



The State of App Engagement 2021

An Analysis of Key Global App Usage Trends in 2021



The State of App Engagement 2021

Introduction

This report, which leverages Sensor Tower's **Usage Intelligence** and **Store Intelligence** data, explores various app engagement metrics on iOS and Android, including active users, session metrics, and retention. The analysis includes trends and benchmarks among top apps, while engagement metrics are also analyzed by app category and mobile game genre.

Non-game apps are classified by their store category:

- Some apps have a number of different versions across Apple's App Store and Google Play (Facebook and Facebook Lite, for example). Apps are classified by the primary App Store category or Google Play category for their top version by all-time Monthly Active Users.
- Please refer to the [Appendix](#) on page 31 for a complete list of the App Store and Google Play categories classified in this report.

Games are classified using Sensor Tower's **Game Taxonomy**, part of our **Game Intelligence platform**:

- Check the [Appendix](#) on page 32 for a complete list of game genres and their definitions.

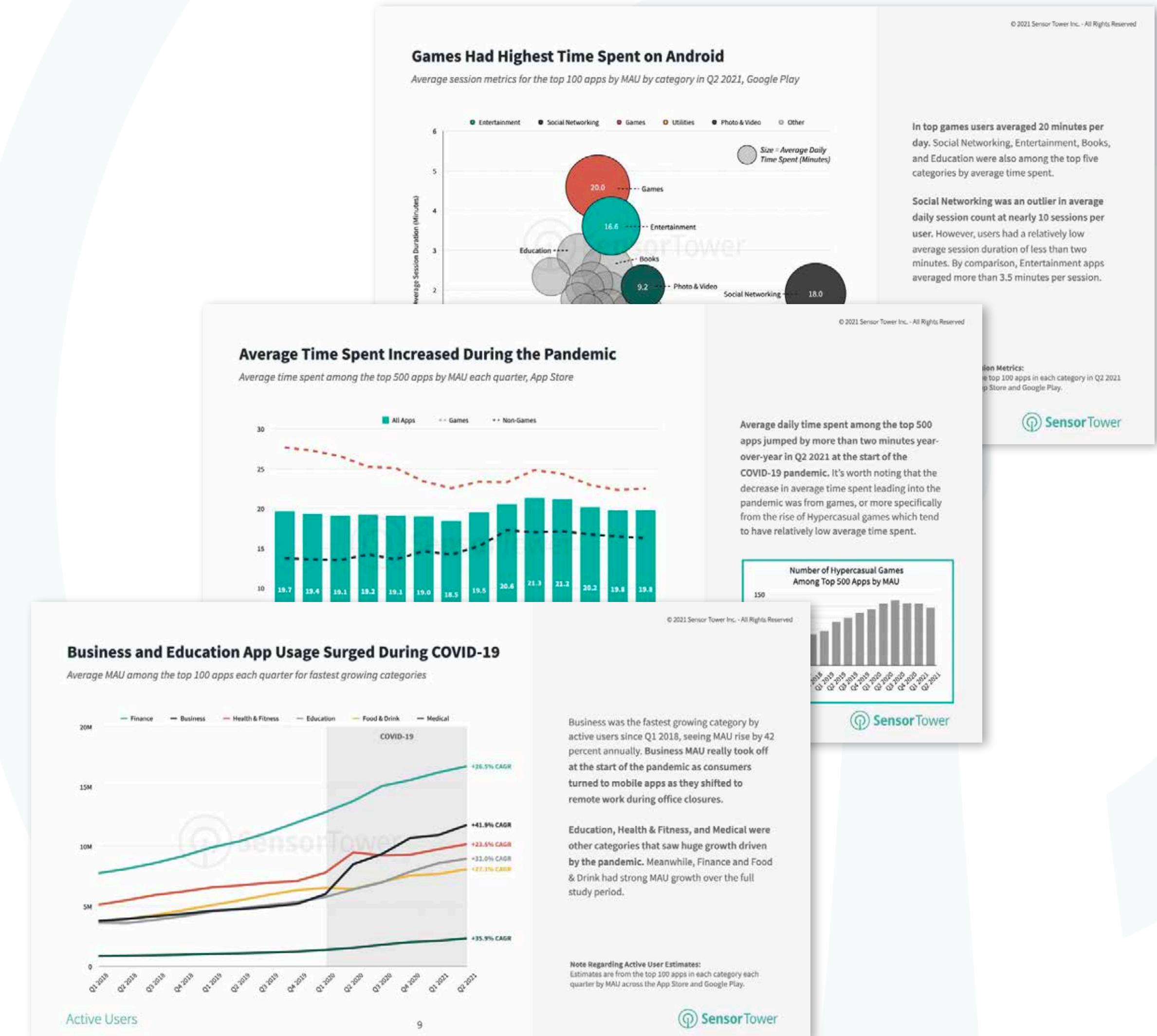


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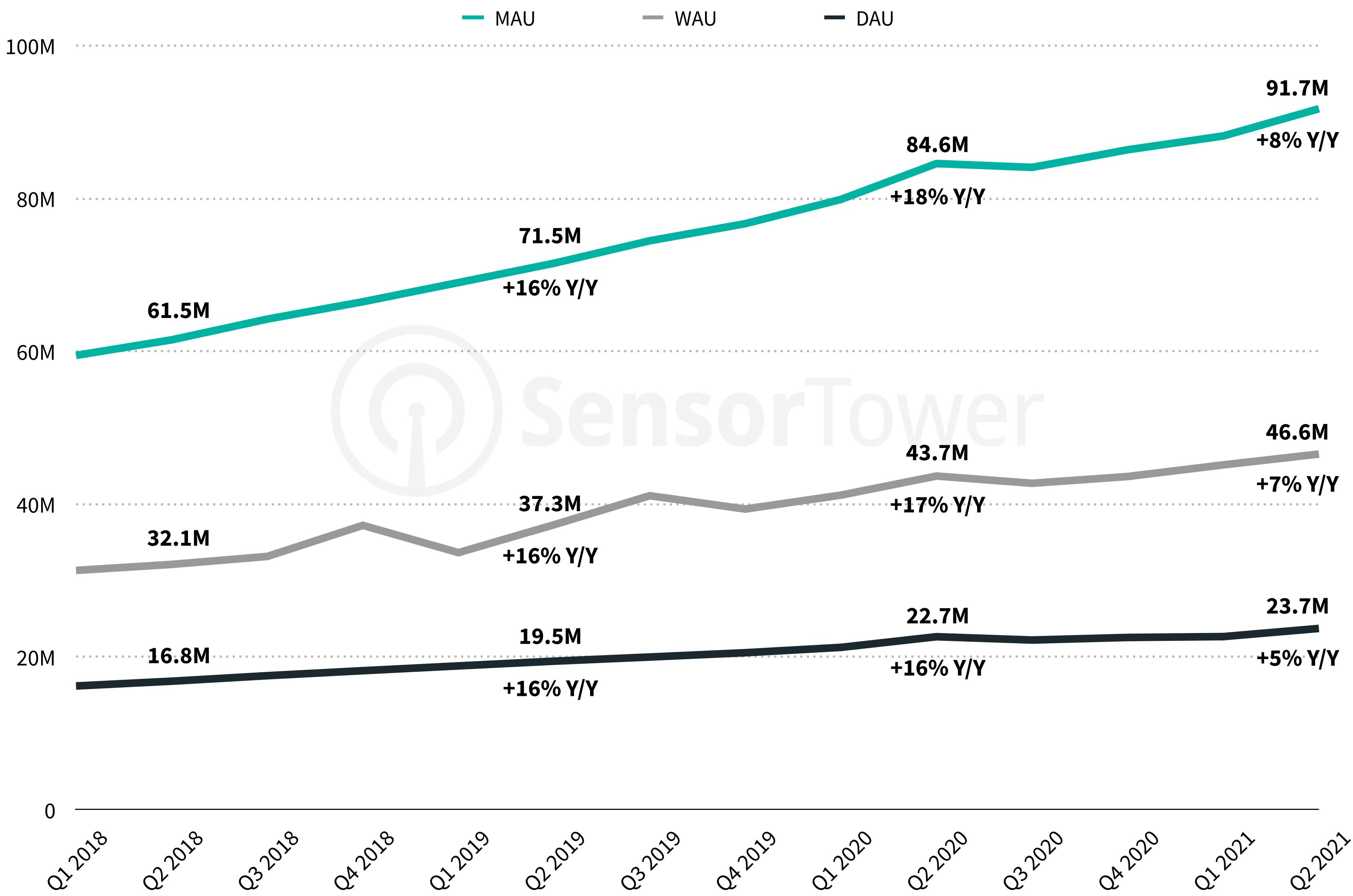
Active Users

Market Trends for Active Users
Among Top Apps



Top 500 Apps Have Crossed 90 Million Average Monthly Users

Average worldwide MAU, WAU, and DAU among the top 500 apps each quarter



Active Users

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Active users have consistently trended upwards for top apps, with monthly active users (MAU), weekly active users (WAU), and daily active users (DAU) each experiencing a compound annual growth rate (CAGR) of 12 to 14 percent since Q1 2018.

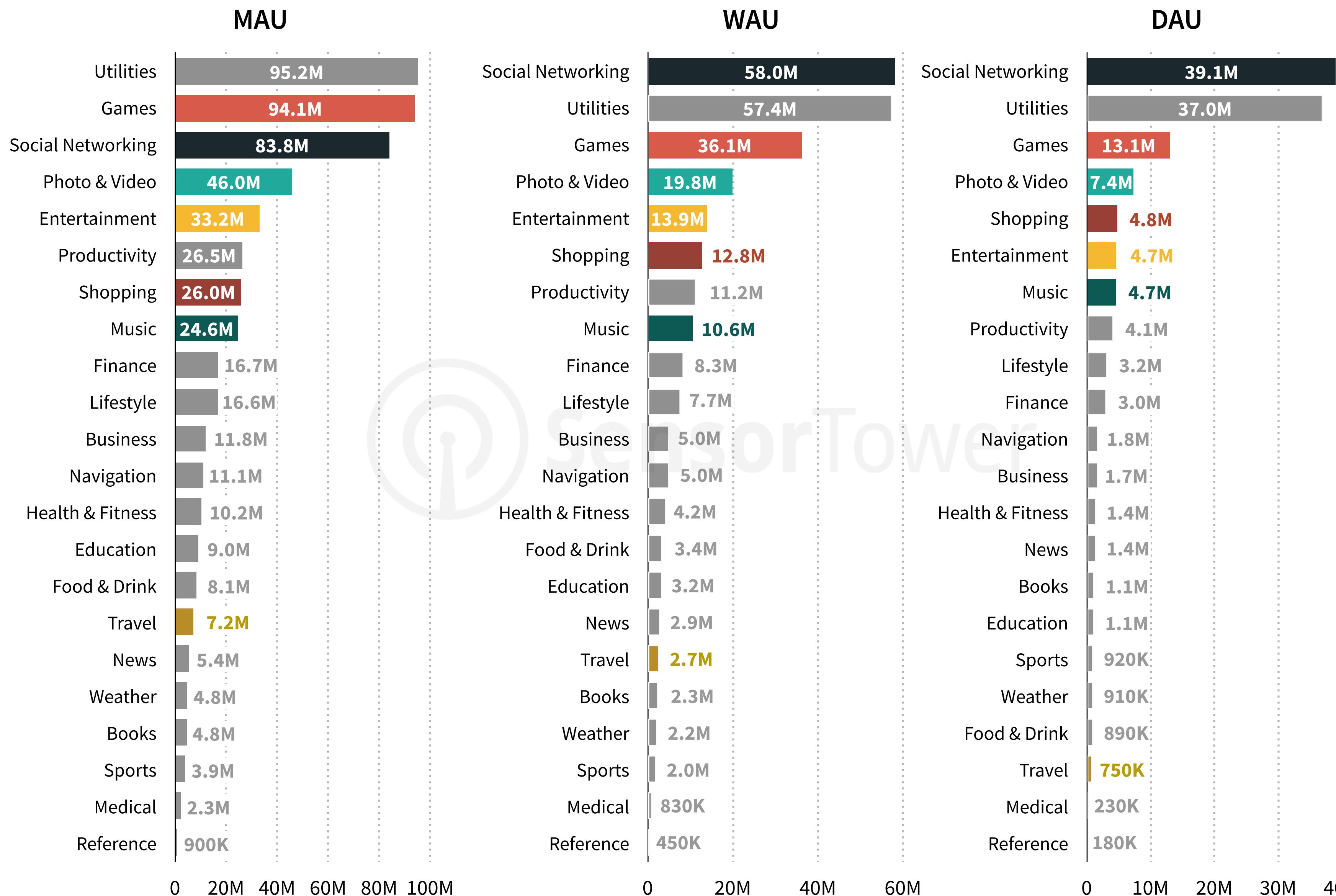
The start of the COVID-19 pandemic boosted active users as consumers turned to their mobile devices to adjust to life during lockdowns. While active users dipped slightly in Q3 2020, growth rates have since returned to pre-pandemic levels.

Note Regarding Active User Estimates:

Estimates are from the top 500 apps each quarter by MAU/WAU/DAU across iOS and Android.

Utilities, Games, and Social Networking Lead by Active Users

Average active users for the top 100 apps by category in 1Q21, iOS and Android



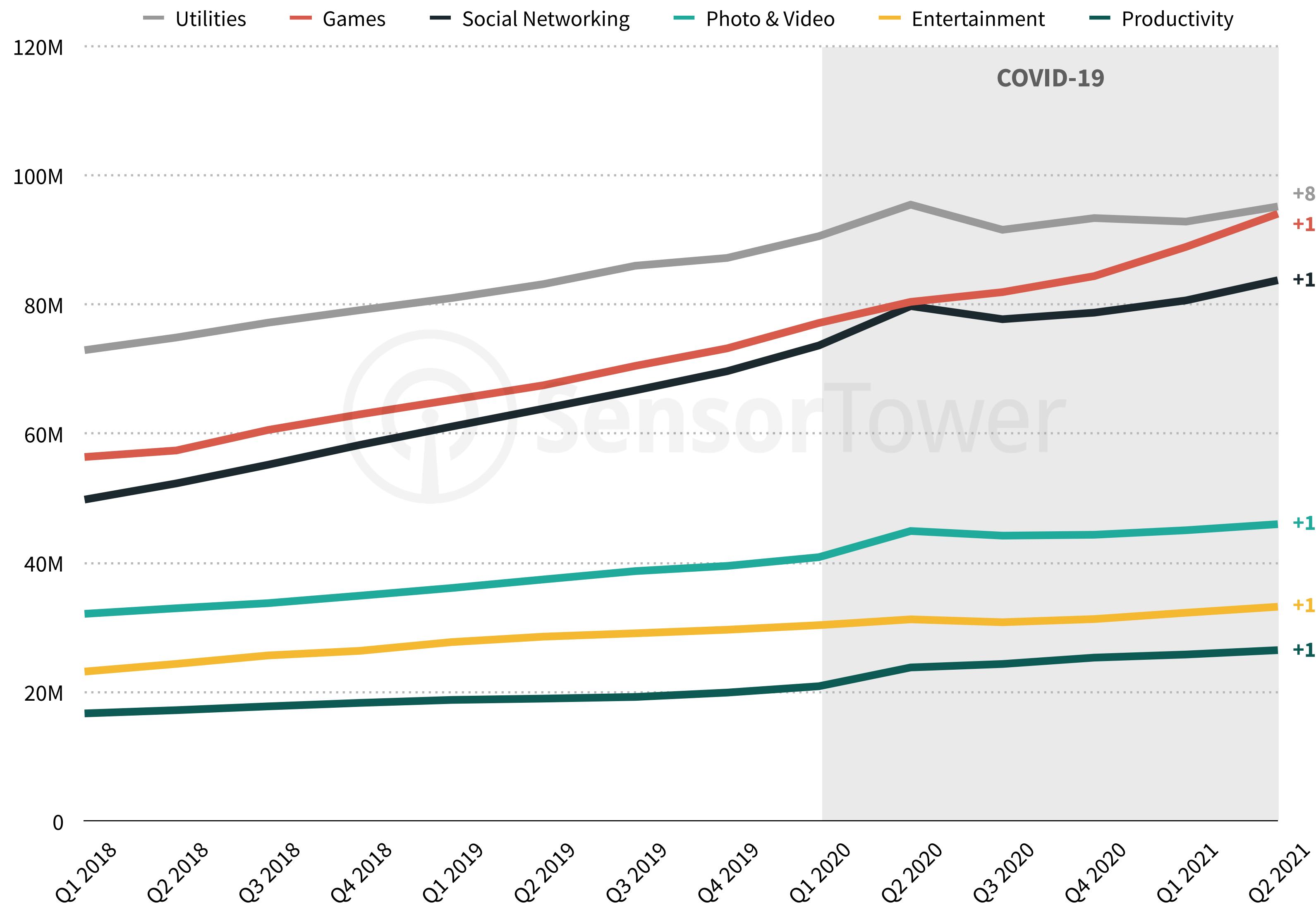
Utilities, Games, and Social Networking were the top three categories by MAU, WAU, and DAU. Social Networking had the highest average WAU and DAU, suggesting that the category has high retention and keeps users engaged on a frequent basis. Meanwhile, Utilities and Games had a higher average MAU.

