

PUSHING ADDICTION: THE USE OF PUSH NOTIFICATIONS TO ADVERTISE SPORTS BETTING

JULY 2025



EXECUTIVE SUMMARY

Data continue to show excessive sports betting can cause serious harms to consumers, including elevated rates of bankruptcy, suicide, and intimate partner violence. Research has also found that companies' use of smartphone push notifications as a marketing vehicle is extremely effective in driving user engagement.

To learn more about sports betting apps' advertising practices, NCL staff registered accounts with the three biggest sports betting platforms. Over a four-week period—including two weeks of active betting—NCL collected more than 100 push notifications from these apps. Overall, 93% of the notifications contained advertising material. 62% contained "bet pushes," language urging the user to open the app and place a bet, often explicitly with words like "bet now." 50% of the notifications contained promotional offers, including bonuses, bonus bets, "no sweat" bets, and odds boosts. 28% advertised betting odds, and 15% marketed riskier bets than the tester had been wagering (parlays). These percentages varied depending on the app, as the tables below show. Without asking users for permission, one of the apps automatically enables notification delivery after downloading.

BACKGROUND

Since the U.S. Supreme Court's 2018 decision to strike down the federal law that significantly restricted sports betting nationwide, sports betting companies and their apps have exploded in popularity.¹ In the seven years since, 30 states plus DC and Puerto Rico have permitted online sports betting.² The gains for sports betting companies have been significant. Consumers wagered more than \$148 billion on sports in 2024.³ The industry reported earning \$13.7 billion in revenue in 2024, a 25% increase from 2023.⁴ Meanwhile, consumers are paying a high price.

Individuals with a gambling disorder are significantly more likely to attempt suicide compared to the general population. One peer-reviewed paper reports that individuals with a gambling disorder have the highest suicide rate of any addiction disorder.⁵ 19% of those with a gambling disorder had considered suicide in the past year compared to 4.1% of the general population. 4.7% attempted suicide compared to 0.6% of the wider population.

One recent study found a 10% increase in intimate partner violence rates in households engaged in sports betting after their preferred team lost.⁶ In states that legalized online sports betting, bankruptcy filings increased by as much as 25-30% compared to pre-legalization rates.⁷ The rise of online sports betting appears to have especially impacted young men. Compared to older adults, younger adults are more than eight times as likely to develop symptoms of a gambling disorder.⁸ The same study found that 69% of sports bettors were men and 31% were female.⁹

With the advent of smartphones and digital push notifications, advertisers have created a uniquely effective marketing tool. Push notifications sent from mobile applications increase advertising effectiveness significantly by using data

¹ Murphy v. National Collegiate Athletic Association, 2018. https://www.supremecourt.gov/opinions/17pdf/16-476_dbfi.pdf

² "Online Sports Betting Bill Tracker for United States," Legal Sports Report, June 5, 2025. <https://www.legalsportsreport.com/sports-betting-states/>

³ "Americans Bet \$148 Billion on Sports in 2024, Up 23.6%," Front Office Sports, February 20, 2025. <https://frontofficesports.com/americans-bet-148-billion-on-sports-in-2024-up-23-6/>

⁴ "2024 Commercial Gaming Revenue Reaches \$71.9B, Marking Fourth-Straight Year of Record Revenue," American Gaming Association, February 19, 2025. <https://www.americangaming.org/2024-commercial-gaming-revenue-reaches-71-9b-marking-fourth-straight-year-of-record-revenue/>

⁵ Vijayakumar and Vijayakumar. "Online gambling and suicide: Gambling with lives," Indian Journal of Psychiatry, January 13, 2023. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9983450/>

⁶ Matsuzawa and Arnesen. "Sports Betting Legalization Amplifies Emotional Cues & Intimate Partner Violence," October 30, 2024. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4938642

⁷ Hollenbeck, Larsen, and Proserpio. "The Financial Consequences of Legalized Sports Gambling," October 23, 2024. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4903302

⁸ "National Survey on Gambling Attitudes and Gambling Experiences 2.0," National Council on Problem Gambling, 2021. https://www.ncpgambling.org/wp-content/uploads/2025/01/NCPG_NGAGE-2.0-2021_National_Detailed_Report.pdf

⁹ "National Survey on Gambling Attitudes and Gambling Experiences 2.0" https://www.ncpgambling.org/wp-content/uploads/2025/01/NCPG_NGAGE-2.0-2021_National_Detailed_Report.pdf

Microsoft has published data showing that personalized push notifications increased user engagement for mobile apps by up to 300%.¹⁰ One consumer engagement firm reports push notifications boost average app sessions per user by 182%, purchases per user by 116%, and average user lifetimes by 73%, citing notifications' high visibility and ability to prompt users to re-engage following inactivity.¹¹ Another company's analysis of 63 million app users found that users receiving notifications at least once a day had 820% higher app retention rates compared to users receiving zero notifications.¹² A recent academic study found that the use of emojis in push notifications results in a higher chance of user engagement.¹³ Research on marketing for sports betting specifically has shown that exposure to advertising and inducements for sports betting is associated with a greater likelihood of placing a wager and a greater spend when betting.¹⁴

