

30-Day Retention Report



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QUERY: 30-Day Retention

30-day retention

```
select
    dayofjoin ,
    fractional_retention,
    pastfractionrate,
    round(safe_divide ((fractional_retention - pastfractionrate)/ pastfractionrate),4) as
growth_rate
from (
    select
        dayofjoin ,
        fractional_retention,
        lag(fractional_retention,1) over (order by dayofjoin ) as pastfractionrate,
    from(
```



QUERY: 30-Day Retention

Select

```
joined as dayofjoin ,  
count (distinct(player_id)) as totalplayer,  
countif (retention_status= 1) as totalretained,  
round(((countif (retention_status= 1)) / count (distinct(player_id)))),2) as fractional_retention
```

from(

select

```
p.player_id,  
joined,  
if ((max(day)>= joined + 30), 1, 0) as retention_status,
```

from

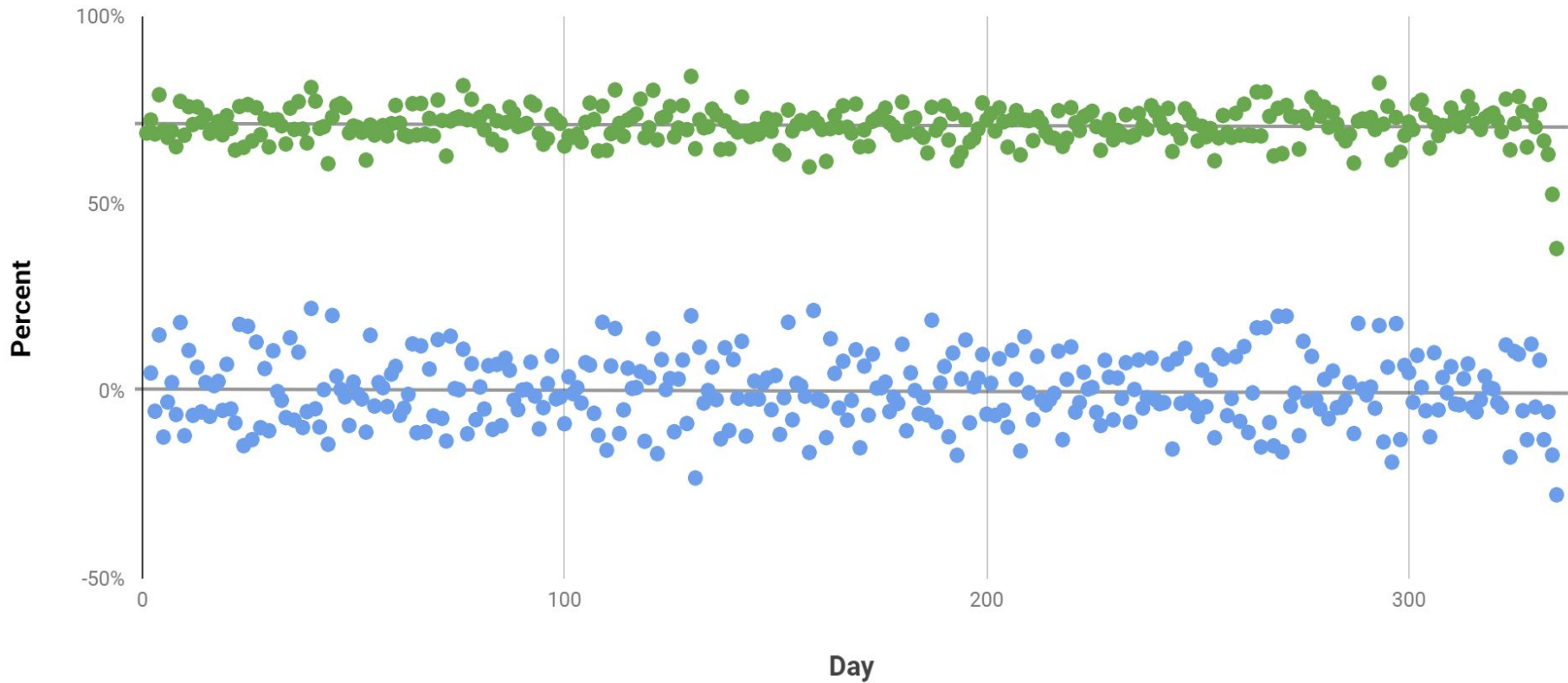
```
`my-first-project-329514.Project1.player_info` as p  
left join `my-first-project-329514.Project1.matches_info` as m  
on  
p.player_id = m.player_id  
group by joined, p.player_id)
```

