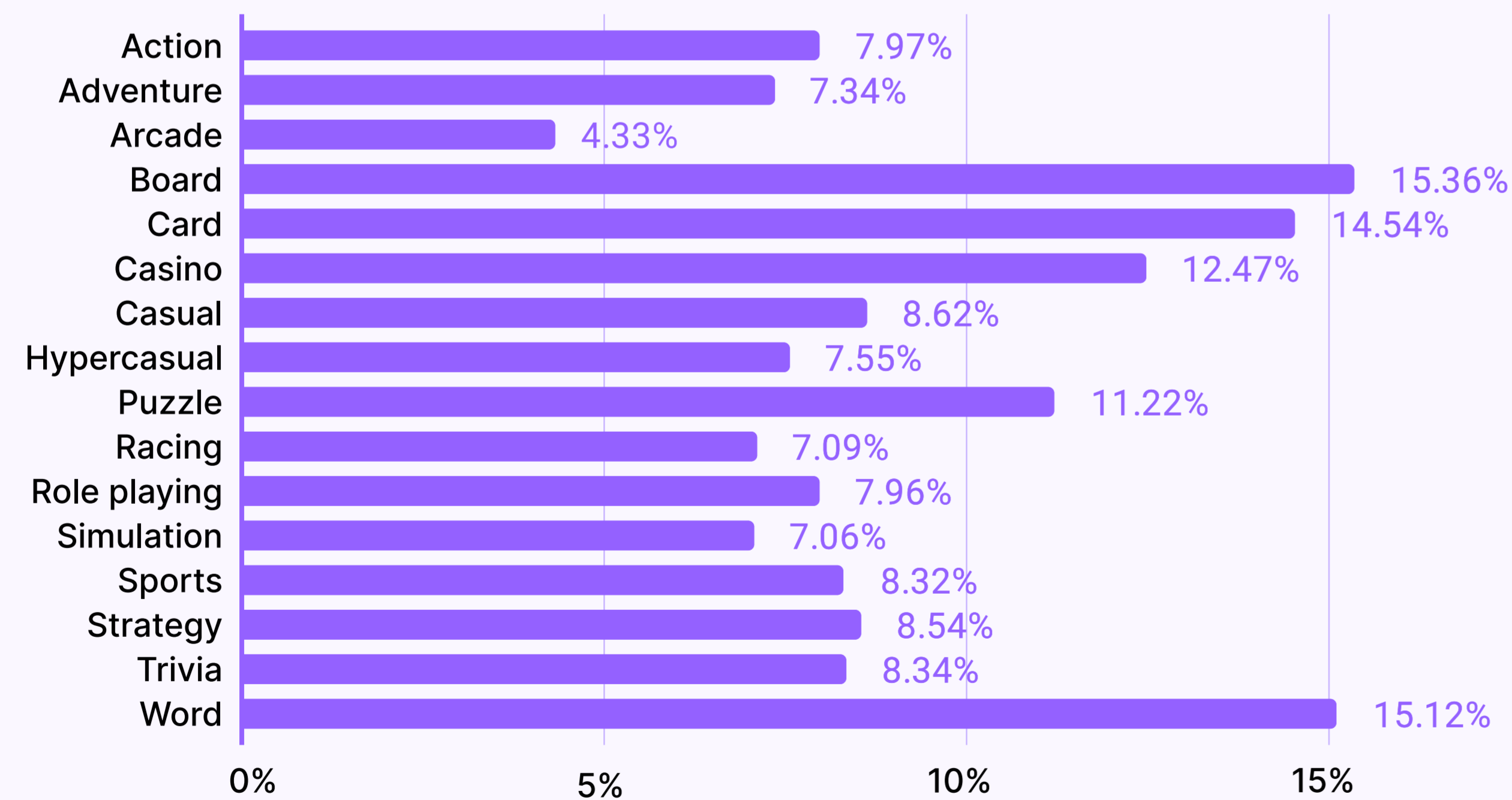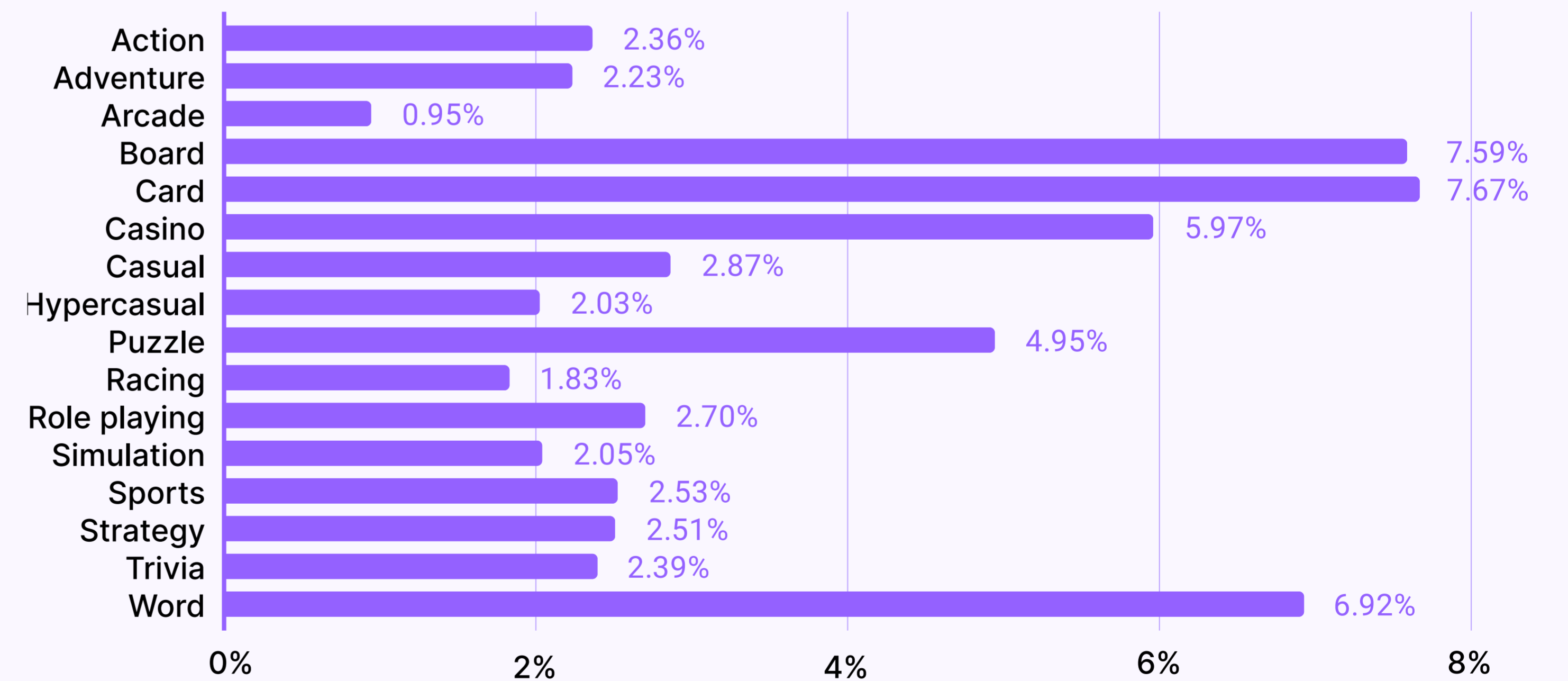## D7 retention has more separation.