Photo & Video ranked No. 4 across all three active user metrics, while Entertainment was No. 5 for MAU and WAU. Shopping ranked No. 5 by DAU.

Note Regarding Active User Estimates:
Estimates are from the top 100 apps in each category in Q2 2021 by MAU/WAU/DAU across iOS and Android.

Social Networking Apps Top Monthly User Growth Since 2018

Average MAU for the top 100 apps worldwide each quarter for top categories by MAU



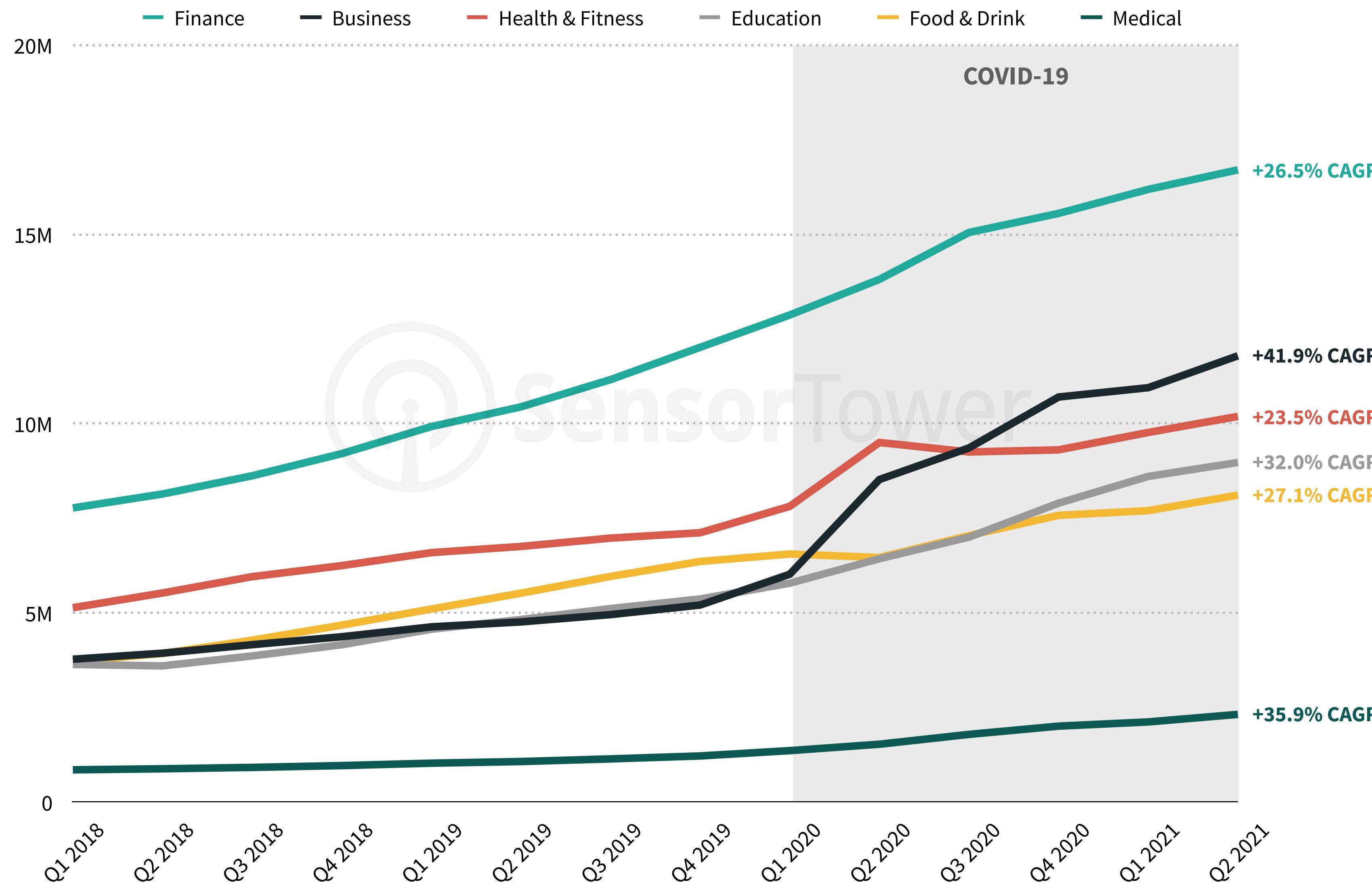
Categories including Utilities, Social Networking, and Photo & Video saw an uptick in MAU in Q2 2020 at the start of the pandemic. However, India's removal of some top apps including TikTok and UC Browser in June 2020 slowed the growth in categories such as Social Networking and Utilities.

Social Networking had the fastest MAU growth rate between Q1 2018 and Q2 2021, followed closely by Games. Games nearly overtook Utilities to become the top category by average MAU among the top 100 apps worldwide.

Note Regarding Active User Estimates:
Estimates are from the top 100 apps in each category each quarter by MAU across iOS and Android.

Business and Education MAU Soared in 2Q20, Remains High

Average MAU among the top 100 apps each quarter for the fastest growing categories

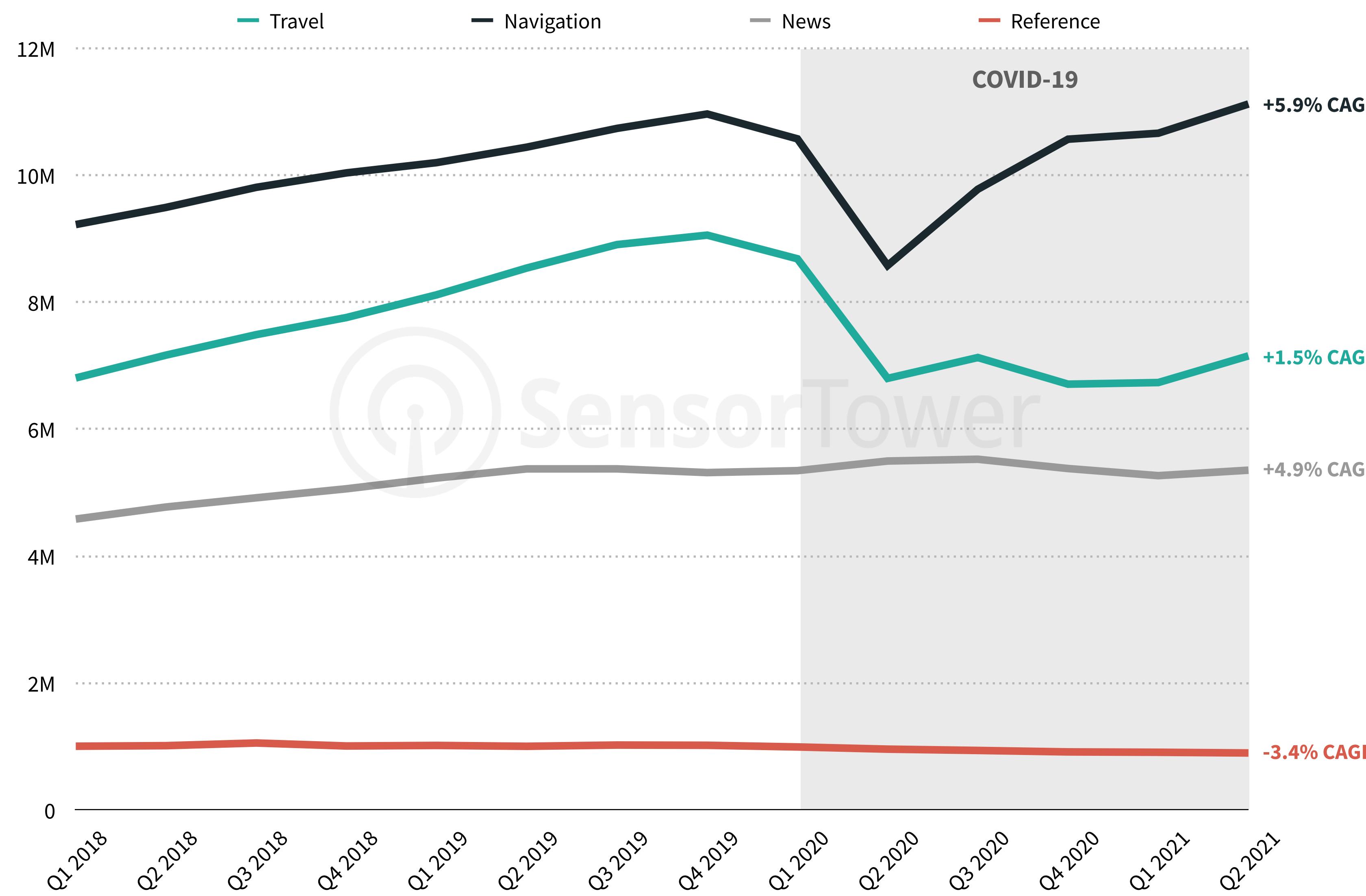


Business is the fastest growing category by active users since Q1 2018, seeing MAU rise by 42 percent annually. The category's MAU skyrocketed at the start of the pandemic as consumers turned to mobile apps during the shift to remote work.

Education, Health & Fitness, and Medical were other categories that saw substantial growth driven by the pandemic. Meanwhile, Finance and Food & Drink saw strong MAU growth over the full study period.

Navigation Usage Rebounds, Travel on Slow Path to Recovery

Average MAU among the top 100 apps each quarter for slowest growing categories



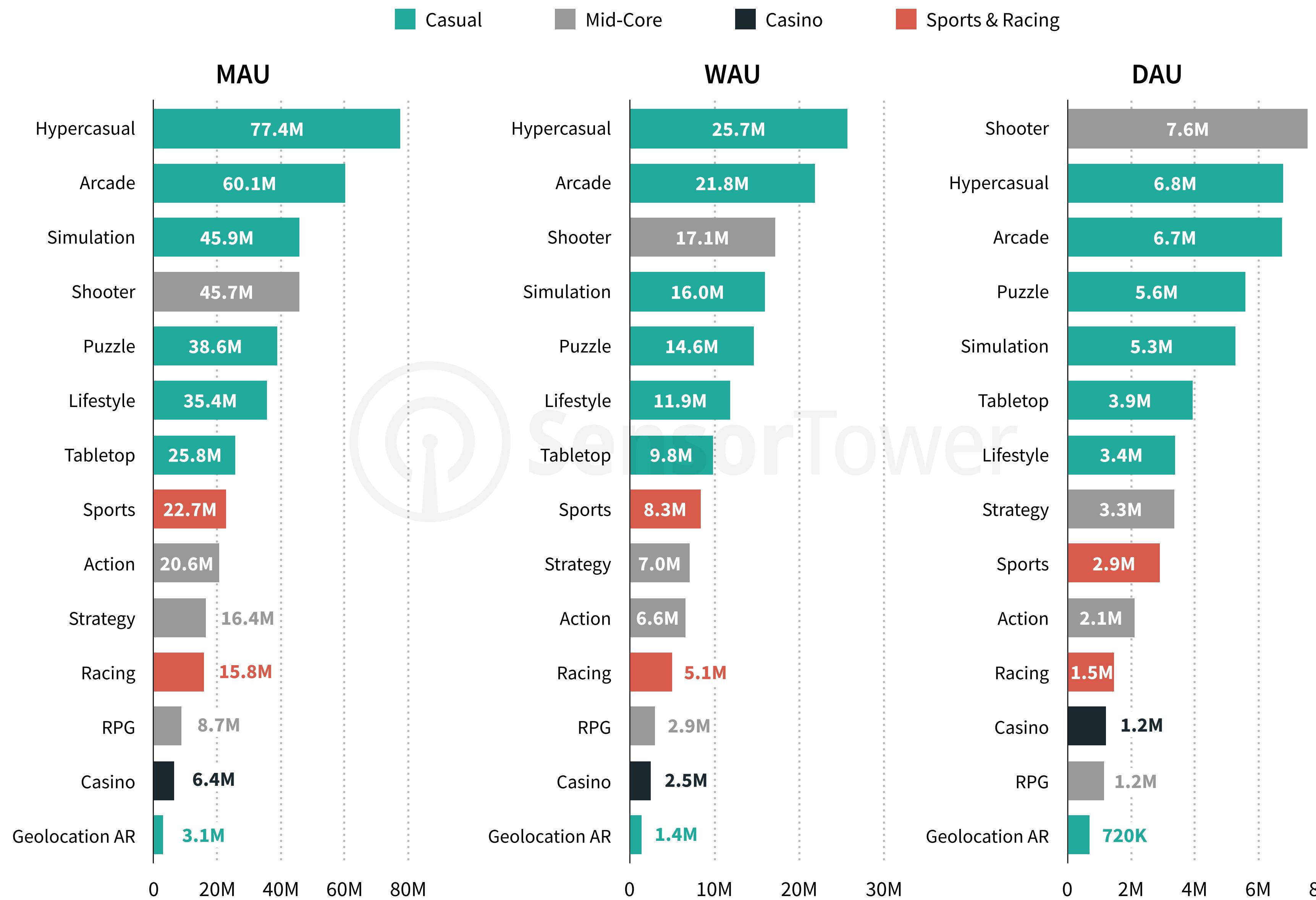
The slowest growing categories were a mix of those most impacted by the COVID-19 pandemic and others that have seen growth stall over a longer period. No categories were hit harder by COVID-19 than Travel and Navigation. However, positive growth has slowly started to return as vaccines have allowed some countries to lift travel restrictions.

News and Reference have seen lower active user growth since the start of 2018, with the pandemic not being a major factor in relation to them.

Note Regarding Active User Estimates:
Estimates are from the top 100 apps in each category each quarter by MAU across iOS and Android.