group by 1))

order by 1

30 Day Retention

● Growth Rate of Retention ● Percent Retention





QUERY: Win-Streak

--Step 1: Let's identify when a new win-streak occurs for each player

```
WITH new_streaks AS (  
  SELECT  
    player_id,  
    day,  
    outcome,  
    CASE  
      WHEN  
        outcome = 'win' AND  
        LAG(outcome) OVER (PARTITION BY player_id ORDER BY day) = 'loss'  
      THEN 1  
      WHEN  
        outcome = 'win' AND  
        LAG(outcome) OVER (PARTITION BY player_id ORDER BY day) IS NULL  
      THEN 1  
      ELSE 0  
    END AS new_streak  
  FROM (  
    SELECT  
      m.player_id,  
      m.outcome,  
      m.day  
    FROM `juno-da-bootcamp-project-1.raw_data.matches_info` m  
    JOIN `juno-da-bootcamp-project-1.raw_data.player_info` p  
    ON m.player_id = p.player_id  
    WHERE  
      m.day <= p.joined+30)),
```



Row	player_id	day	outcome	new_streak
1	0001f4cd1d6a46758ac99d9ec08c6107	347	win	1
2	0001f4cd1d6a46758ac99d9ec08c6107	348	win	0
3	0001f4cd1d6a46758ac99d9ec08c6107	351	win	0
4	0001f4cd1d6a46758ac99d9ec08c6107	354	win	0
5	0001f4cd1d6a46758ac99d9ec08c6107	355	win	0
6	0001f4cd1d6a46758ac99d9ec08c6107	356	win	0
7	0001f4cd1d6a46758ac99d9ec08c6107	358	loss	0
8	0001f4cd1d6a46758ac99d9ec08c6107	360	win	1
9	0001f4cd1d6a46758ac99d9ec08c6107	364	loss	0
10	0002b134ae784531a58545a2c8cd9228	31	win	1
11	0002b134ae784531a58545a2c8cd9228	33	win	0
12	0002b134ae784531a58545a2c8cd9228	34	loss	0
13	0002b134ae784531a58545a2c8cd9228	36	win	1



QUERY: Win-Streak

--Step 2: Let's assign a unique number to each streak per player

```
streak_no_table AS (  
  SELECT  
    player_id,  
    day,  
    SUM(new_streak) OVER (PARTITION BY player_id ORDER BY day) streak_no  
  FROM new_streaks  
  WHERE  
    outcome = 'win'),
```

Row	player_id	day	outcome	new_streak	streak_no
1	0001f4cd1d6a46758ac99d9ec08c6107	347	win	1	1
2	0001f4cd1d6a46758ac99d9ec08c6107	348	win	0	1
3	0001f4cd1d6a46758ac99d9ec08c6107	351	win	0	1
4	0001f4cd1d6a46758ac99d9ec08c6107	354	win	0	1
5	0001f4cd1d6a46758ac99d9ec08c6107	355	win	0	1
6	0001f4cd1d6a46758ac99d9ec08c6107	356	win	0	1
7	0001f4cd1d6a46758ac99d9ec08c6107	360	win	1	2
8	0002b134ae784531a58545a2c8cd9228	31	win	1	1
9	0002b134ae784531a58545a2c8cd9228	33	win	0	1
10	0002b134ae784531a58545a2c8cd9228	36	win	1	2
11	0002b134ae784531a58545a2c8cd9228	40	win	1	3
12	0002b134ae784531a58545a2c8cd9228	41	win	0	3
13	0002b134ae784531a58545a2c8cd9228	47	win	1	4