METHODOLOGY and COLLECTION

From March 14 through April 11, 2025, NCL collected notifications from the three largest sports betting apps: FanDuel Sportsbook & Casino,¹⁵ Draft Kings Sportsbook & Casino,¹⁶ and BetMGM – Sportsbook & Casino.¹⁷ NCL's goal was to understand the use of mobile apps to advertise betting opportunities, including how many of the mobile apps' notifications contained advertising material, the content of the marketing material, and whether the platforms tailored their notifications to the users' behavior. The collection period largely overlapped with March Madness, the National Collegiate Athletic Association's ("NCAA") men's college basketball tournament.

NCL used two iPhones to download the three apps on both devices. NCL used one iPhone as a control to download the apps and create new accounts for the sports betting services. NCL did not use or open the sports betting apps on this device for the remainder of the testing period. NCL used the other iPhone to download the same apps, create accounts for the apps, and actively place bets.

NCL placed 12 bets total on the second device, four per each of the three apps. NCL wagered one bet per app on March 25, March 27, April 1, and April 3. Each bet wagered \$12.50 as a straight¹⁸ proposition¹⁹ bet based on a specific NCAA basketball player's points scored.

NCL chose the same athlete for every bet. The wagering preference in order of availability was as follows: first, the athlete making 2+ three-pointers during a certain basketball game (seven bets total); second, the athlete making over 1.5 three-pointers during a certain basketball game (four bets total); and third, the athlete making 20+ points during a certain basketball game (one bet total).

¹⁰ "Push notifications: Help or hindrance," Microsoft Azure, March 3, 2016.

<https://azure.microsoft.com/en-us/blog/mobile-push-notifications-help-or-hindrance/>

¹¹ "Why Push Notifications Are Important to Your Cross-Channel Strategy," Braze, June 10, 2024.

<https://www.braze.com/resources/articles/why-push-notifications-are-important-to-your-cross-channel-strategy>

¹² "How Push Notifications Impact Mobile App Retention Rates," Airship, 2019.

<https://grow.urbanairship.com/rs/313-QPJ-195/images/airship-how-push-notifications-impact-mobile-app-retention-rates.pdf>

¹³ Wicaksana, Aisyah, and A'Yun. "Designing Effective Mobile Push Notifications: Machine Learning Insights into User Engagement," Journal of Digital Business and Innovation Management. December 31, 2024. <https://ejournal.unesa.ac.id/index.php/jdbim/article/view/65899>

¹⁴ Browne et al. (2019) <https://pmc.ncbi.nlm.nih.gov/articles/PMC7044597/>

¹⁵ Ranked #8 in the "Sports" category in the iOS App Store as of May 21, 2025, FanDuel had the highest market share at 43% as of November 2022. See "US sports betting: Online market share," iGaming Business, January 31, 2023.

<https://igamingbusiness.com/sports-betting/sportsbook/h2-us-sports-betting-3/>

¹⁶ Ranked #12 in the "Sports" category in the iOS App Store as of May 21, 2025, Draft Kings had the second highest market share at 25% as of November 2022. See "US sports betting: Online market share." <https://igamingbusiness.com/sports-betting/sportsbook/h2-us-sports-betting-3/>

¹⁷ Ranked #30 in the "Sports" category in the iOS App Store as of May 22, 2025, BetMGM had the third highest market share at 10% as of November 2022. See "US sports betting: Online market share." <https://igamingbusiness.com/sports-betting/sportsbook/h2-us-sports-betting-3/>

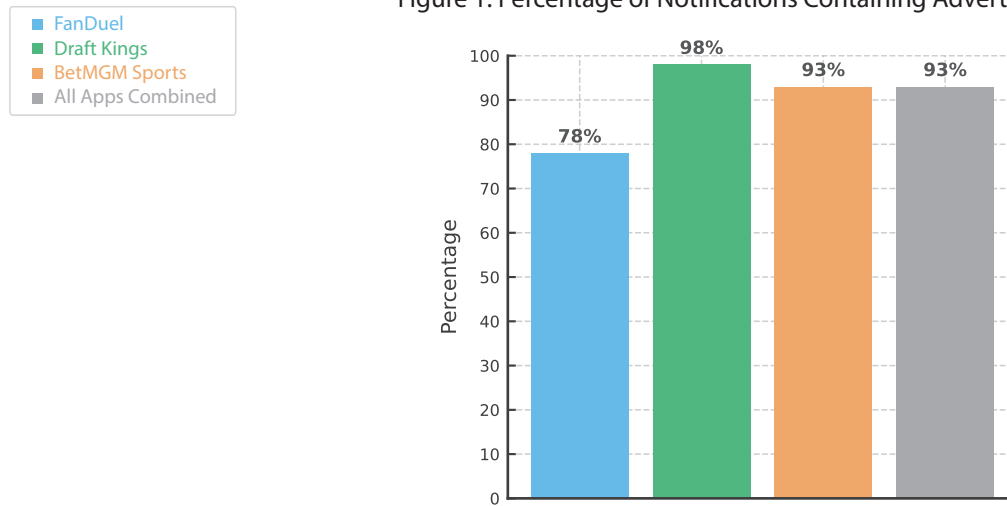
¹⁸ A straight bet is a wager on a single outcome—if the wagered outcome materializes, the bettor wins. This is contrasted with a parlay, where the bettor must correctly wager multiple outcomes in order to win. NCL did not place any parlay bets.