Hypercasual and Shooter Games Top Average User Rankings

Average active users among the top 50 games by genre in 1Q21, iOS and Android



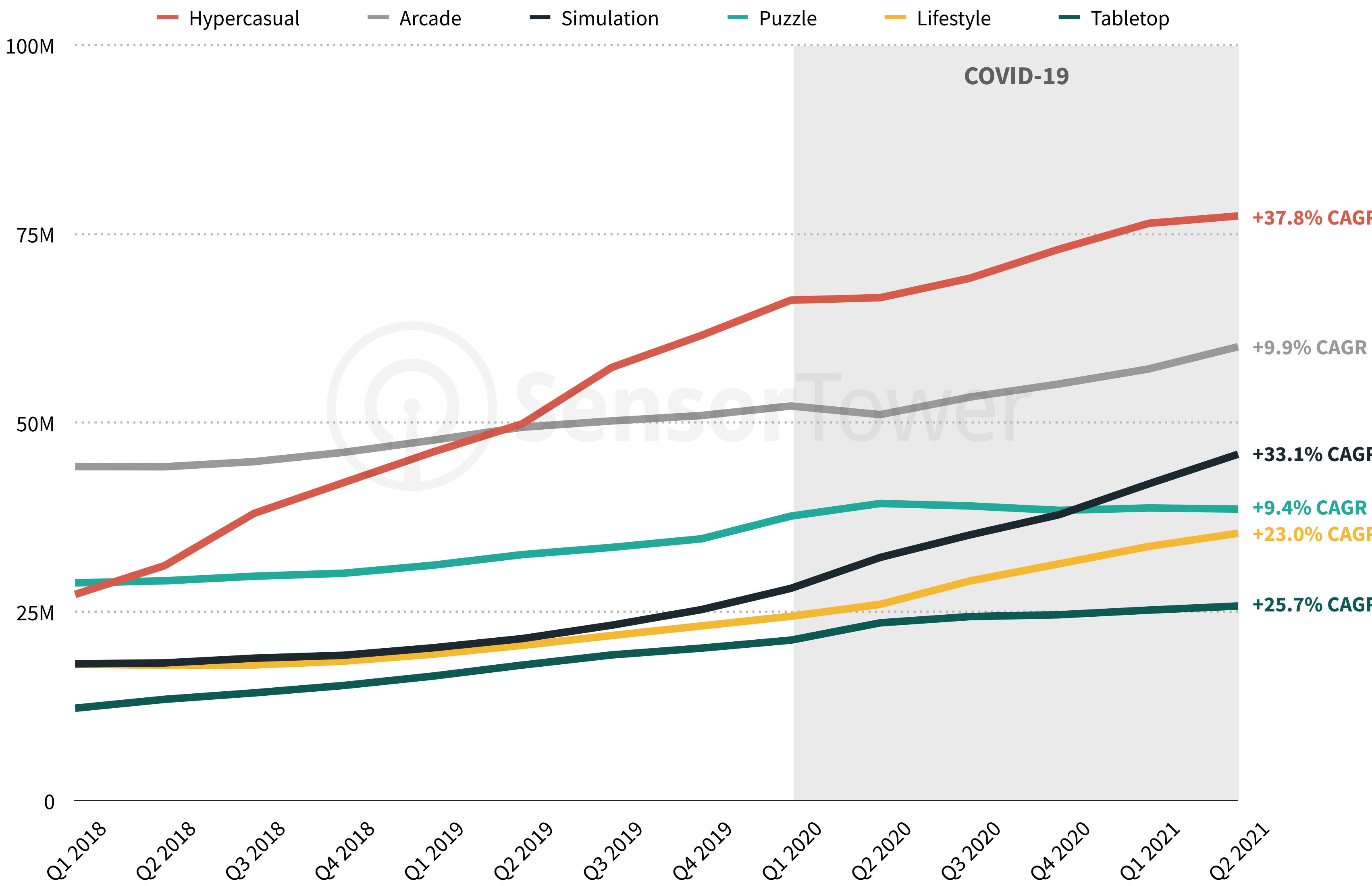
Casual genres led the way by average active users among top games. Hypercasual has emerged as the top genre by MAU and WAU, with Arcade, Simulation, and Puzzle also among the top five by these metrics.

Shooter, a mid-core genre, was the top genre by average DAU and was among the top five by MAU and WAU. The global success of battle royale games such as PUBG Mobile and Garena Free Fire helped the Shooter genre stand out among mid-core genres and propelled it above the top casual genres.

Note Regarding Active User Estimates:
Estimates are from the top 50 games in each genre in Q2 2021 by MAU/WAU/DAU across iOS and Android. Geolocation AR only includes 43 games.

Hypercasual Game Usage Has Seen Massive Growth Since 2018

Average MAU for the top 50 games each quarter for casual genres



Hypercasual passed Arcade to rank as the top genre by average MAU among top games in Q2 2019 and has only widened the gap since. Hypercasual MAU growth has slowed in recent quarters, in part due to increasing competition within the genre.

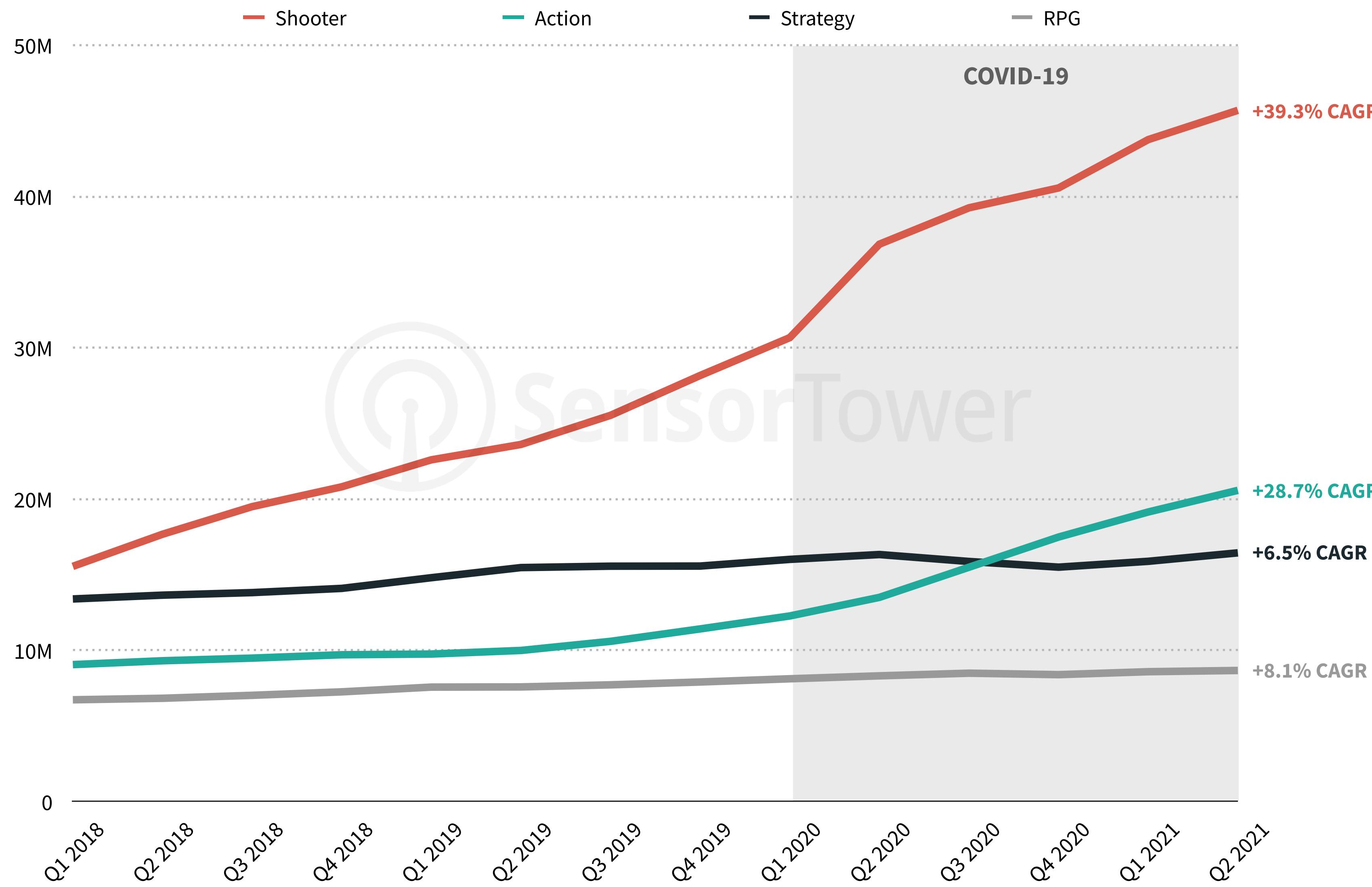
Simulation has also seen rapid MAU growth since Q1 2018 and now ranks as the No. 3 genre overall. Roblox was the top game in the genre by MAU in Q2 2021 and ranked among the top five games that quarter.

Note Regarding Active User Estimates:

Estimates are from the top 50 games in each genre in each quarter by MAU across iOS and Android. Geolocation AR only includes 43 games.

Shooters Are a Standout Among Mid-Core Game Genre MAU

Average MAU for the top 50 games each quarter for mid-core genres



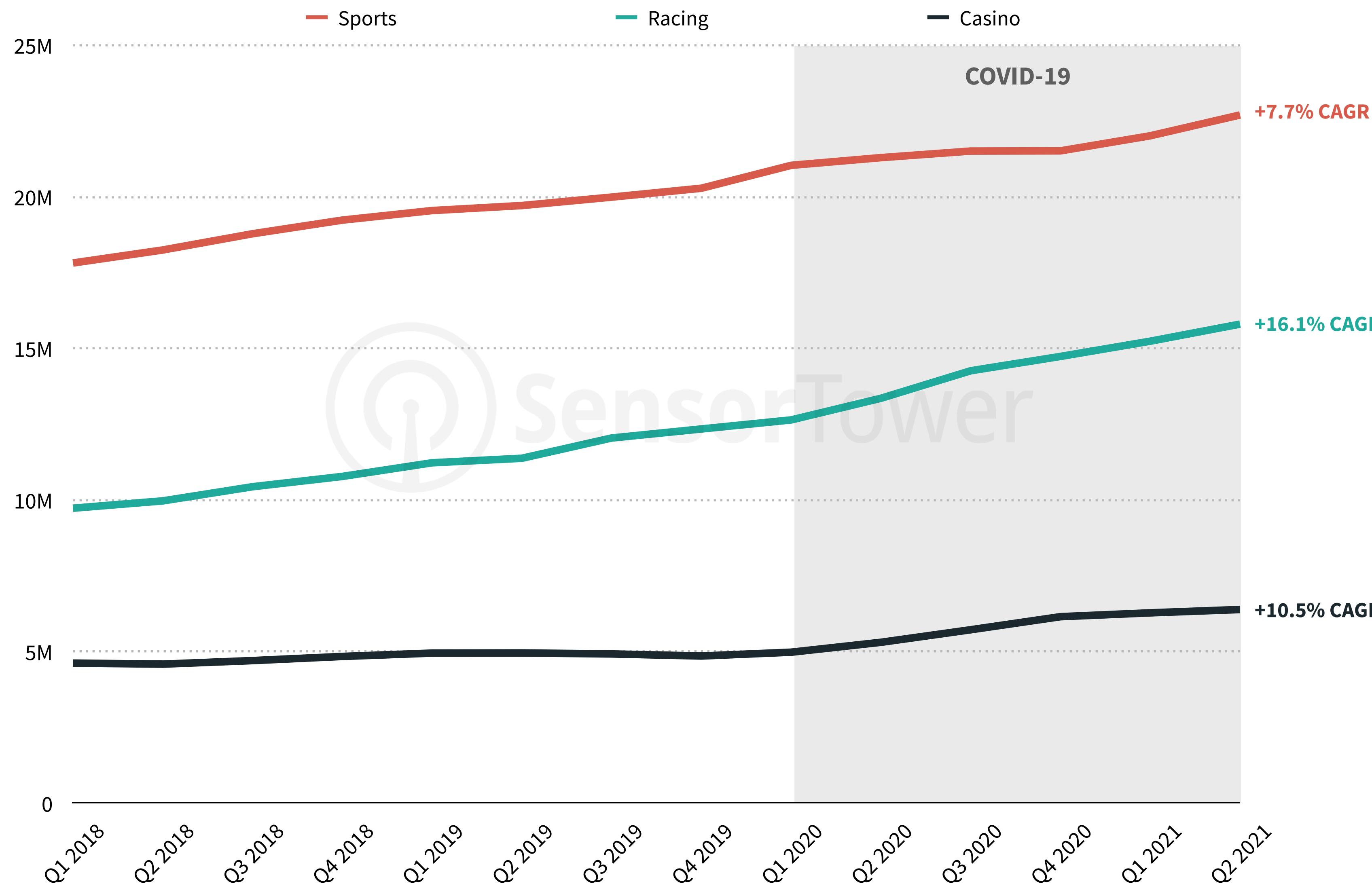
Shooter has dramatically pulled away from the other mid-core genres with its top titles averaging more than 45 million MAU in Q2 2021. PUBG Mobile and Garena Free Fire are among the top overall Shooter games by MAU.

Action has also seen strong average MAU growth since Q1 2018, with compound annual growth rate of nearly 30 percent. Despite having slower active user growth, RPG and Strategy were still well ahead of all other game genres by revenue in Q2 2021.

Note Regarding Active User Estimates:
Estimates are from the top 50 games in each genre in each quarter by MAU across iOS and Android. Geolocation AR only includes 43 games.

Sports, Racing, and Casino Genres See Modest MAU Growth

Average MAU for the top 50 games each quarter for Sports, Racing, and Casino genres



The Sports, Racing, and Casino genres were towards the bottom in terms of average MAU. Each had modest growth since Q1 2018.

Casino, similar to the RPG and Strategy genres, has high revenue per download (RPD). These genres tend to focus on improving monetization for existing users and attracting a relatively small number of players that will spend in the games, rather than trying to attract a large number of new players.

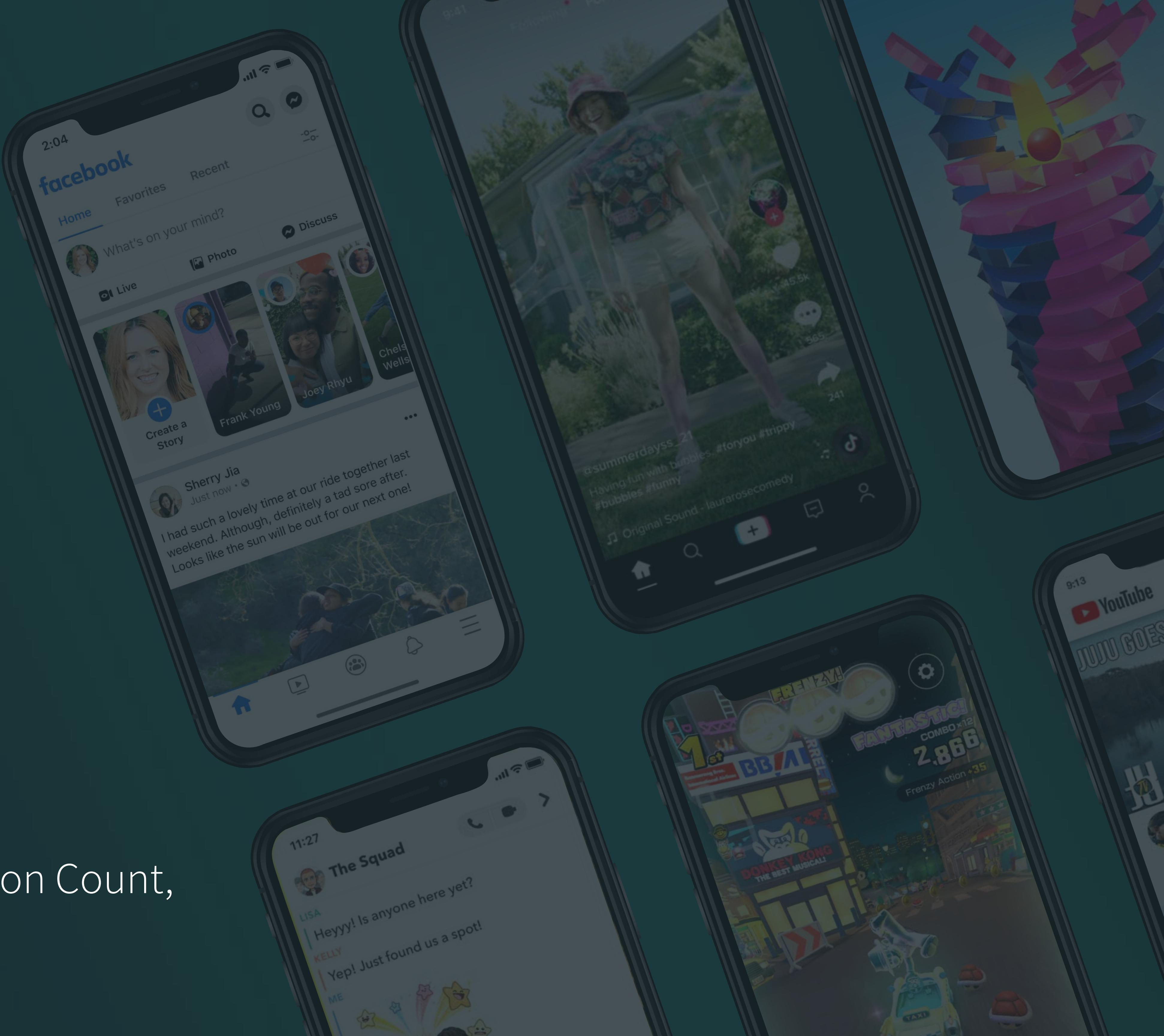
Note Regarding Active User Estimates:

Estimates are from the top 50 games in each genre in each quarter by MAU across iOS and Android. Geolocation AR only includes 43 games.