--Step 3: Let's counting the number of wins per streak

```
records_per_streak AS (  
  SELECT  
    player_id,  
    streak_no,  
    COUNT(*) AS counter  
  FROM streak_no_table  
  GROUP BY  
    player_id,  
    streak_no),
```

Row	player_id	streak_no	counter
1	0001f4cd1d6a46758ac99d9ec08c6107	1	6
2	0001f4cd1d6a46758ac99d9ec08c6107	2	1
3	0002b134ae784531a58545a2c8cd9228	1	2
4	0002b134ae784531a58545a2c8cd9228	2	1



QUERY: Win-Streak

--Counting total number of games played

```
total_games_info AS (  
  SELECT  
    m.player_id,  
    COUNT(*) AS total_games  
  FROM `juno-da-bootcamp-project-1.raw_data.matches_info` m  
  JOIN `juno-da-bootcamp-project-1.raw_data.player_info` p  
  ON m.player_id = p.player_id  
  WHERE  
    m.day <= p.joined+30  
  GROUP BY player_id),
```

--Player retention status

```
player_info_retention_stat AS (  
  SELECT  
    DISTINCT p.player_id,  
    p.joined,  
    IF(MAX(day) OVER (PARTITION BY p.player_id) >= joined+30, 1, 0) AS retention_status,  
  FROM `juno-da-bootcamp-project-1.raw_data.player_info` p  
  LEFT JOIN `juno-da-bootcamp-project-1.raw_data.matches_info` m  
  ON p.player_id = m.player_id)
```



QUERY: Win-Streak

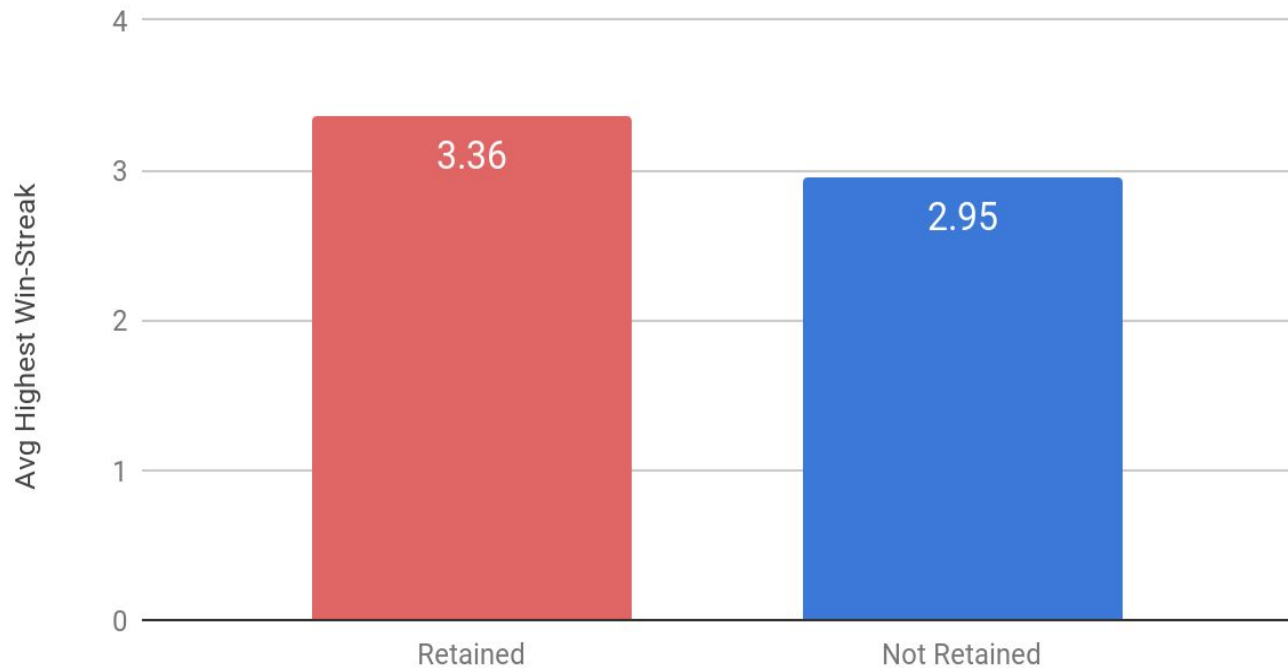
--Finally: we can find the «longest streak» per player and the total games they played within the first 30 days.

```
SELECT
    records_per_streak.player_id,
    total_games,
    MAX(counter) AS longest_win_streak,
    retention_status
FROM
    records_per_streak
JOIN player_info_retention_stat AS pr
ON records_per_streak.player_id = pr.player_id
JOIN total_games_info AS tgi
ON tgi.player_id = records_per_streak.player_id
GROUP BY
    records_per_streak.player_id,
    total_games,
    retention_status
```