¹⁹ A proposition ("prop") bet is a wager on an individual player or a specific event during a game that is not directly connected to the outcome of the game.

FINDINGS

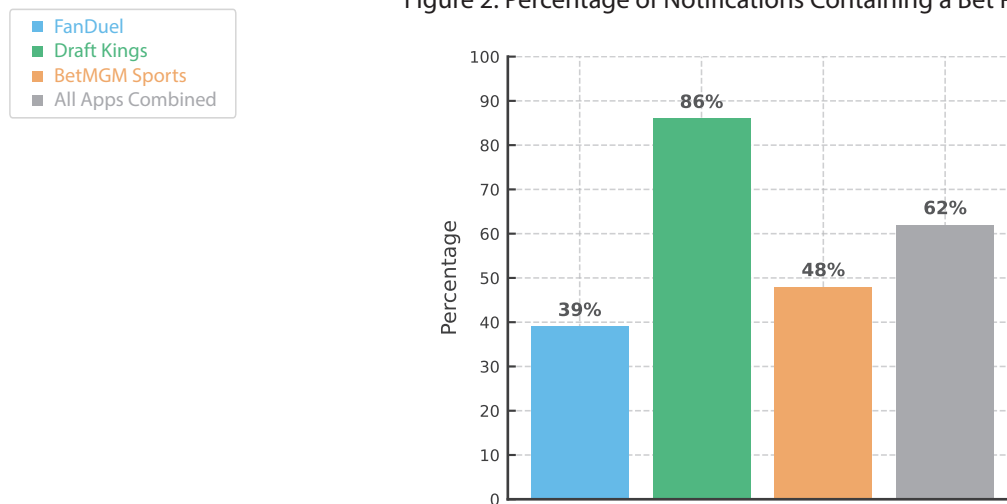
Out of 108 notifications sent to NCL over four weeks, 93% contained advertising for sports betting (Figure 1), including prompts to open the app, place bets, and engage in riskier bet types—parlays—than the user had already wagered.²⁰

Figure 1: Percentage of Notifications Containing Advertising



Overall, 62% of notifications received contained what this report refers to as a bet push (Figure 2). That is, language urging the recipient to open the app and place a bet, often explicitly, with words like “bet now.”²¹

Figure 2: Percentage of Notifications Containing a Bet Push



²⁰ NCL used one iPhone to actively place bets across the three apps, receiving a total of 93 notifications between March 14 and April 11, 2025. NCL used another iPhone to download the same three apps but did not place any bets on this second device, which received a total of 15 notifications over the same time period. Out of 108 notifications total, 100 contained marketing for sports betting.

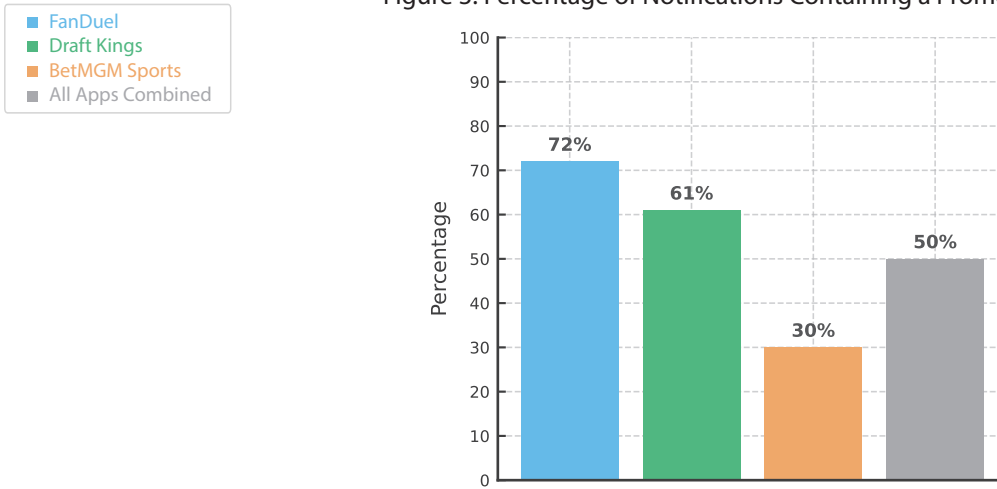
²¹ Many notifications contained the literal command “bet.” Ex. “🏀 Duke vs The Field 🏆 Will there be an unexpected champion at the end of March Matchups? The Field to win the tournament is -275. Bet Now ➡️” (sent by BetMGM on March 27, 2025, at approximately 12:12 p.m.)