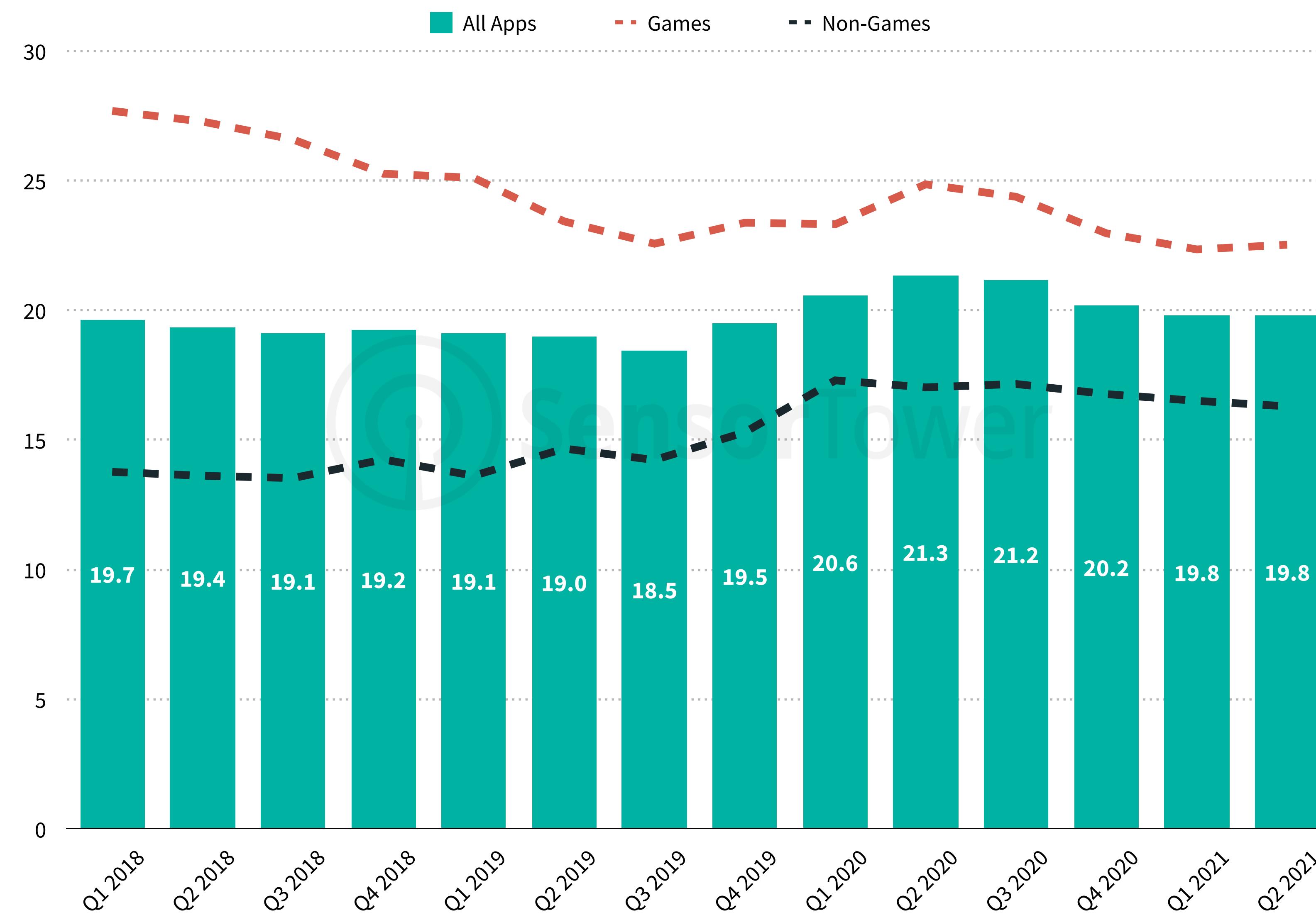
Session Metrics

Benchmarks for Time Spent, Session Count, and Session Duration

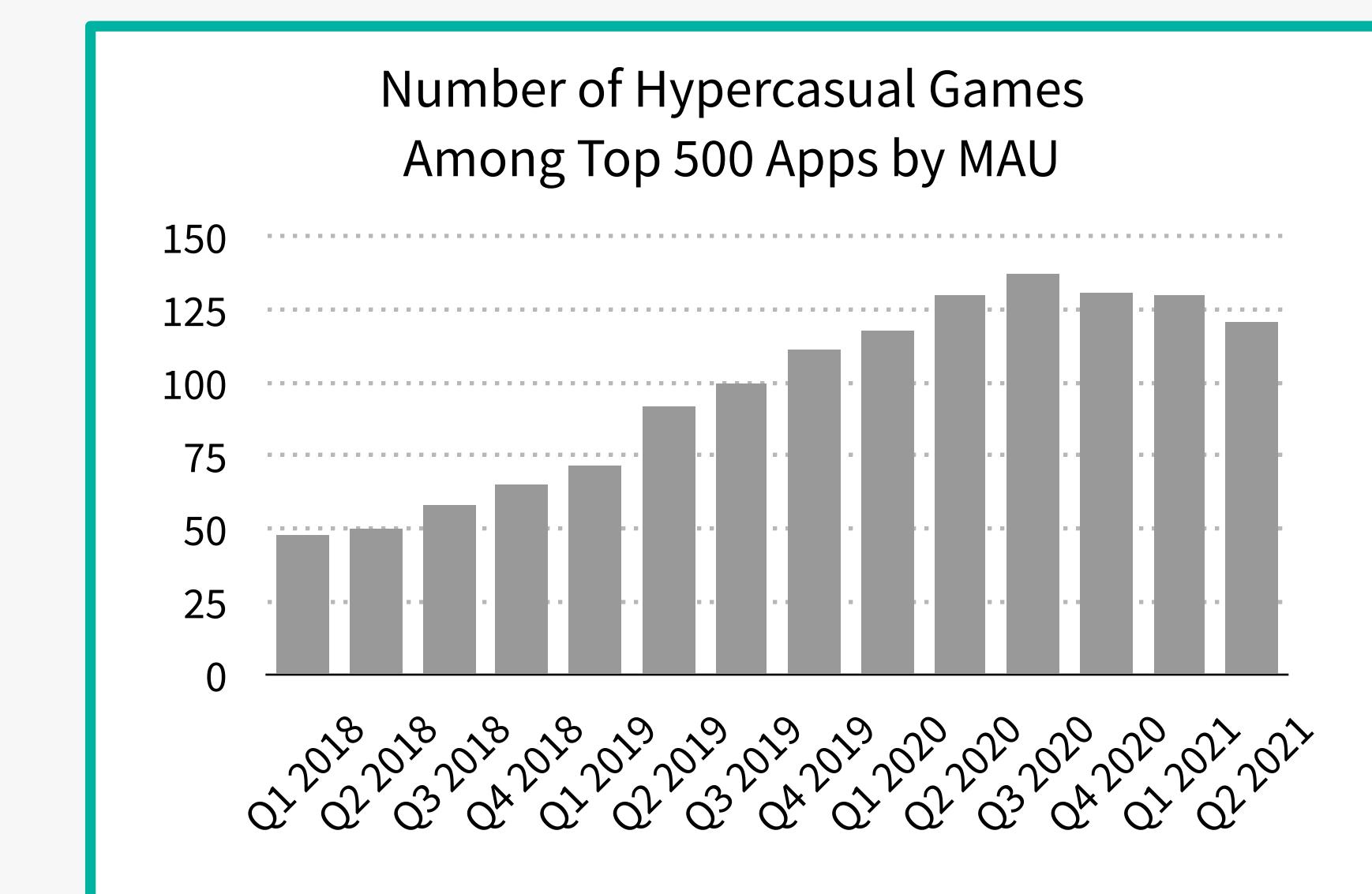


Time Spent Was Up During the Pandemic but Has Normalized

Average daily time spent (minutes) among the top 500 apps by MAU each quarter on iOS

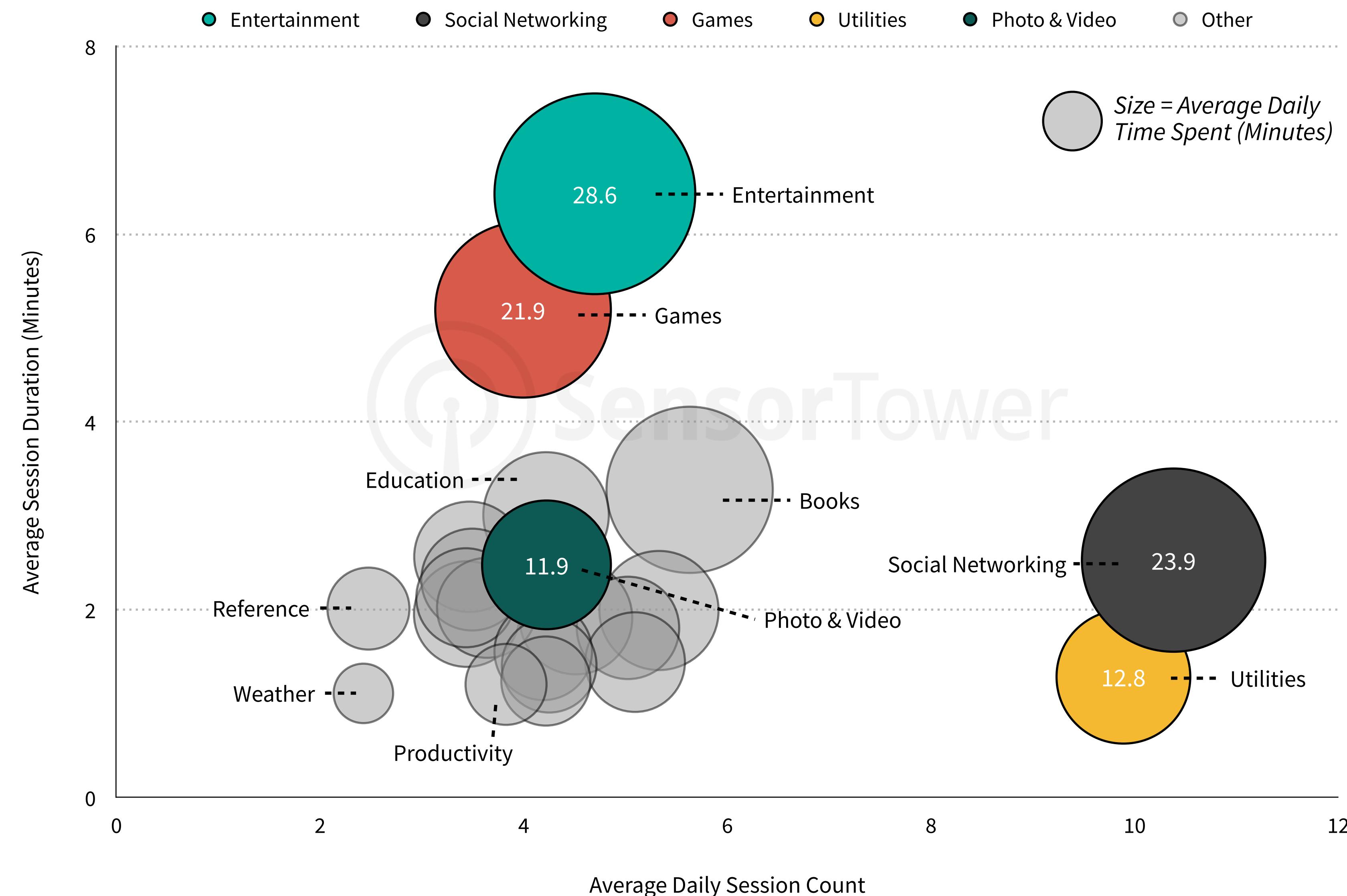


Average daily time spent among the top 500 apps increased by more than two minutes year-over-year in Q2 2021 at the start of the COVID-19 pandemic. It's worth noting that the decrease in average time spent leading into the pandemic was from games, or more specifically from the rise of Hypercasual genre titles which tend to have relatively low average time spent.



Users Spend Nearly 30 Minutes per Day in Entertainment Apps

Average session metrics for the top 100 apps by MAU by category in Q2 2021, iOS



On average, users of top entertainment apps spend nearly 30 minutes per day in them. Social networking is No. 2 by this metric at approximately 24 minutes per day. Social Networking users have more sessions per day, but they are shorter than those of Entertainment app users.

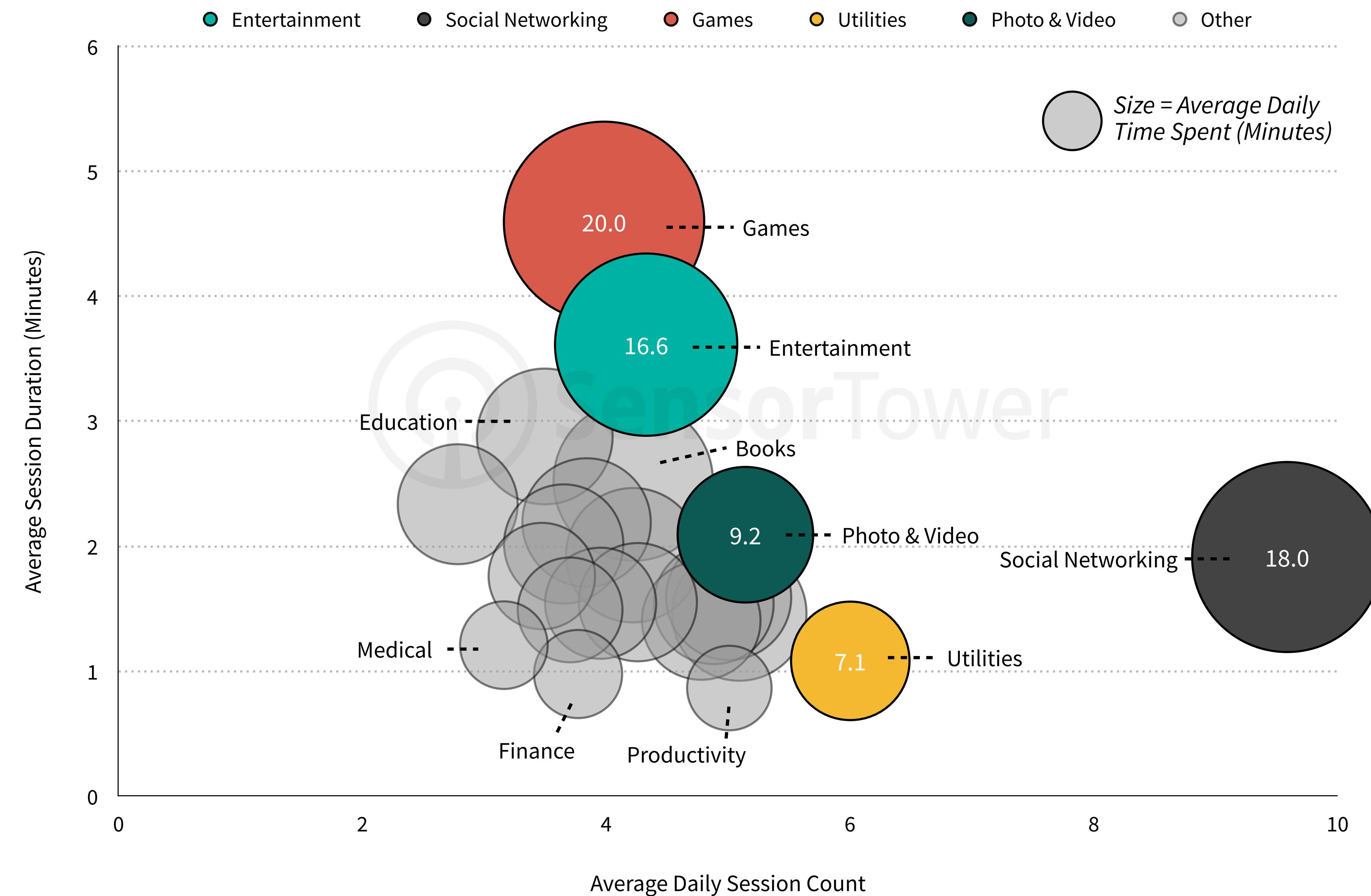
Games are the only category besides Entertainment to average more than five minutes per session among top apps, and rank No. 3 by average time spent. Books and Utilities round out the top five categories by time spent.