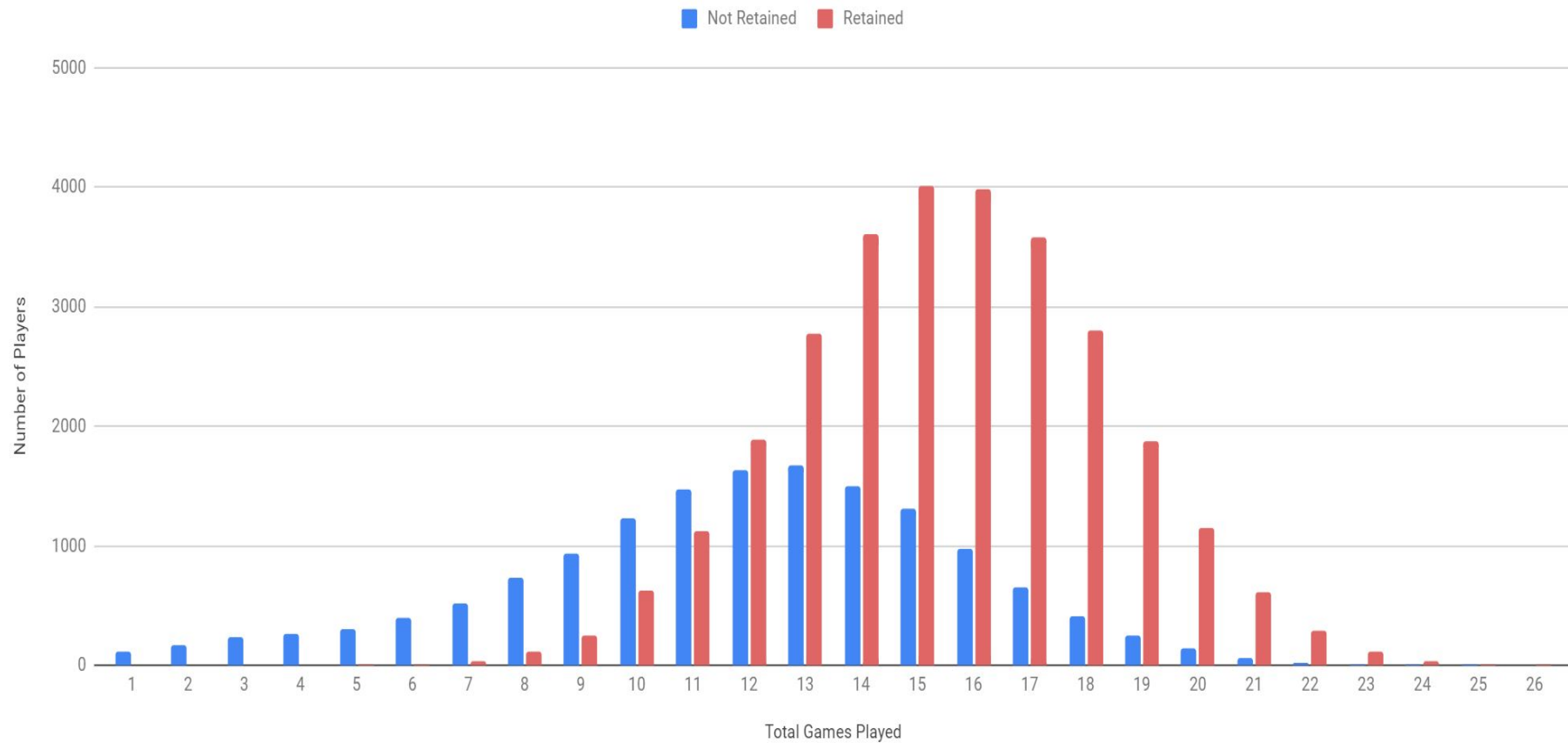
Row	player_id	total_games	longest_win_streak	retention_status
1	0001f4cd1d6a46758ac99d9ec08c6107	9	6	0
2	0002b134ae784531a58545a2c8cd9228	11	2	0
3	0004909f34fb416e9e159181dc2bf4c4	14	4	1
4	0007b666ebe94db7a528988e1f2944d8	15	2	1