Other bet pushes did not explicitly state the word “bet,” but their place in the context of the whole message, the consistent placement of bet pushes as the final words in the text block, and the repeated appearance of a right-pointing arrow emoji with bet pushes were enough to categorize these less explicit phrases as bet pushes. Ex. in the following notification, the words “LET’S GO” were coded as a bet push. “We’ve Got You Covered! 😊

Get a Bonus Bet back if your College Basketball Parlay, SGP, or SGPx loses! ➡️ LET’S GO 🏀” (sent by Draft Kings on March 29, 2025, at approximately 3:04 p.m.)

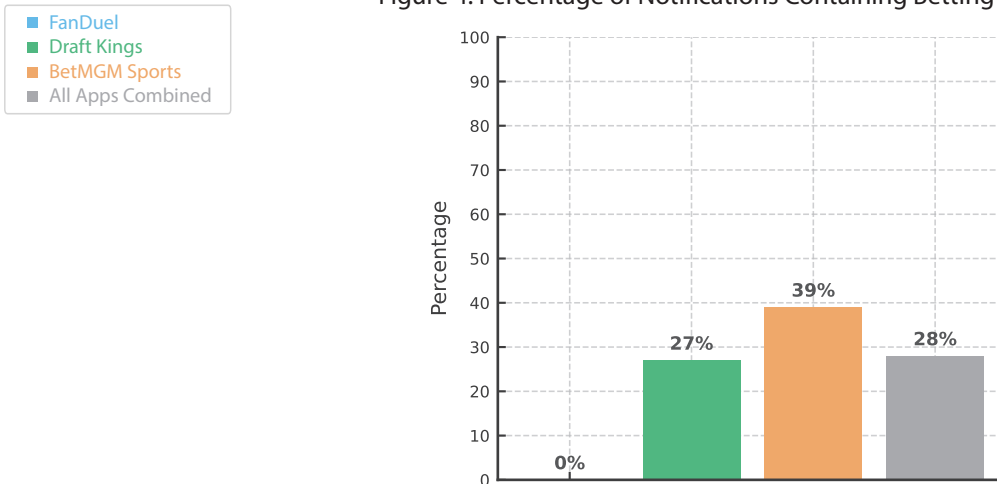
In the aggregate, 50% of notifications received contained some type of promotion, deal, or coupon-like advertisement (Figure 3). These promotions included offers for bonuses,²² “bonus bets,”²³ “no sweat” wagers,²⁴ and odds boosts.²⁵ Research has found that these advertisements are some of the most effective at inducing betting.²⁶

Figure 3: Percentage of Notifications Containing a Promotion



More than one in four notifications contained literal betting odds (Figure 4).²⁷ Only one of the three apps did not send any notifications containing betting odds.

Figure 4: Percentage of Notifications Containing Betting Odds



²² Ex. “👉 Refer a Friend 💰”

March Matchups is here and you can grab a \$100 bonus for each friend who joins the action at BetMGM! Refer Now ➡
Sent by BetMGM on March 20, 2025, at approximately 10:27 a.m.

²³ Ex. “Share your Experience 🗣️”

Eden, we want to hear from you! Share your thoughts in our survey, and get \$10 in FanDuel Bonus Bets! TAKE SURVEY ➡
Sent by FanDuel on April 2, 2025, at approximately 4:21 p.m.

²⁴ Ex. “🏠 HOME RUN NO SWEAT 😊”

Step to the plate! Place a HR bet today & get your wager back if it loses!

🍀 OPT IN ➡

Sent by Draft Kings on April 7, 2025, at approximately 3:04 p.m.

²⁵ Ex. “🍷 SWEET BET & GET 🍷”

Place a 'Race to X Points' bet and get a Live Profit Boost to use on today's 4 March Mania games!

🍀 BET THE UNEXPECTED ➡

Sent by Draft Kings on March 28, 2025, at approximately 6:05 p.m.