Note Regarding Session Metrics:

Estimates are from the top 100 apps in each category in Q2 2021 by MAU across iOS and Android.

Android Users Spend Longer in Games Than Any Other Apps

Average session metrics for the top 100 apps by MAU by category in Q2 2021, Android



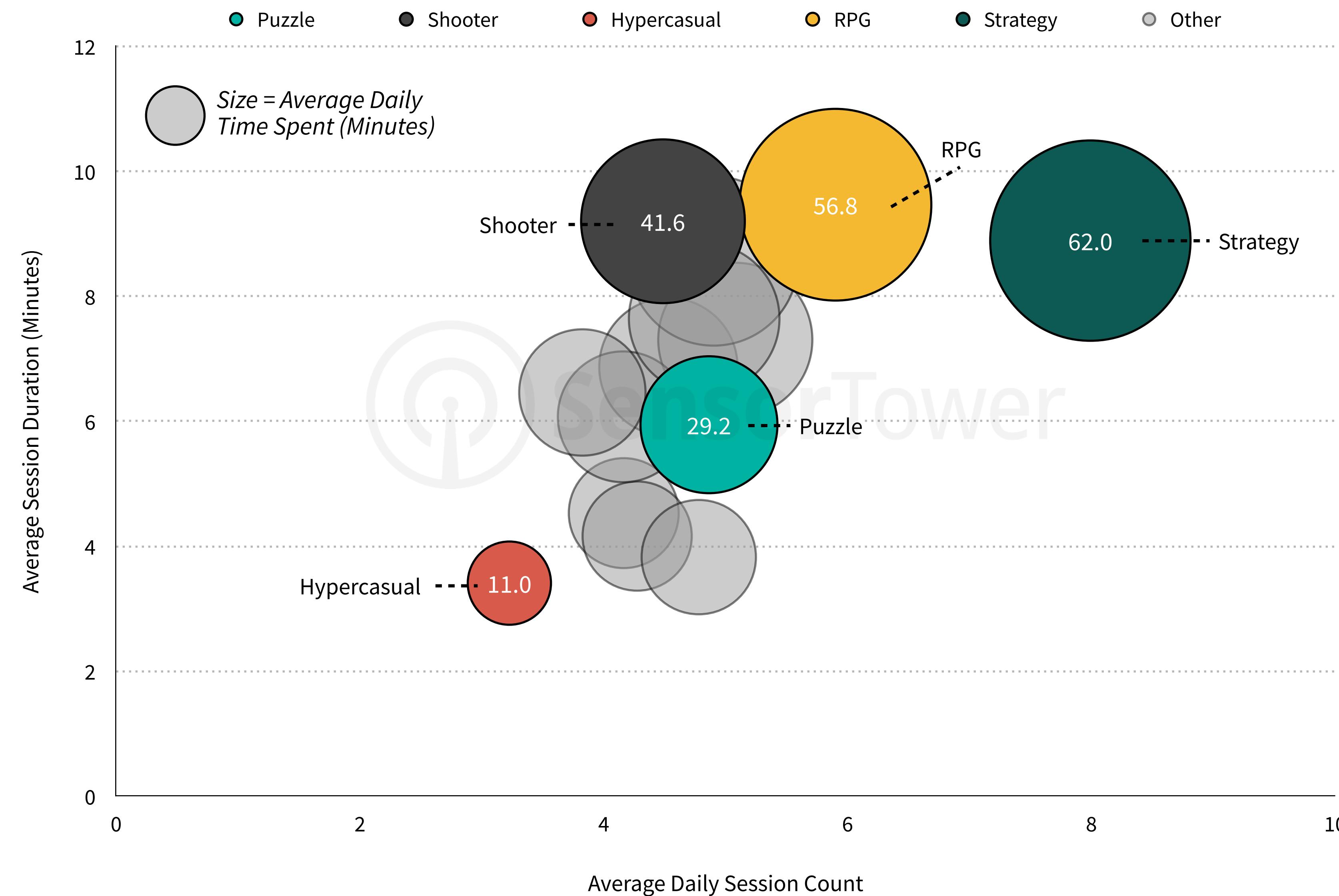
Consumers averaged 20 minutes per day in the average top game on Android in Q2 2021. Social Networking, Entertainment, Books, and Education are also among the top five categories by average time spent.

Social Networking is an outlier in average daily session count at nearly 10 sessions per user. However, users have a relatively low average session duration of less than two minutes. By comparison, Entertainment apps average more than 3.5 minutes per session.

Note Regarding Session Metrics:
Estimates are from the top 100 apps in each category in Q2 2021 by MAU across iOS and Android.

Strategy and RPG Titles Average About 1 Hour of Play per Day

Average session metrics for the top 50 games by MAU by game genre in Q2 2021, iOS



Mid-core genres lead the way by average time spent. Top Strategy and RPG games have an average daily time spent of roughly one hour per day. Action and Shooter games have an average time spent of between 40 to 45 minutes per day, while Tabletop and Casino average more than 30 minutes per day.

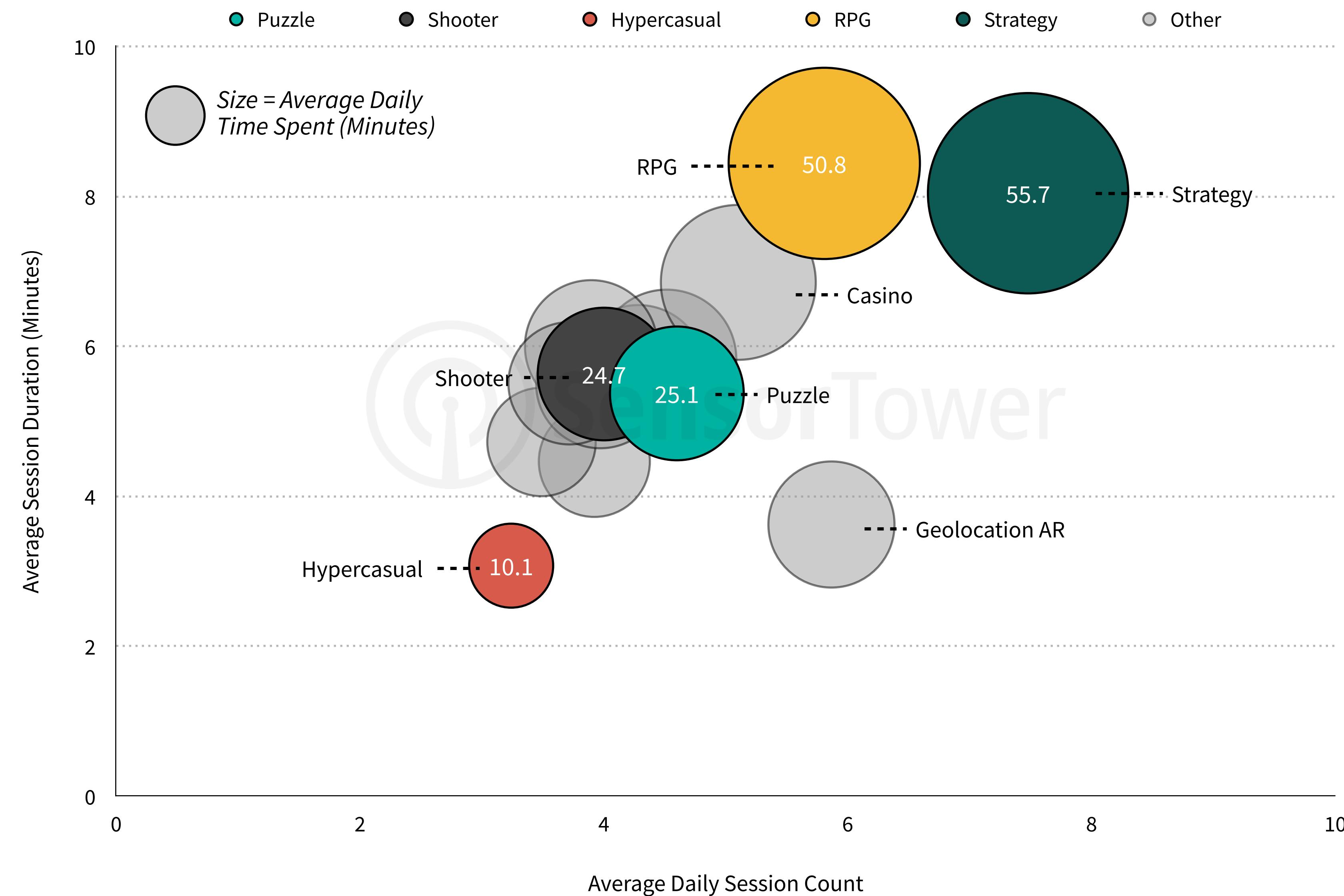
On the other extreme, the top Hypercasual games average only 11 minutes per user each day. Simple gameplay and an easy learning curve make these games great for attracting new users, but also result in less time spent and lower retention.

Note Regarding Session Metrics:

Estimates are from the top 50 games in each genre in Q2 2021 by MAU across iOS and Android. Geolocation AR only includes 43 games.

Strategy, RPG, and Casino Had Highest Time Spent on Android

Average session metrics for the top 50 games by MAU by game genre in Q2 2021, Android



Strategy and RPG were also the top genres by average time spent on Google Play, though with slightly lower totals than on the App Store. Shooter had a much lower average time spent on Android than on the App Store, though this was largely due to some popular games in India that are only available on Google Play and had relatively low average time spent.

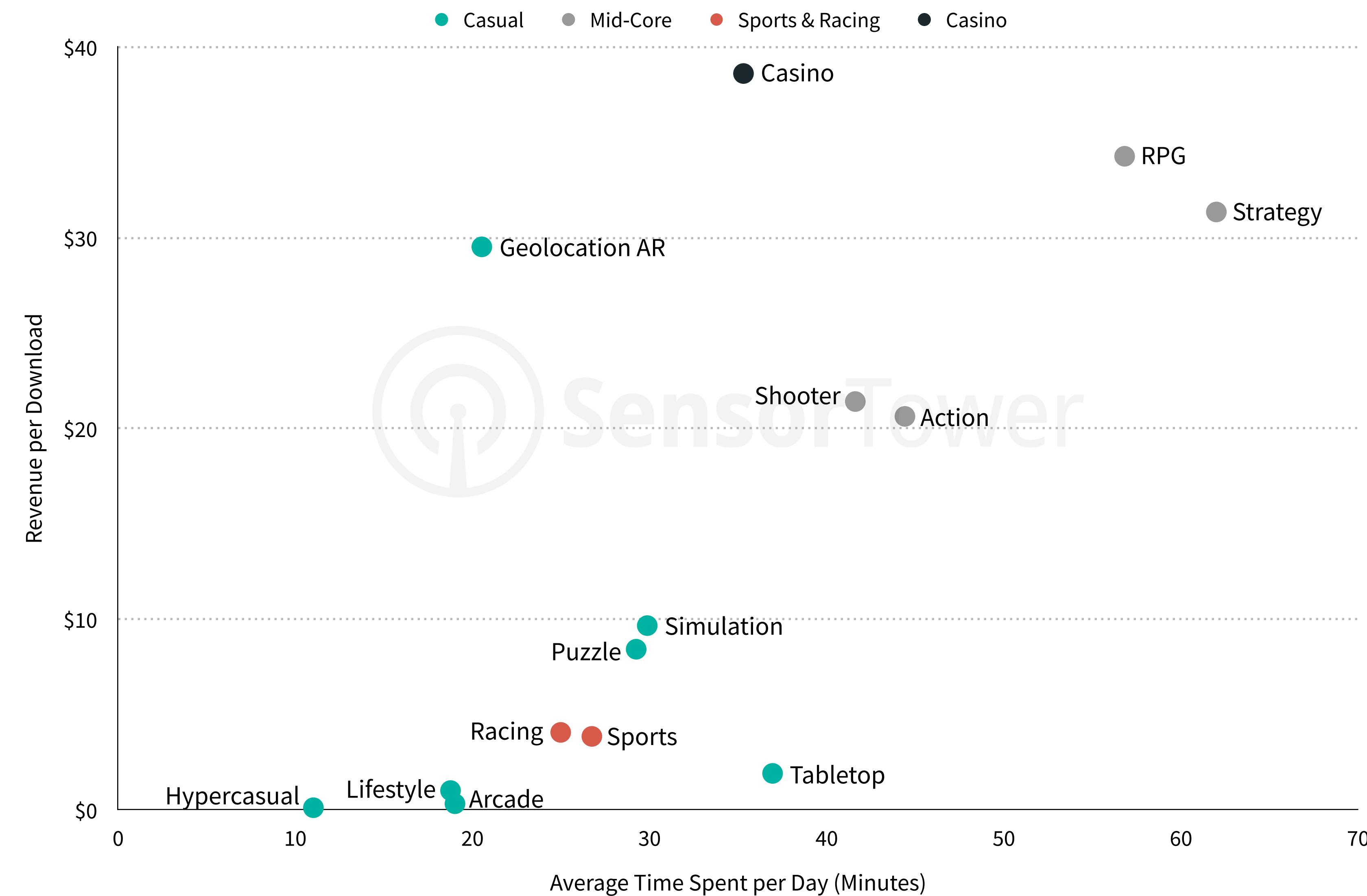
Casino games, No. 6 by average time spent on the App Store, ranked No. 3 on Google Play. It is the only genre besides Strategy and RPG to average more than 30 minutes per user per day.

Note Regarding Session Metrics:

Estimates are from the top 50 games in each genre in Q2 2021 by MAU across iOS and Android. Geolocation AR only includes 43 games.

Link Between Time Spent and Game Monetization Is Strong

Average daily time spent vs. RPD for the top 50 games by MAU by genre in 2Q21, iOS



There is a clear positive relationship between average time spent and revenue per download by genre. While games can adjust their monetization strategies to try to increase revenue per download, keeping players engaged and spending more time in a game is key for boosting overall revenue.

Mid-core genres have high average time spent and RPD, while Casual genres have low average time spent and RPD. Casino and Geolocation AR games have relatively high RPD compared to their average time spent.

