

research snapshot

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Daily fantasy sports playing trends over time

What this research is about

Fantasy sports are online games where participants draft and manage imaginary teams of real professional sports players. Participants compete against the fantasy teams of other people, normally in leagues over an entire sports season. Daily fantasy sports (DFS) allow people to play fantasy sports over a much shorter time period, such as one day, weekend, or week. Like season-long fantasy sports, teams that score the most points based on their players' actual performance win a share of the jackpot. Players are usually required to place entry fees (i.e., wagers) on the contest outcomes before they begin.

There is concern that excessive engagement in DFS may lead to the development of gambling-related problems. This is seen in other forms of online sports betting. Online sports betting can be explained by 'exposure and adaptation effects'. According to these models, exposure to new activities initially causes increased levels of engagement. This is followed by a decline or flattening, known as the adaptation effect. Little is known about whether these trends exist in DFS. The current study explored levels of player engagement (e.g., contest entries, entry fees, participation) among DFS players over time.

What the researchers did

Participants were 11,331 DFS players, aged 15 to 82 years. They were mainly from the United States. They first deposited money on DraftKings, a leading DFS provider, around the beginning of the 2014 National Football League (NFL) season. The researchers followed the players over 27 months.

The researchers collected players' engagement separately for two types of DFS contests. The first

What you need to know

This study is the first to analyze daily fantasy sports playing trends over time using actual player data. The most involved players showed increasing playing trends over time. Less involved players showed decreasing engagement. Among all players, playing trends were seasonal – there was more engagement during National Football League seasons and less engagement during off-seasons. Models of exposure and adaptation help to explain the observed trends of daily fantasy sports.

type was 'top-heavy contests', which promised high payouts to those who finished at the top. The second type was 'double-up contests', where nearly half of players can double their money. To measure players' engagement, the researchers captured a number of metrics. They calculated the total number of entries and total entry fees each day and each month. To assess DFS participation, they calculated the total number of players who were actively playing each day/month. They also calculated players' 'lagged percent lost' (i.e., net loss divided by total entry fees and then compared to the previous day/month).

The researchers analyzed the relationships between each engagement metric and type of contest, by day and by month. During analysis, the researchers noticed that some players stood out from other players. So, the researchers split up the players into two groups: 'most involved players' (MIP; i.e., the top 1% of players on each engagement metric) and 'less involved players' (LIP; i.e., the remaining 99% of players on each metric). The researchers conducted all analyses separately for the LIP and MIP subgroups.

What the researchers found

For the LIPs, there was a strong link between the engagement metrics (i.e., entries and entry fees) for most players. This suggests that most players' entries and entry fees increased and decreased at similar rates. There was also a strong link between contest types over time among the LIPs.

There were less stable relationships among the MIPs. Many of these players were highly engaged based on one of the engagement metrics (i.e., entries or entry fees), but not the other. There was a link between contest types over time among the MIPs, although it was weaker than the link found among the LIPs.

Most DFS players' engagement could be explained by exposure and adaptation effects. Among the LIPs, who made up most of the player pool, there was heavier engagement at the start, followed by a decrease over time. But among the MIPs, there was increasing playing behaviour over time, both in daily and monthly trends.

Player losses were not always linked with decreased engagement, especially for top-heavy contests and across daily trends. Among some LIPs and all MIPs, for double-up contests and across monthly trends, entries and entry fees moderately decreased as lagged percent lost increased. All forms of engagement (i.e., entries, entry fees, and participation) increased during NFL seasons and decreased during off-seasons. This trend occurred for both top-heavy and double-up contests among the LIPs. It occurred to a lesser extent among the MIPs.

Players' entries, entry fees, and participation in top-heavy contests were higher than in double-up contests. Only the players who were most involved in double-up contests had higher levels of engagement on this type of contest. However, their increased engagement only occurred during NFL seasons. During the off-seasons, their top-heavy contest engagement became higher. Also, players who were most involved in double-up contests for entry fees, only showed increased spending on double-up contests during the first NFL season of the study period. After this, their spending on top-heavy contests was higher. These

findings suggest that top-heavy contests had more engagement and slower adaptation than double-up contests. So, top-heavy contests might have a stronger link to the development of gambling-related problems.

How you can use this research

The findings can help to guide DFS regulation and the development of responsible gambling interventions. However, more DFS research is still needed. For example, future research could explore the relationships between engagement metrics and gambling-related harms over a longer period.

About the researchers

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