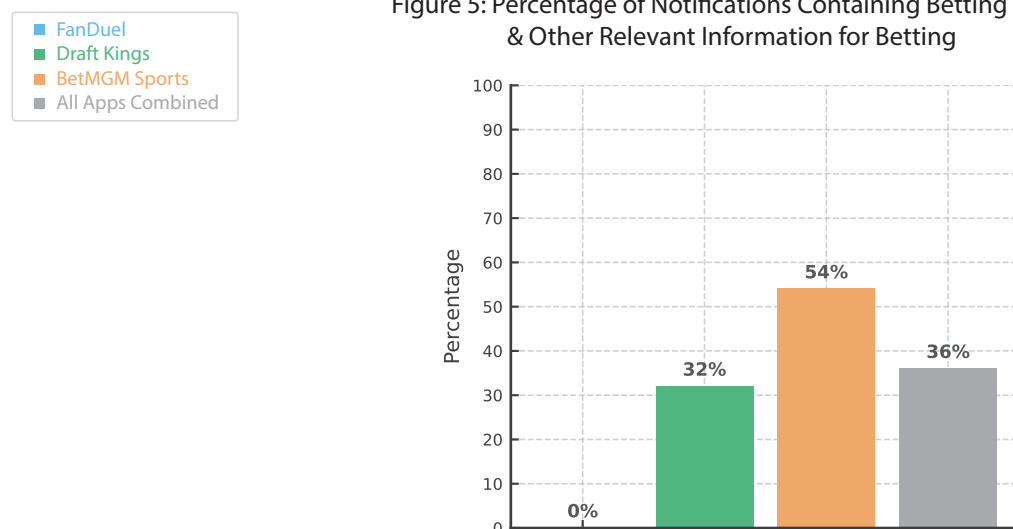
²⁶ Browne et al. (2019) <https://pmc.ncbi.nlm.nih.gov/articles/PMC7044597/>

²⁷ Ex. “🏠 Gritty March Matchup!

#1 Houston (-2.5) & #2 Tennessee (+130) are both ranked in the top 3 for defensive rating in CBB! The O/U is 126.5. Build SGP now ➡
Sent by BetMGM on March 30, 2025, at approximately 1:30 p.m.

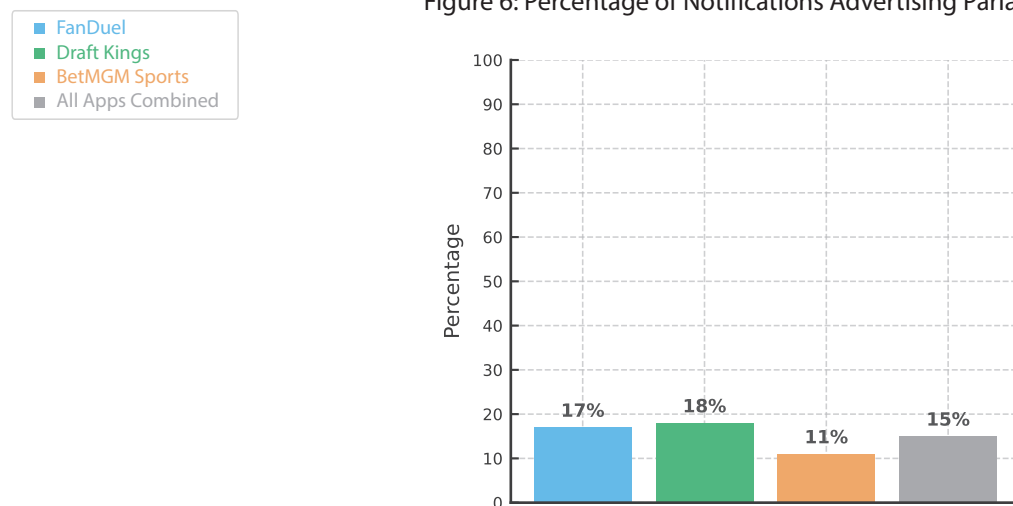
This frequency increased to 36%—more than one in three—when including other relevant statistics that could inform the potential bettor on odds without explicitly stating the calculated odds (Figure 5).²⁸ Betting odds allow the bettor to understand how much money they could earn or lose from a wager, possibly enticing an individual to place a bet if they see preferable odds or potential earnings.

Figure 5: Percentage of Notifications Containing Betting Odds & Other Relevant Information for Betting



15% of notifications marketed parlays, a single bet consisting of multiple sub-wagers (Figure 6).²⁹ If a single sub-wager loses, the entire parlay fails. During the course of the experiment, NCL only placed simple proposition bets, which had better odds compared to parlays. By repeatedly pushing parlays, the sports betting apps advertised significantly riskier bets to NCL.