Note Regarding Session Metrics and RPD:

Estimates are from the top 50 games in each genre in Q2 2021 by MAU across iOS and Android. Geolocation AR only includes 43 games. RPD is for the Q2 2021 period.



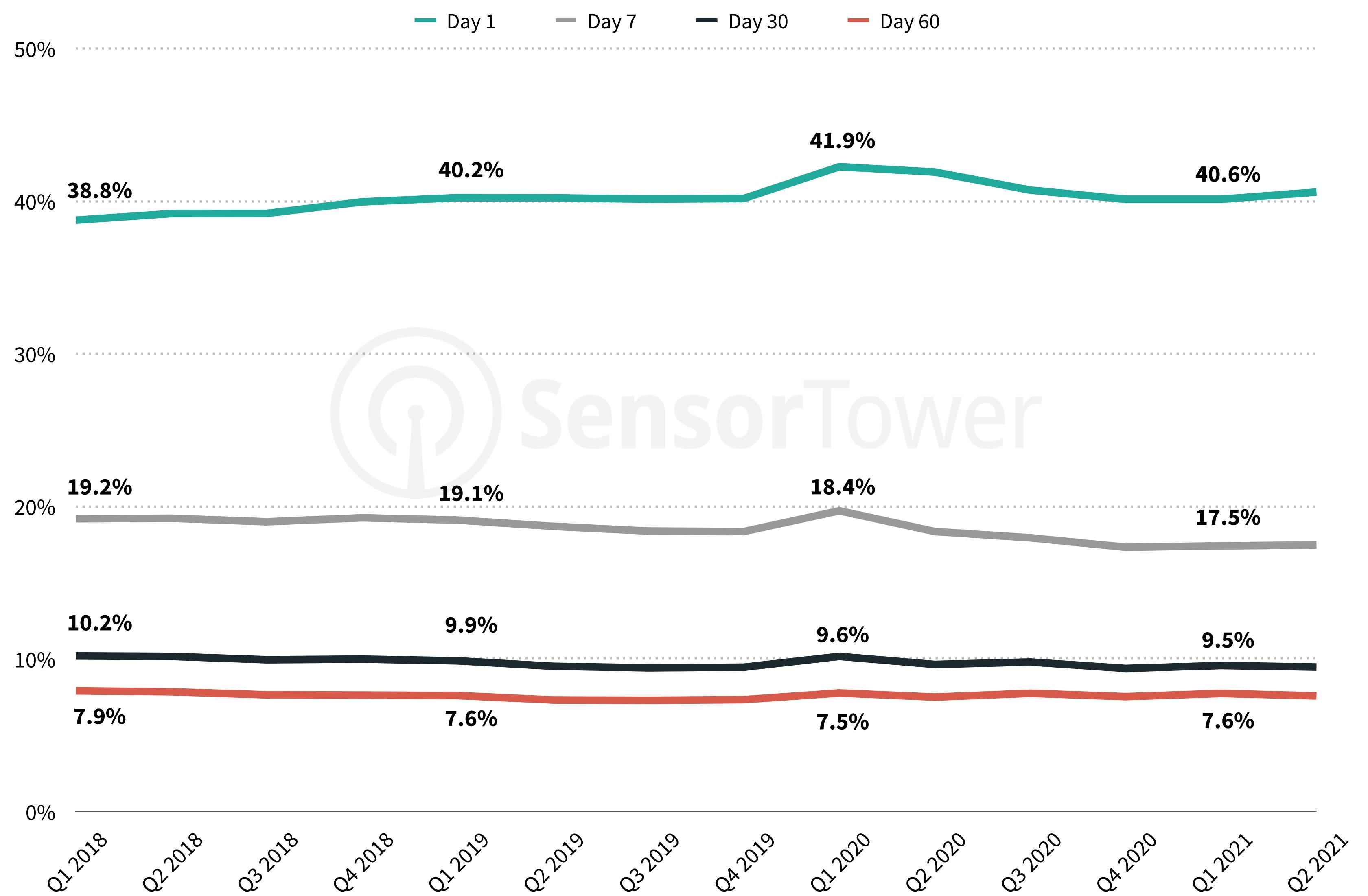
Retention

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Retention Benchmarks and Trends Over Time



Day 1 Retention Has Increased While Longer Terms See a Dip

Average retention among the top 500 apps by MAU each quarter, iOS



Retention

Retention rates ticked up in Q1 2021 at the start of the COVID-19 pandemic, especially day 1 and day 7 retention. Average retention rates gradually returned to pre-pandemic trends over the next few quarters.

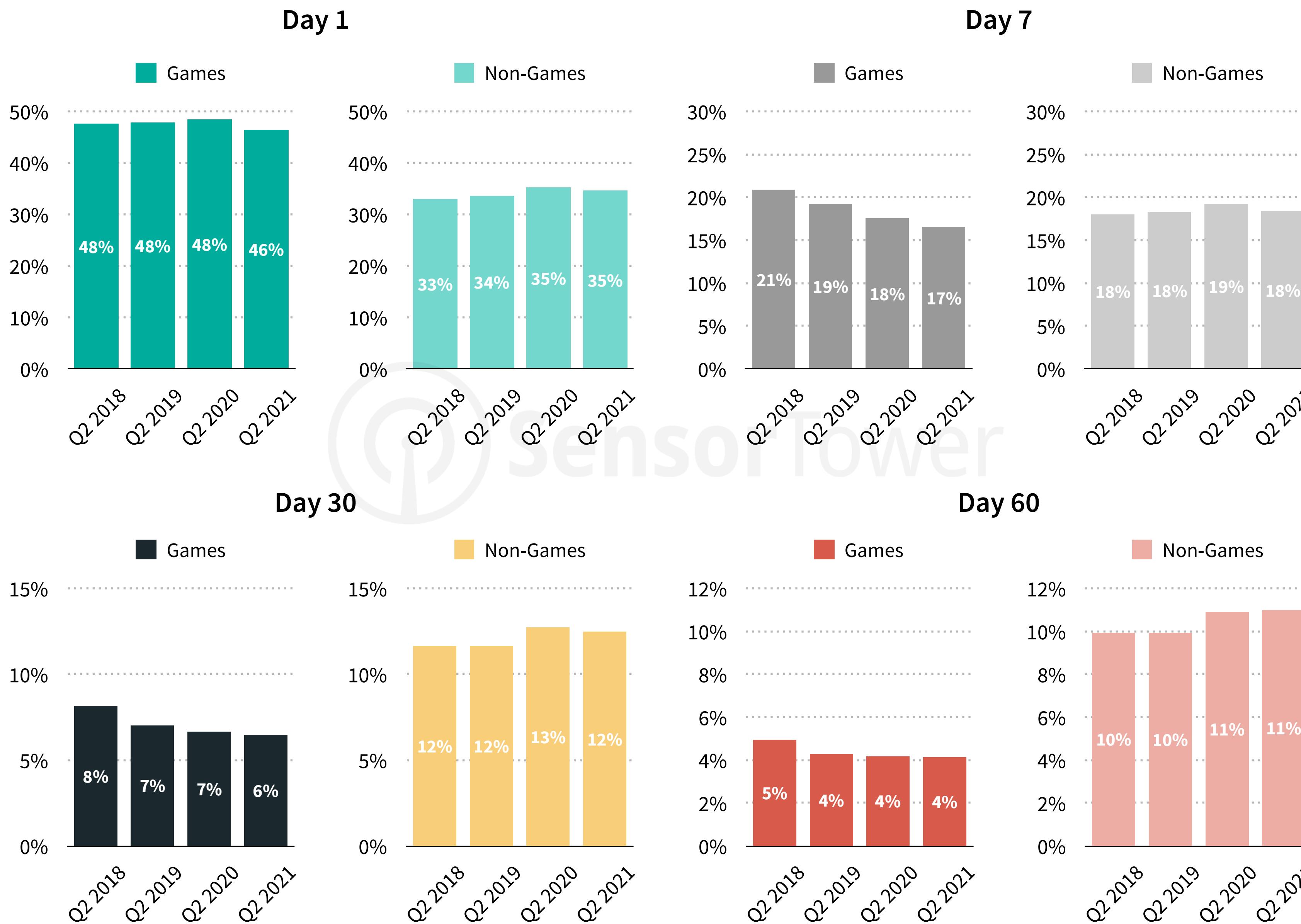
Day 1 retention had trended upwards since Q1 2018, while longer term retention has fallen slightly. However, it's worth noting that the overall fall in retention was largely driven by the emergence of Hypercasual games which have lower retention rates compared to other top apps.

Note Regarding Retention Estimates:

Estimates are from the top 500 apps each quarter by MAU across iOS and Android.

Retention for Top Non-Games Has Improved Since 2018

Average iOS retention among the top 500 apps by MAU each quarter, games vs. non-games



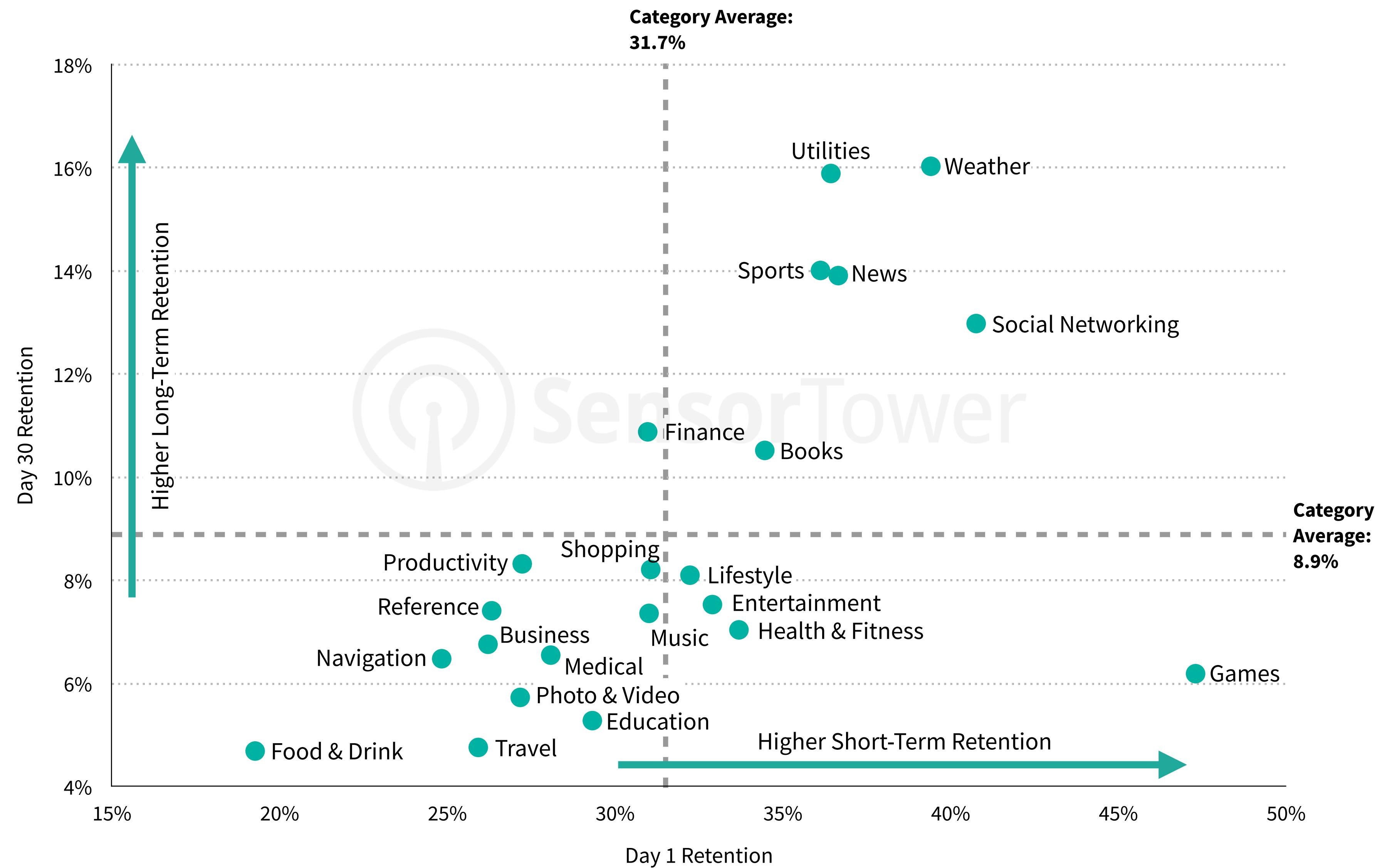
The overall decrease in long-term retention is isolated to gaming. The increased number of Hypercasual titles among the top 500 apps by MAU has dragged down the long-term retention rate for games.

Meanwhile, non-games saw retention improve in Q2 2020. While non-games saw day 1, 7, and 30 retention decrease slightly year-over-year in Q2 2021, these rates are still higher than before the COVID-19 pandemic.

Note Regarding Retention Estimates:
Estimates are from the top 500 apps each quarter by MAU across iOS and Android.

Weather and Utilities Apps See the Best Long-Term Retention

Average retention for the top 100 apps by MAU by category in Q2 2021, iOS



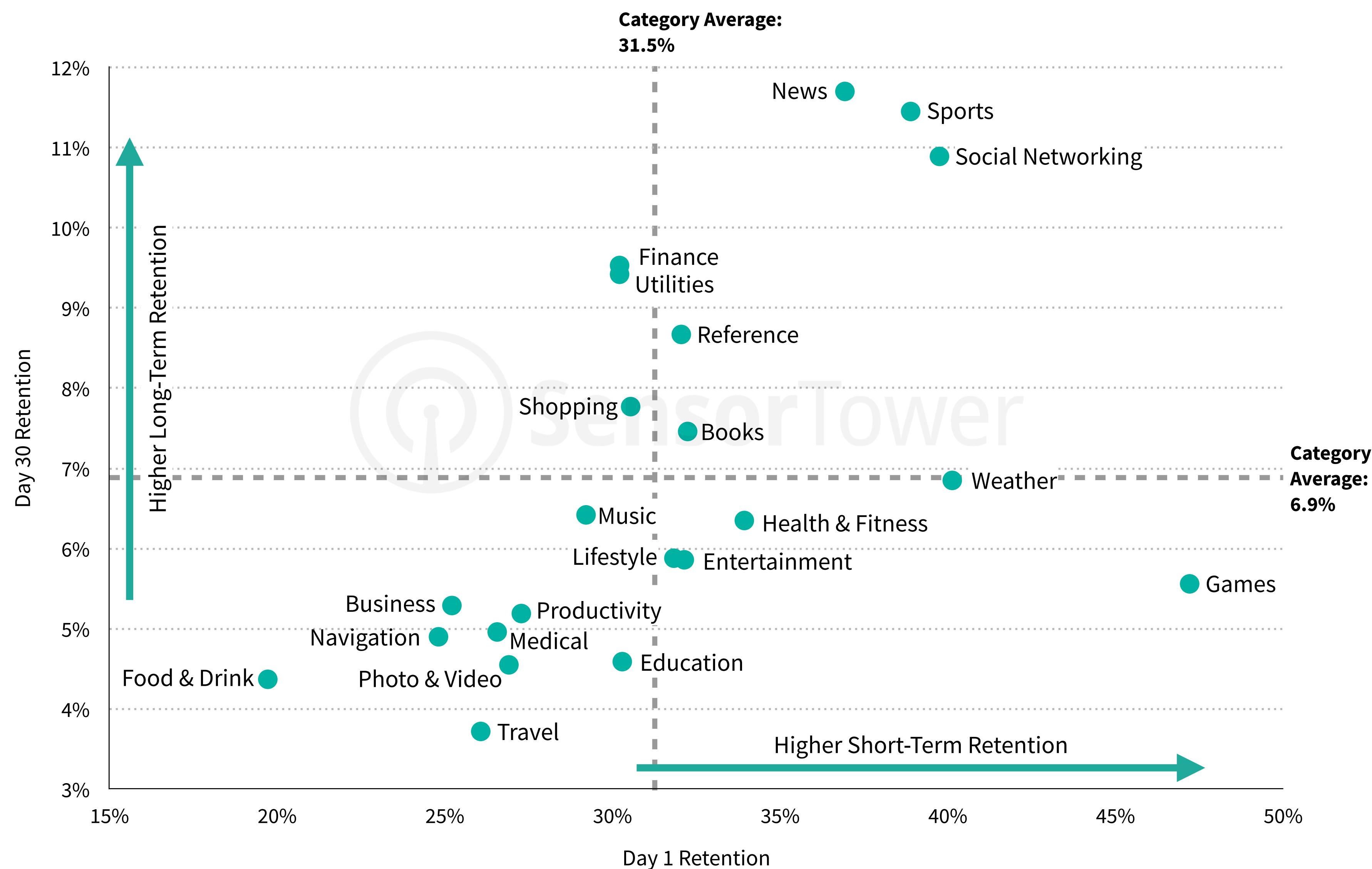
Six categories had higher than average day 1 and day 30 retention in Q2 2021 on iOS devices, including Weather, Utilities, Social Networking, News, Sports, and Books. On the other extreme, Food & Drink, Travel, and Navigation had relatively low retention.