Average Highest Win-Streak

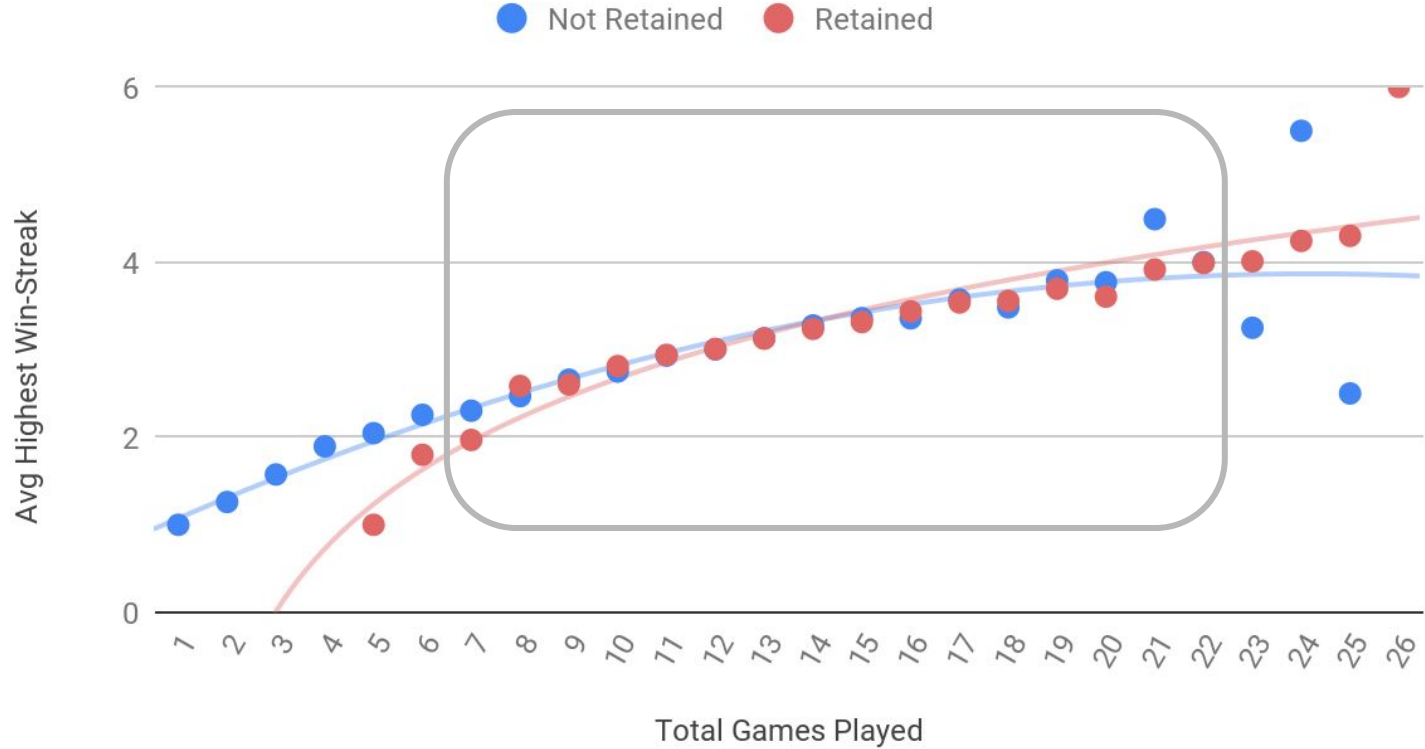
Between Retained and Not Retained



Total Games Played in First 30 Days



Total Games Played vs. Win-Streak





QUERY: Losing Streaks and Retention

```
WITH new_losing_streaks AS      --identify losing streaks by player_id
    (SELECT
        player_id,
        outcome,
        day,
        CASE
            WHEN outcome = "loss" AND
            LAG (outcome) OVER (PARTITION BY player_id order by day) = "win"
            THEN 1
            WHEN outcome = "loss" AND
            LAG (outcome) OVER (PARTITION BY player_id order by day) IS NULL
            THEN 1
            ELSE 0
        END AS new_losing_streak
    FROM (
        SELECT
            m.player_id,
            m.outcome,
            m.day
        FROM      `my-project-46686-1st-try.game_company_data.matches_info` AS m
        JOIN      `my-project-46686-1st-try.game_company_data.retention_status` AS r
        ON m.player_id=r.player_id
        WHERE
            m.day <= r.joined+30)),
```



QUERY: Losing Streaks and Retention

--assign unique number to each new streak

streak_nums AS

(SELECT

day,

player_id,

SUM(new_losing_streak) OVER (PARTITION BY player_id ORDER BY day) AS streak_num

FROM

new_losing_streaks

WHERE

outcome = "loss"),

--length of streak / how many losses

streak_length AS

(SELECT

COUNT (*) AS counter,

player_id,

streak_num

FROM

streak_nums

GROUP BY

player_id,

streak_num)