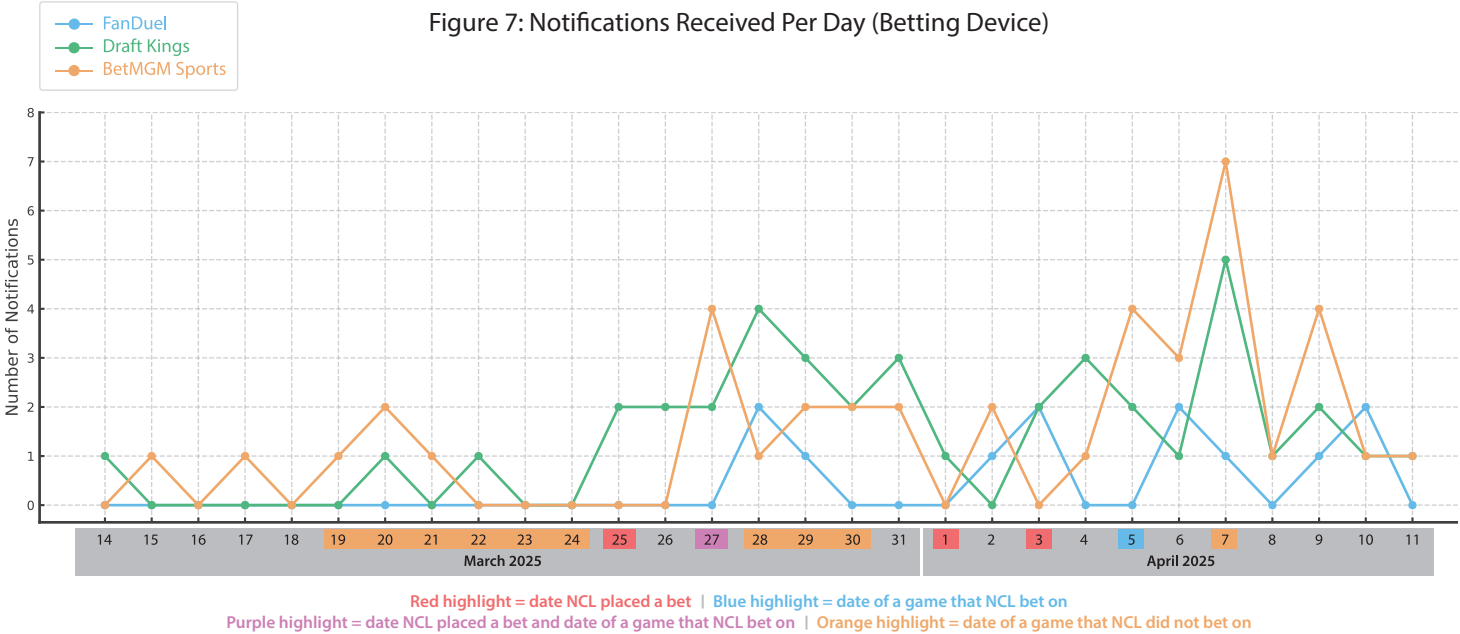
Figure 6: Percentage of Notifications Advertising Parlays



²⁸ Ex. “🏀 Lakers vs Thund...
Lebron James has scored 25+ points in 3 of his last 4 games & SGA has scored 30+ points in 5 of his last 7 games! Build SGP Now...”
Sent by BetMGM on April 6, 2025, at approximately 2:29 p.m.

²⁹ Ex. “🔔 BET MATCH REMINDER 🔔
Eden, opt-in, & get a 100% match on the total stake of your next parlay, SGP, or SGP+ wager, paid in Bonus Bets! 🕒 Expires tonight! (04/09/2025)! Max bon...”
Sent by FanDuel on April 9, 2025, at approximately 3:00 p.m.

The apps appeared to adapt to the NCL testers’ usage habits. NCL waited one week into the experiment before gambling. After NCL began placing wagers on the betting device, the number of daily notifications received increased considerably and remained elevated through the end of the testing period, even after the betting period ended (Figure 7).³⁰ After the betting period ended, the gambling companies continued to prompt the user to place new wagers. After the tester withdrew their cash balance from the apps, they received an offer for a “deposit match” from FanDuel, incentivizing them to add money to their account.³¹



There was a significant difference in notification deliveries between the phone NCL used to place bets and the control device. On the non-betting device, the total number of notifications received was much lower than the betting device, with the apps sending only 15 notifications to the non-betting iPhone, as compared to 93 notifications sent to the betting iPhone.³² The number of notifications received on the non-betting phone dropped sharply after the first two weeks, with 11 of the 15 notifications sent during the first 14 days of the collection period. For comparison, the device NCL used to place bets continued to receive a high number of notifications throughout the end of the collection period.

The notifications were delivered throughout the day, with 98% arriving between 10 a.m. and 11:59 p.m. (Figure 8). 91% of notifications containing advertising were delivered outside of the 10 p.m.-8 a.m. hours, which is the time period that the SAFE Bet Act, pending legislation in the U.S. Congress, would allow sports betting advertising. The wagering platforms delivered the highest number of notifications to the betting device around noon (12 p.m.-2 p.m.) and late afternoon through early evening (4 p.m.-7 p.m.) (Figure 9).

By default, one of the apps—FanDuel—automatically gives itself permission to deliver push notifications to users after downloading.³³ That is, FanDuel did not ask for permission from NCL testers at all before delivering notifications.

³⁰ The tester placed bets during the designated betting period—the second and third weeks. NCL did not place bets during the first or fourth weeks of the experiment.