Games have a high day 1 retention but a low day 30 retention compared to other categories. While Hypercasual titles have helped drag down the day 30 average, Tabletop is the only genre to beat the overall category average of 8.9 percent.

Note Regarding Retention Estimates:
Estimates are from the top 100 apps in each category in Q2 2021 by MAU across iOS and Android.

Games Have High Day 1 Retention but Lag by Day 30

Average retention for the top 100 apps by MAU by category in Q2 2021, Android



News, Sports, and Social Networking are the only categories to have an average day 30 retention of more than 10 percent on Android. Finance apps also have a high day 30 retention, despite having lower than average day 1 retention.

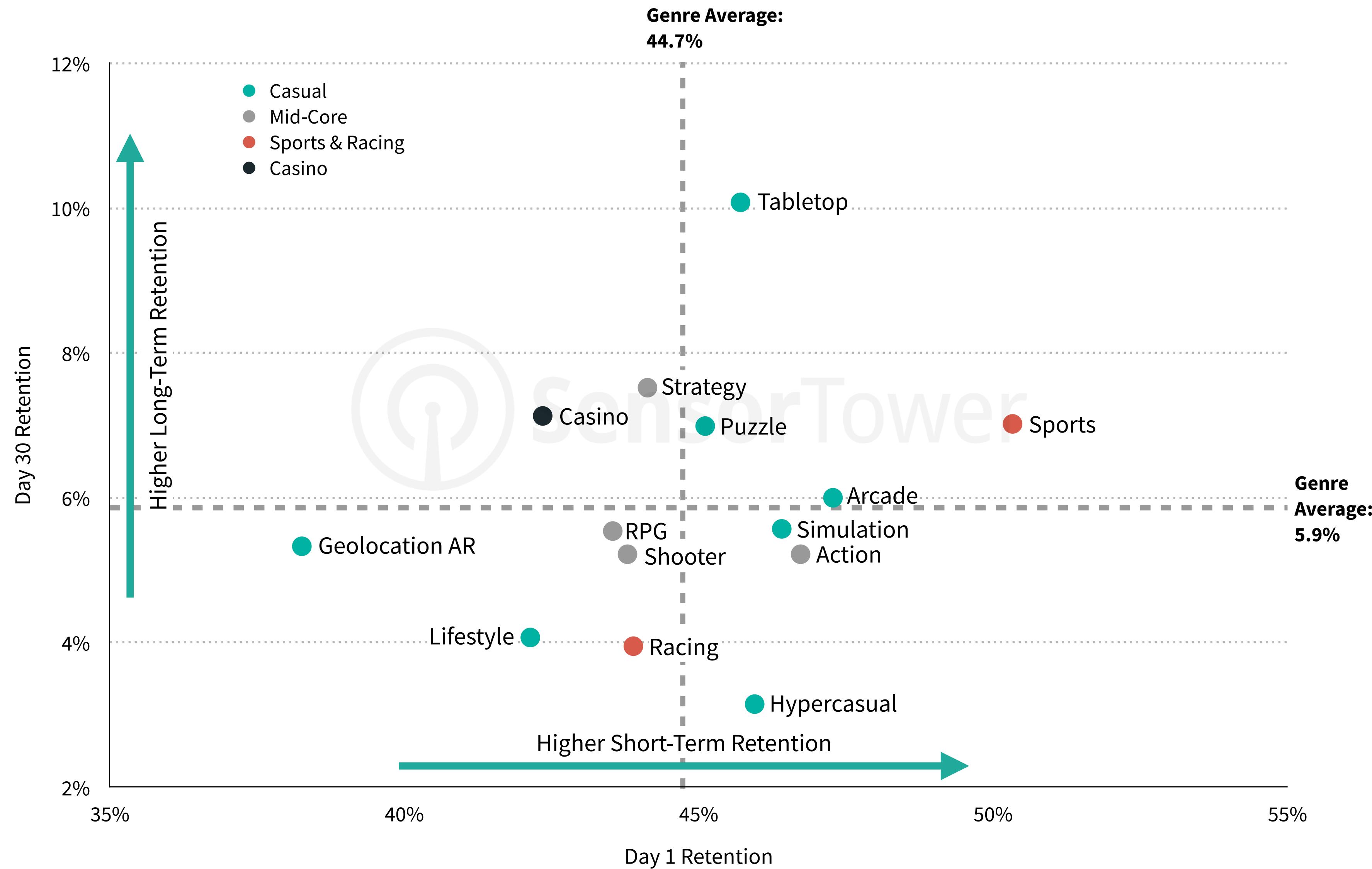
Similar to iOS, games on Android have the best day 1 retention at 47 percent. However, less than 6 percent of players use the game on day 30 after installation on average.

Note Regarding Retention Estimates:

Estimates are from the top 100 apps in each category in Q2 2021 by MAU across iOS and Android.

The Tabletop Genre Leads Others in Terms of Day 30 Retention

Average retention for the top 50 games by MAU by genre in Q2 2021, iOS



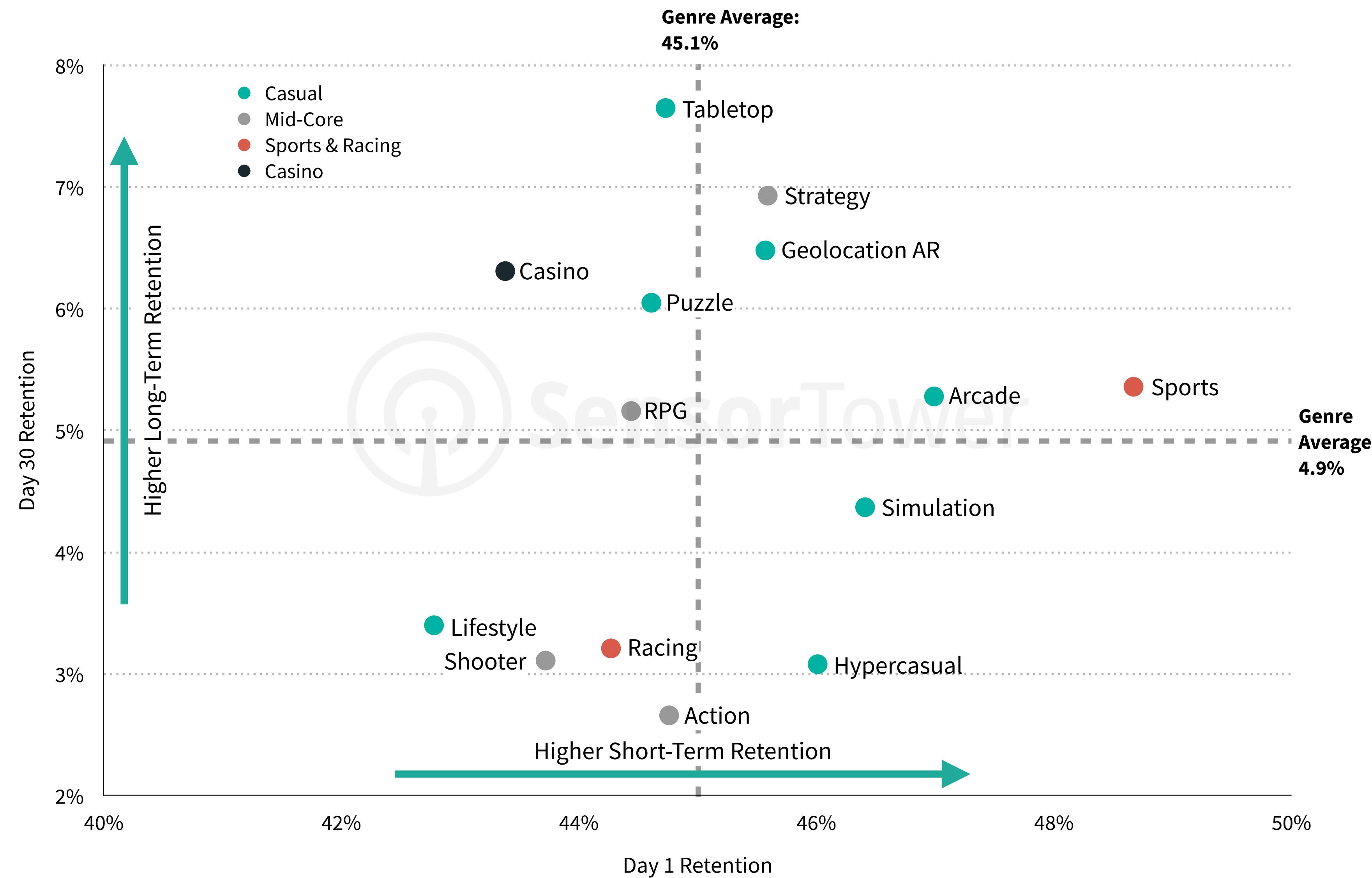
The Tabletop genre stands out for day 30 retention at more than 10 percent, while no other genres average more than 8 percent. Interestingly, Tabletop also has the highest average time spent among Casual game genres. The genre is able to effectively monetize through ads by having such strong long-term engagement, while other ad-reliant genres such as Hypercasual overcome low long-term retention with high new player adoption.

Sports has the highest average day 1 retention. Meanwhile, the mid-core genres tend to be near the average in terms of both short- and long-term retention.

Note Regarding Retention Estimates:
Estimates are from the top 50 games in each genre in Q2 2021 by MAU across iOS and Android.

Mid-Core Genre Retention Is More Dispersed on Android

Average retention for the top 50 games by MAU by genre in Q2 2021, Android



The top genres by day 1 and day 30 retention on Android match those on iOS, with Sports and Tabletop, respectively. Strategy, Arcade, and Sports have above average short- and long-term retention on both platforms.

The Mid-core genre's average day 30 retention is more dispersed on Android. Strategy is much closer to Tabletop by day 30 retention on Android than on iOS, while Shooter and Action are towards the bottom on Android.

Note Regarding Retention Estimates:
Estimates are from the top 50 games in each genre in Q2 2021 by MAU across iOS and Android.

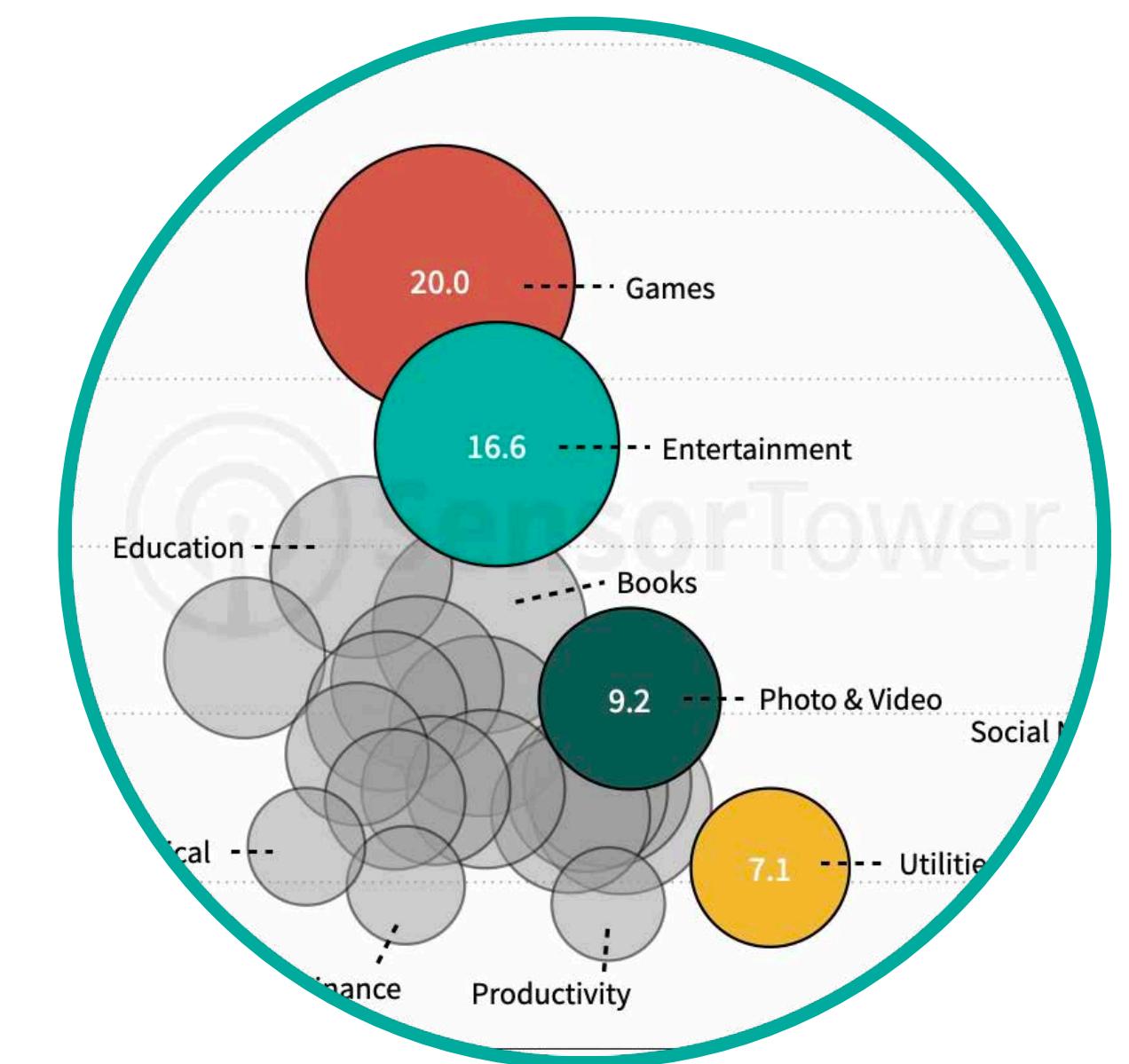


Conclusion

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Key Takeaways from the Report

Conclusion: Overall

- Usage of the world's top apps has grown steadily since 2018, with the average app among the top 500 by Monthly Active Users (MAU) gaining roughly 10 million MAU per year. While overall growth returned towards pre-pandemic levels after a spike in Q2 2020, the impact on certain categories has been much longer lasting. Business, Education, and Medical are among the top beneficiaries by MAU growth, while Travel app usage remained down in Q2 2021.
- Average time spent in apps also saw a boost at the beginning of the pandemic. The average time spent by users in top apps peaked at 21.3 minutes per day in Q2 2020, more than 2 minutes higher than the year prior. Usage has fallen off from this peak, but remained above 2019 levels at nearly 20 minutes per user in Q2 2021.
- Similar to average time spent, retention rates have also decreased since 2018 for top games. This trend was largely attributable to the rise of Hypercasual titles, which have some of the lowest average time spent and long-term retention among game genres. For non-game apps, both time spent and retention saw an uptick during the pandemic and both have remained elevated into 2021.