QUERY: Losing Streaks and Retention

--longest streak per player plus link to retention

SELECT

s.player_id,
MAX (counter) AS longest_streak,
r.retention_status

FROM

streak_length AS s

JOIN

`my-project-46686-1st-try.game_company_data.matches_info` AS m

ON m.player_id=s.player_id

JOIN

`my-project-46686-1st-try.game_company_data.retention_status` AS r

ON m.player_id=r.player_id

WHERE

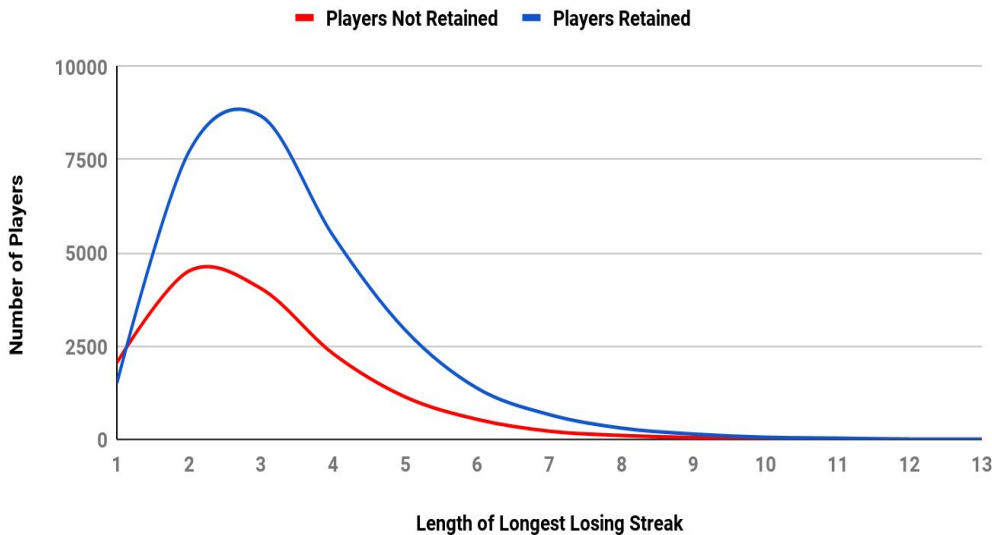
m.day <= r.joined+30

GROUP BY

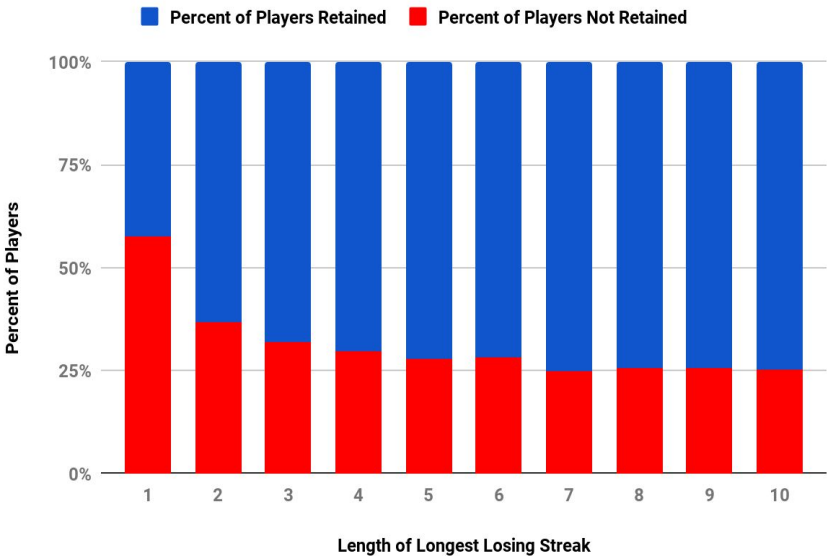
s.player_id,
r.retention_status