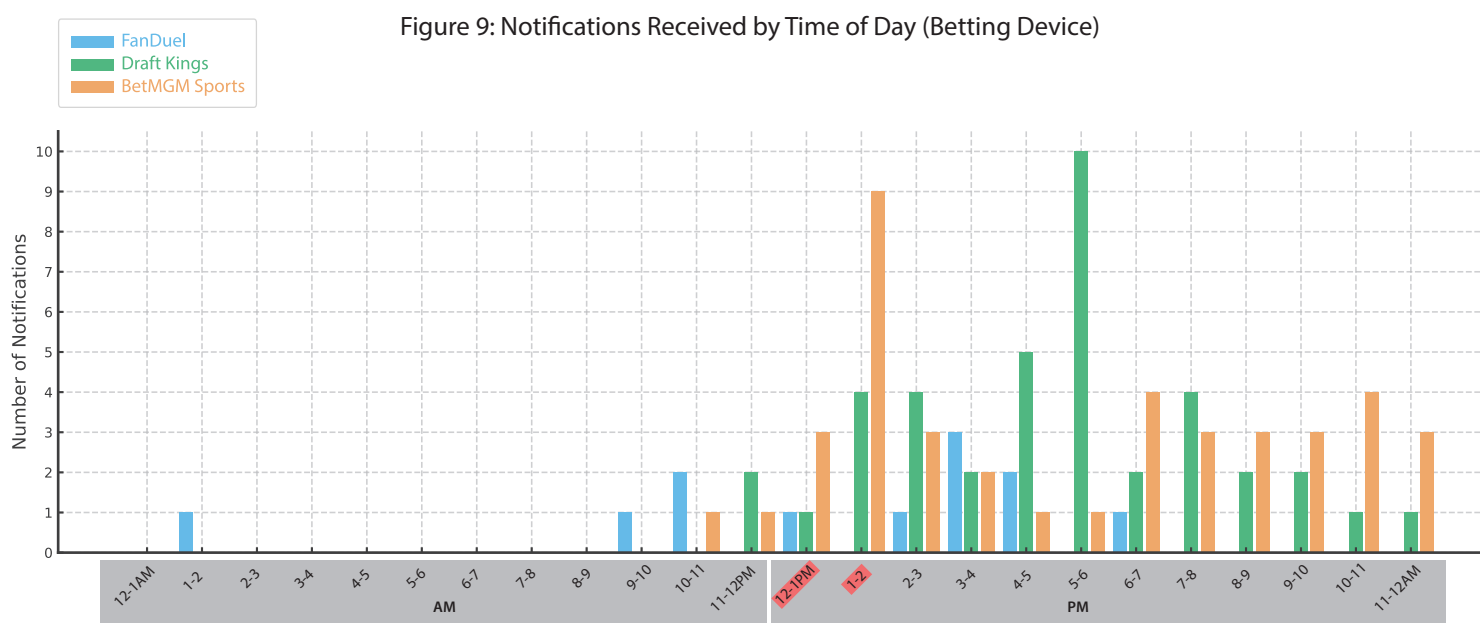
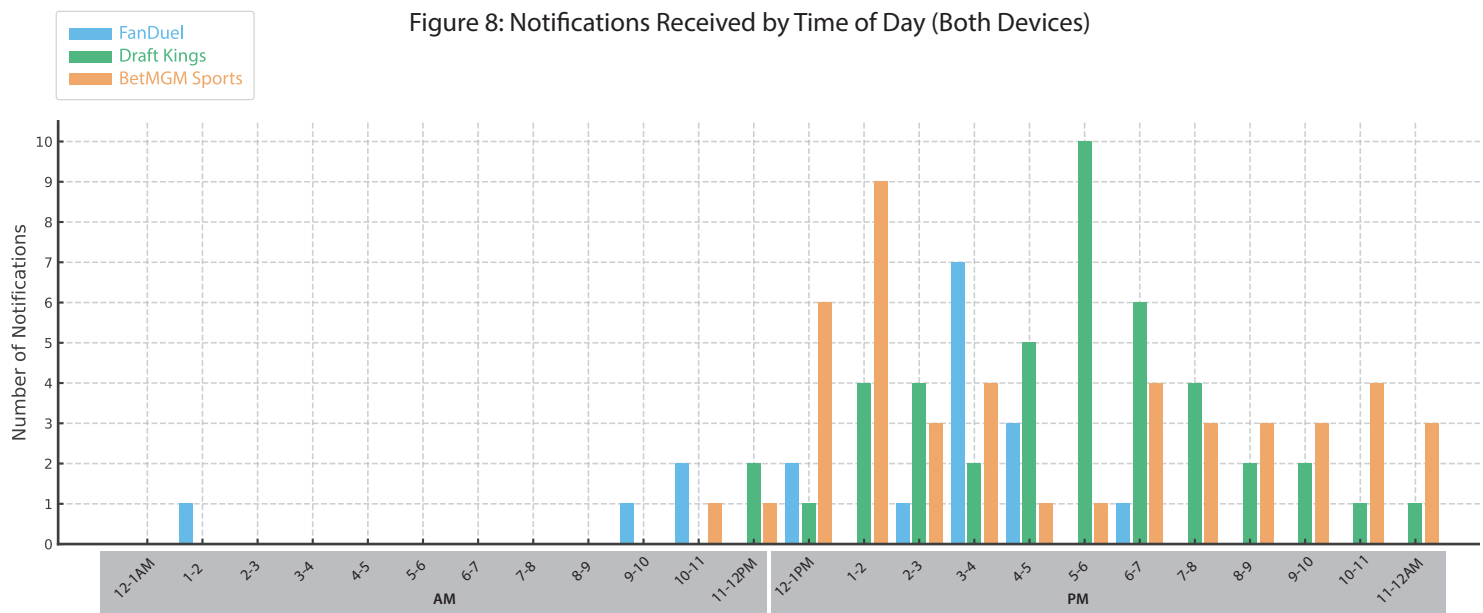
³¹ “EXCLUSIVE DEPOSIT MATC...
Eden, opt in and get a 100% match on your next \$5+ deposit up to \$50! 🎁 Expires at 1:59PM ET on 4/13/25. LEARN MORE ➡”
Sent by FanDuel on April 10, 2025, at approximately 6:00 p.m.