Appendix

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Categories & Game Genres

The State of App Engagement 2021

Categories

Category Name	App Store Category	Google Play Categories
Books	Books	Books & References
Business	Business	Business
Education	Education	Education
Entertainment	Entertainment	Entertainment, Events, Comics
Finance	Finance	Finance
Food & Drink	Food & Drink	Food & Drink
Games	Games	All game categories
Health & Fitness	Health & Fitness	Health & Fitness
Lifestyle	Lifestyle	Lifestyle, House & Home, Parenting
Medical	Medical	Medical
Music	Music	Music & Audio

Category Name	App Store Category	Google Play Categories
Navigation	Navigation	Maps & Navigation, Auto & Vehicles, Transportation
News	News	News & Magazines
Photo & Video	Photo & Video	Photography, Video Players & Editors, Beauty
Productivity	Productivity	Productivity, Personalization
Reference	Reference	Books & Reference
Shopping	Shopping	Shopping
Social Networking	Social Networking	Social, Dating
Sports	Sports	Sports
Travel	Travel	Travel & Local
Utilities	Utilities	Tools, Libraries & Demo, Communication
Weather	Weather	Weather

The State of App Engagement 2021

Game Genres

Casual

Hypercasual: The Hypercasual genre is made up of simple, low-budget games with no meta and short player lifecycles. Typically, Hypercasual publishers focus exclusively on Hypercasual, and develop their own ad networks to retain players longer term across multiple titles. Monetization is driven by advertising.

Puzzle: Puzzle games challenge players to use logical thinking to succeed, ranging from traditional puzzles to more unique concepts that originated on mobile. Mechanics could include symbol matching, word finding, or spatial reasoning.

Arcade: Originating from the arcade games of the 1980s, this genre is largely comprised of action-oriented titles, often featuring high score rankings and simple controls with some sparse story elements.

Simulation: Simulation games typically feature real world activities, often based on scenarios that involve planning, training, or building. The realistic nature of these titles enables users to have immersive experiences as various occupations or characters.

Lifestyle: Lifestyle games allow players to participate in light-hearted life experiences, such as decorating, taking care of animals, or directing a story. The appeal of these titles is often in role-playing scenarios. These games are often played by a casual and more female audience.

Tabletop: Tabletop games largely incorporate the use of dice, tiles, cards, dominoes and turn based gameplay in solo or multiplayer competitions. These titles are often mobile ports or reimagined versions of tabletop classics which require a combination of skill and luck to achieve victory.

Geolocation AR: Games that generate unique gameplay and content based on user location. Players can typically experience augmented reality events or in-game encounters by exploring various real-world locations. These titles are typically built in the style of Ingress and Pokémon GO.

Mid-Core

RPG: Mobile RPGs usually follow the common elements of RPG titles in other mediums: character leveling/customization, a combat system, and an emphasis on story-telling.

Strategy: Strategy games rely on the player's decision-making skills to make strategic choices. Typically, these titles are slower paced and more mechanically complex than other mobile genres.

Shooter: Shooter games use guns or other long-range weapons as a primary mechanic. Typically, players are challenged on their reflexes and spatial awareness to fight computer AI or other players.

Action: Action games test the player's reflexes and timing through physical challenges, often through fighting. Players must complete levels by maintaining forward momentum, usually requiring defeating enemies without losing health, or completing objectives.

Sports & Racing

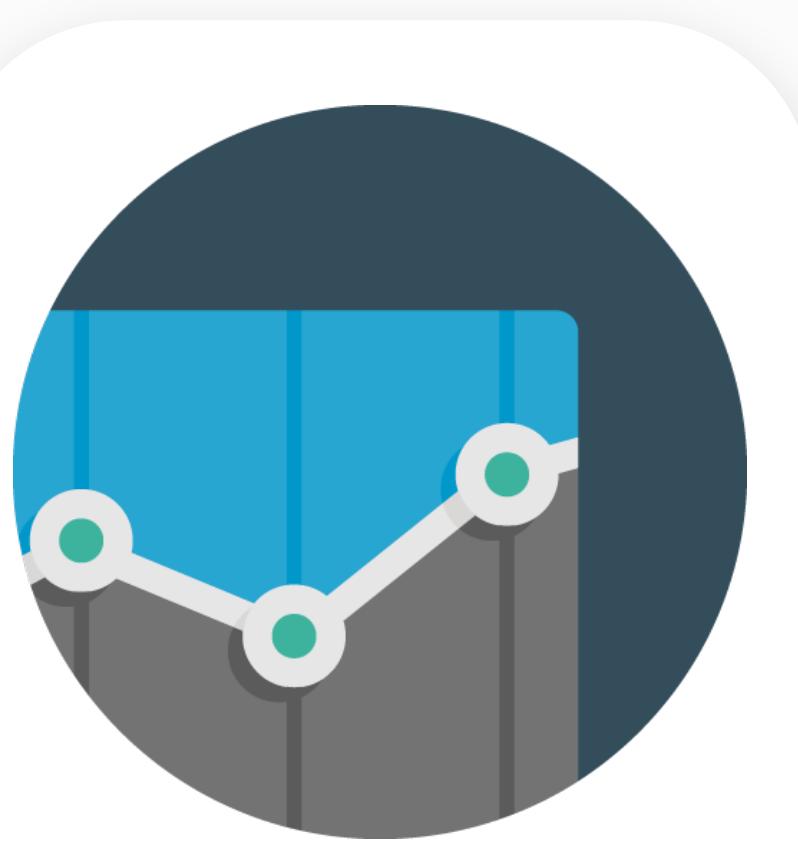
Sports: Sports games adapt real-life sports (soccer, baseball, etc.) for a mobile audience.

Racing: Racing games challenge the player to race against other players, an AI, or a clock in order to complete a course in the fastest time. Typically, players drive cars or other vehicles.

Casino

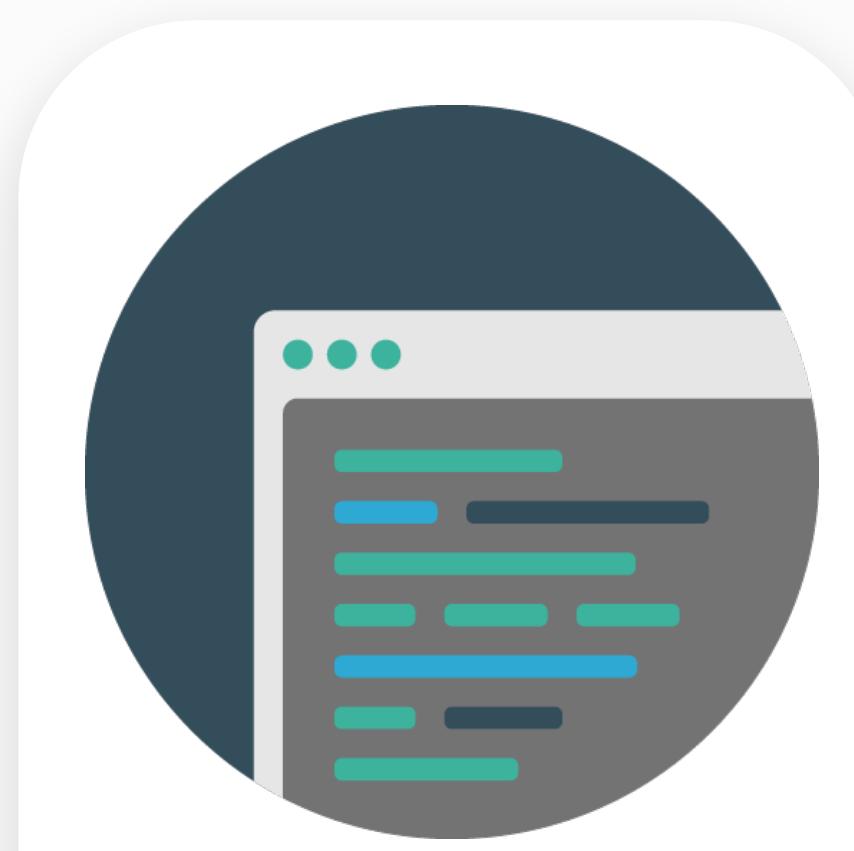
Casino: The casino genre is based on real-life casino games (slots, bingo, poker, etc.), often involving some form of gambling and real-money investment.

Sensor Tower Solutions



Store Intelligence

Make strategic decisions with the industry's most accurate estimates.



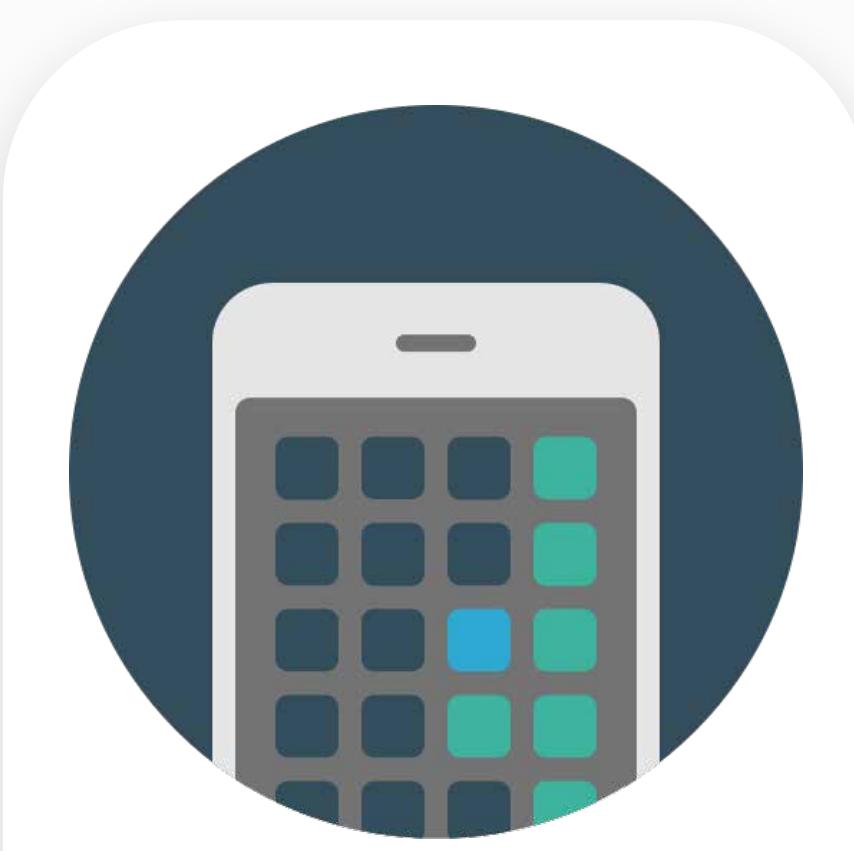
App Intelligence

Drive organic growth with the leading App Store Optimization platform.



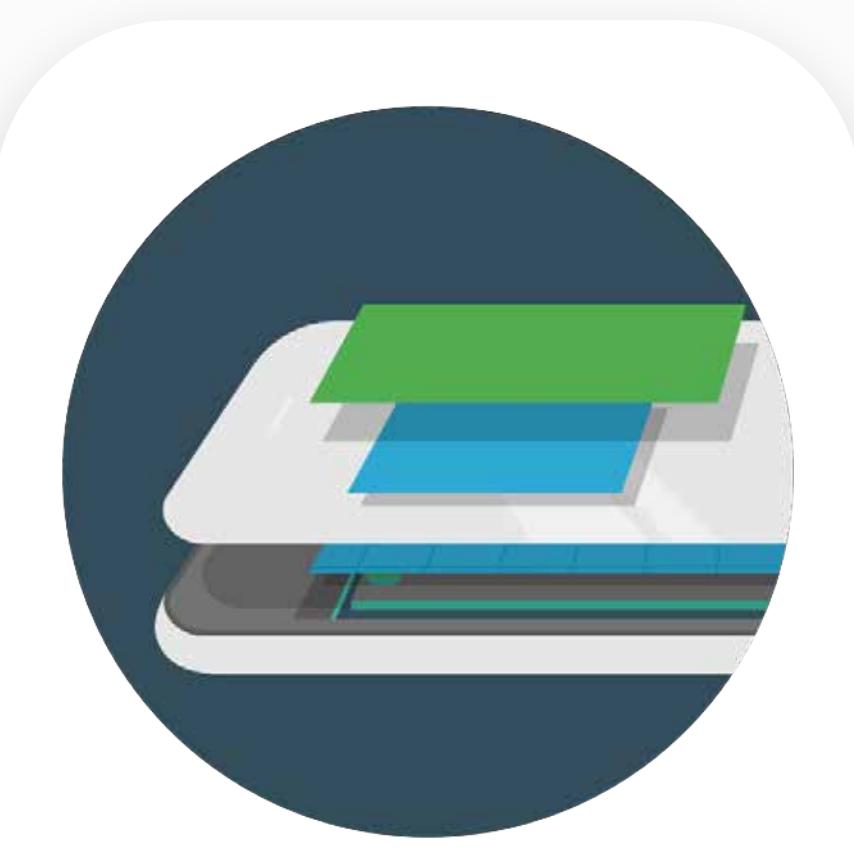
Ad Intelligence

Develop winning User acquisition campaigns with crucial mobile advertising insights.



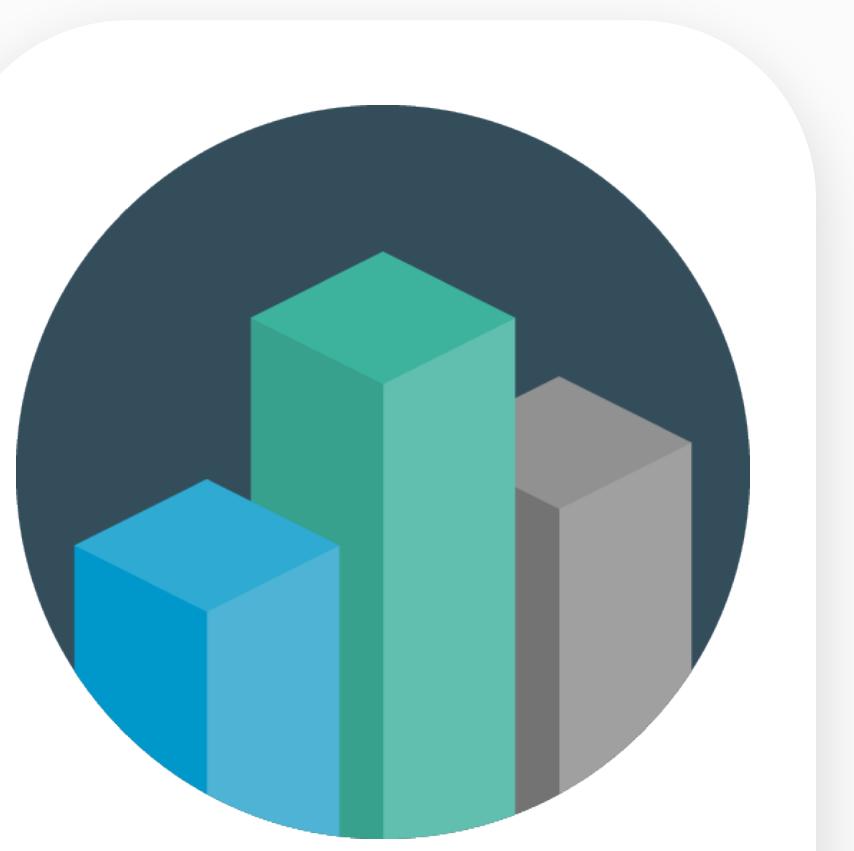
Usage Intelligence

Benchmark app usage, engagement, and demographics.



App Teardown

Evaluate which SDKs apps are using and measure SDK adoption across market segments.



Consumer Intelligence

Access unfiltered mobile user engagement for financial analysis.

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SensorTower