Row	player_id	longest_streak	retention_status
1	3551971210ac469c84efb8ce5a34aea3	14	1
2	4d568ccd1d31411e9d80cd0a9b72e85d	14	1
3	78fe28f92884439ca1e4b2322597f3c7	14	1
4	80d79a14cd2841c4a5d914c2f180945c	14	0
5	a75ceee2abf24adb9fef4ca0cf9f3394	14	0
6	fbb1f1a832c24a329ad28ecefa97acbe	14	1

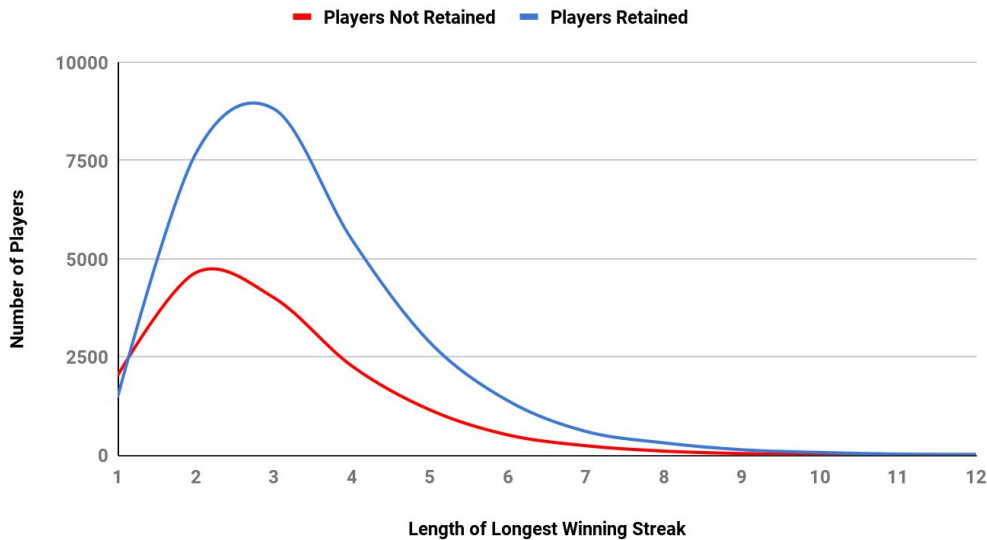
30-Day Player Retention vs Length of Longest Losing Streaks



Percent 30-Day Player Retention vs Length of Longest Losing Streak



30-Day Player Retention vs Length of Longest Win Streaks



Percent 30-Day Player Retention vs Length of Longest Win Streak