³² Out of 15 notifications received on the non-betting device, eight of them were to prompt the user to deposit cash, including five offers for bonus bets after deposit. Ex: “DEPOSIT FUNDS 🍀
Hey FanDueller, survive, advance, and cash in! 🎲 Bet the biggest matchups all tourney long on FanDuel with \$200 in Bonus Bets if your first \$5+ bet wins! 🎁 DEPOSIT NOW ➡”
Sent by FanDuel on March 14, 2025, at approximately 12:18 p.m.

³³ FanDuel did not have notification delivery to the Lock Screen, as a Banner, with sound, or with a badge enabled as default. Only delivery to the Notification Center was automatically enabled.

BetMGM did not first disclose that it would send advertisements over push notifications when requesting permission to deliver notifications.³⁴ Draft Kings included the following language before requesting permission to send notifications: “Stay in the know[.] Make your betting experience even better. Turn on notifications, and we’ll keep you in the know with exclusive offers like deposit matches, bonus bets, and more.” From this language, the consumer would not know that approximately 98% of the notifications they are consenting to will contain advertising, or that roughly 86% will contain bet pushes.

None of the three apps’ native settings on iPhone appear to allow the disabling of advertising notifications, despite having controls for other marketing mediums like email. A consumer looking to avoid advertising notifications must use their general phone settings to disable all notifications from the app. Doing so would eliminate the marketing notifications, but result in potentially missing critical account security alerts, like new account login attempts or cash balance withdrawals.



Red highlight = hours NCL placed a bet

³⁴ BetMGM used the standard iPhone notification request language: “BetMGM Sports’ Would Like to Send You Notifications[.] Notifications may include alerts, sounds, and icon badges. These can be configured in Settings.”

RECOMMENDATIONS

NCL urges a legal prohibition on the advertising of sports betting, including the use of digital application push notifications for marketing purposes.

If regulators are to continue allowing the operation of digital sports betting apps, the use of push notifications should only be permitted for security purposes, such as user credential changes; new device access; data breach notices; suspicious activity warnings; successful, attempted, or failed cash withdrawals; new connection to a bank account or payment method; or other notifications strictly for the purposes of protecting the security of the user's account (including funds and sensitive information) and the betting company's software, systems, or infrastructure.

Generally, allowable notifications should not push the user to place a wager or otherwise induce engagement with the sports betting product.

NCL endorses the following legislation.

HR2087/S1033 "SAFE Bet Act"—companion bills introduced in the United States Congress by Representative Paul Tonko and Senator Richard Blumenthal. The legislation (as referred to committee in the Senate on March 13, 2025) proposes industry safeguards regarding marketing, affordability, and artificial intelligence. On advertising specifically, the bill would prohibit sports betting advertisements containing "bonus," "no sweat," "bonus bets," or odds boosts promotions. It would also prohibit the use of artificial intelligence to create individualized offers or promotions targeting users.

S5537 "Regulating Addictive Notifications Act"—a bill introduced in the New York State Senate by Senator Kristen Gonzalez. The legislation (as referred to committee on February 24, 2025) would prohibit mobile sports wagering platforms from sending push notifications or text messages relating to the solicitation of sports wagers or deposits.

A5207—a bill introduced in the New Jersey General Assembly by Assemblyman Brian Bergen. The legislation (as introduced on January 16, 2025) would prohibit the advertising of sports betting via the internet or other web-based platforms, including mobile applications.

CONCLUSION

The three largest sports betting apps overwhelmingly use digital push notifications to advertise their addictive products, a practice that can be dangerous and possibly life-threatening for consumers with gambling disorders. They also appeared to have tailored their advertising practices to the users' behavior, with a notable difference in notification delivery patterns between the betting user and non-betting user. To reduce consumer harms, NCL urges policymakers at the federal and state levels to enact prohibitions on the use of push notifications to advertise sports betting.

Questions regarding this report may be directed to NCL Senior Public Policy Manager Eden Iscil (edeni@nclnet.org).