Category	D7 Retention
Action	7.97%
Adventure	7.34%
Arcade	4.33%
Board	15.36%
Card	14.54%
Casino	12.47%
Casual	8.62%
Hypercasual	7.55%
Puzzle	11.22%
Racing	7.09%
Role playing	7.96%
Simulation	7.06%
Sports	8.32%
Strategy	8.54%
Trivia	8.34%
Word	15.12%

CHART 5.6:
D30 retention looks very different.

Category	D30 Retention
Action	2.36%
Adventure	2.23%
Arcade	0.95%
Board	7.59%
Card	7.67%
Casino	5.97%
Casual	2.87%
Hypercasual	2.03%
Puzzle	4.95%
Racing	1.83%
Role playing	2.70%
Simulation	2.05%
Sports	2.53%
Strategy	2.51%
Trivia	2.39%
Word	6.92%

MASTER POST-LAUNCH MANAGEMENT.

While some games are hits right out of the gate and others are obvious failures, for the many games that fall in the middle, the difference between a positive and a negative outcome is post-launch management. Successful studios start by building a game to include regular content drops, events, community engagement, and more – and work backward from there.

The strategies that got you to launch and those that you need after launch are different – but both pay close attention to the people playing your game. An empowered community is an engaged community. For example, look at how *Fall Guys* and *Subway Surfers* have embraced their players.

> " WE WANT TO MAKE SURE WE GIVE USERS A GREAT EXPERIENCE, AND IF THERE ARE INAPPROPRIATE ADS THAT SHOW UP, IT HURTS OUR GAME AND BRAND. NOW THAT WE USE AD CONTROLS WE'RE ABLE TO MANAGE THIS MUCH MORE EFFECTIVELY
>
> — CARLO SANTIAGO, MONETIZATION MANAGER, UKEN GAMES

Ava's Manor, by Uken Games

TREND SIX:

PLAYERS WANT MORE CONTENT FOR THE GAMES THEY ALREADY LOVE.

→

Subnautica: Below Zero, by Unknown Worlds

THE LIVE GAMES MODEL IS BECOMING THE INDUSTRY STANDARD.

Once, games were standalone pieces of content like books. They were a complete experience at the time of purchase. Today, they're more like television shows – ongoing series that grow over time. In particular, live games have demonstrated their popularity with gamers, who now expect games to have regular content updates – new challenges, modes, maps, cosmetics, character options, and storylines. Many of the most popular games today are built as services, including *Genshin Impact*, *Apex*, and *League of Legends*.

> ❝ WE CAN EASILY AUTOMATE THE PIPELINE FOR CREATING, BUNDLING, UPLOADING, AND TESTING ASSETS THROUGH THE CLOUD BY USING CLOUD CONTENT DELIVERY. IT'S LIKE A DEVELOPER-FRIENDLY ONE-STOP-SHOP FOR ASSET MANAGEMENT AND DELIVERY.
>
> — ISMAIL HASANOV, CTO, PASSION PUNCH STUDIO

Call of Colors, by Passion Punch Studio
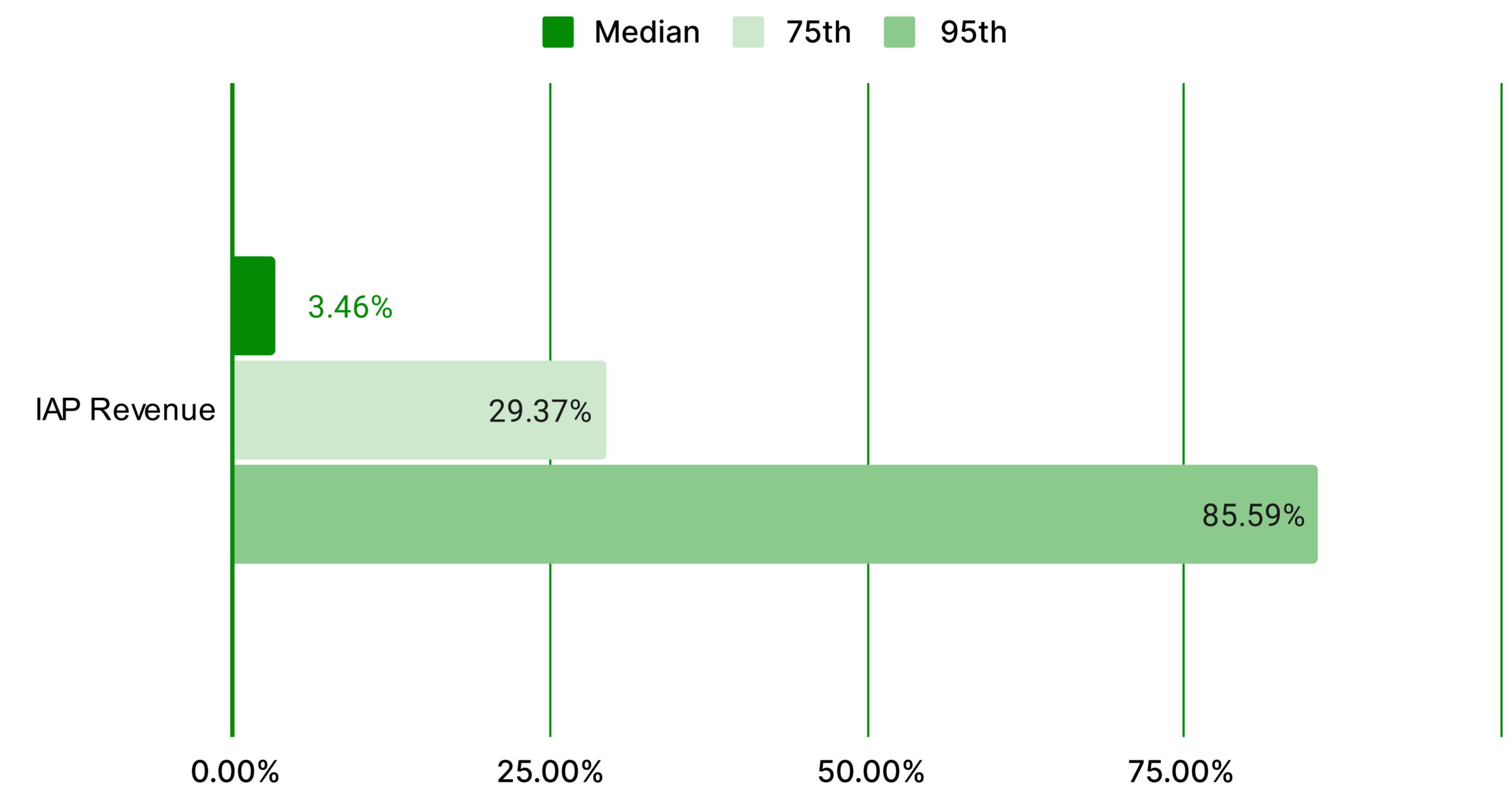
NEW CONTENT MEANS NEW REVENUE.

Making new content is one of the most direct ways to increase the number of people playing your game over time. Players don't want to play the same old thing over and over again. Eventually, they will want new content.

As we noted in Unity's State of Live Gaming Report, incremental content updates are a big way to keep your hits active.

As chart 6.1 shows, following a new content drop, the impact at the median is a 3.46% lift to IAP. But, for the content releases that are hits, where people want to come back to again and again, new content drives high increases in the number of people playing. Following new content for games at the 95th percentile of DAUs, IAP revenue increased more than 85%.

" WE HAVE BEEN ADAPTING AND EVOLVING SUBWAY SURFERS WHILE KEEPING THE NOSTALGIA FEEL THAT MAKES THIS GAME ONE-OF-A KIND.

— MATHIAS GREDAL NØRVIG, CEO, SYBO

CHART 6.1:

New content means more IAP for hit games.

Legend: ■ Median ■ 75th ■ 95th

IAP Revenue:
- Median: 3.46%
- 75th: 29.37%
- 95th: 85.59%

Subway Surfers, by SYBO Games

CONCLUSION: SIX TRENDS BEYOND 2022

2021 was a good year for the business of gaming. More games were made than ever before, revenue was up, and players found their way to their favorite games as a respite in a troubled world. As the world slowly emerges from the upheaval of the pandemic, the gaming industry continues to find its way forward.

Here are six trends that we think will shape the industry in the next year and beyond.

GAME LIFESPANS WILL LENGTHEN.

The popularity of live games means consumers expect to engage with their favorite games over long periods of time.

CROSS-PLATFORM MULTIPLAYER GAMES WILL BECOME MORE COMMON.

Gamers now expect to be able to access their game accounts from any device, and to play against people no matter what device they are using. We expect this feature to become standard throughout the industry.

MOBILE MULTIPLAYER GAMES WILL BECOME THE STANDARD OVER THE NEXT DECADE.

Games like *PUBG Mobile* are popular for a reason. Especially with the growth of 5G networks, we expect people to embrace more games in which they can play against one another from their mobile devices.

INDIE AND MID-MARKET DEVELOPERS WILL INVEST IN PLAYER INTELLIGENCE.

It's no longer the case that small- and mid-range developers have to forgo the behind-the-scenes capacities that large studios enjoy.

THERE WILL BE INCREASED ADOPTION OF SPECIALIZED TOOLS AND THIRD-PARTY EXPERTISE.

A growing number of third-party services and data analytic tools give studios of all sizes the ability to compete at the highest level.

METAVERSE AND THE BLOCKCHAIN WILL BE TESTED BUT NOT YET FULLY EMBRACED.

We are excited about the potential of new technologies like the metaverse and of expansions of older ones like the blockchain. But we don't expect that 2022 will be the year that those technologies supplant existing ways to play games.

ABOUT UNITY

Unity (NYSE: U) is the world's leading platform for creating and operating real-time 3D (RT3D) content. Creators, ranging from game developers to artists, architects, automotive designers, filmmakers, and others, use Unity to make their imaginations come to life. Unity's platform provides a comprehensive set of software solutions to create, run and monetize interactive, real-time 2D and 3D content for mobile phones, tablets, PCs, consoles, and augmented and virtual reality devices. The company's 1,800+ person research and development team keeps Unity at the forefront of development by working alongside partners to ensure optimized support for the latest releases and platforms. Apps developed by Unity creators have been downloaded more than five billion times per month in 2020. For more information, please visit unity.com.

ABOUT THE DATA

The data in this report is drawn from the Unity Engine and the Unity Gaming Services portfolio of products, including games made with Unity that are sending events through Unity. These powerful gaming solutions span mobile, PC and, console, gaming, giving a unique view of the entire gaming industry. Unity Technologies helps more than 230K developers make sustainable revenue from ads and in-app purchases on over 750K games. We take data privacy seriously, and have omitted and anonymized information from this report that would individually identify any single game, developer, or publisher. Games are broken out into publicly available categories as defined on the iOS and Google Play stores where available. Although we also include outside sources of information, the data shown in the charts and graphics is original to Unity. In addition, we are grateful to those members of the industry whom we interviewed for this report, many of whose contributions are quoted throughout.

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