

Should wagering requirements on gambling bonus offers be capped?

Results deck

April 2024



Executive Summary

This report presents the results from an online randomised controlled trial testing the impact of different wagering requirement levels. Wagering requirements are defined as *a condition of bonus offers that stipulate the number of times consumers play through, or stake, bonus funds, before they can withdraw winnings derived from the bonus.*

The experiment was run in December 2023 with 4,012 UK adults who had gambled in the last 12 months. We found:

1. **7 in 10 people could not calculate how much they would need to bet to meet a wagering requirement**, rising to almost **9 in 10** when a wagering requirement applied to the combined value of the bonus and the deposit amount (“bonus + deposit”). Most underestimated the amount they would need to bet.
2. After seeing a realistic advert and sign-up page, **3 in 5 people did not realise a wagering requirement applied to an offer** at the point of choice.
3. There was **no difference in rates of play for different wagering requirement levels**, despite large differences in the generosity of the offer.
4. **Lower wagering requirement levels were found to cause slightly less decision regret overall**, driven by less regret by those who played.

Based on these findings, we propose 1) banning “bonus + deposit” wagering requirements; 2) capping “bonus only” wagering requirements at 1x; 3) Banning the “wagering requirements” terminology, and making it compulsory to describe the requirements instead, e.g. “Deposit £10 and get a £10 bonus. The £10 bonus must be bet once before withdrawal”.

BetGain sponsored

Sign up and double your deposit up to £10 as a welcome bonus! 🍒 🍌 🍉

18+ // T&Cs Apply

BG

FRUIT RUSH

100% DEPOSIT MATCH UP TO £10

FOR NEW PLAYERS

18+. New customers only. Offer expires 7 days after redemption. Valid for selected games only. 30x wagering requirement applies.

BeGambleAware.org

BETGAIN.COM

Sign-up for 100% matched bonus! Learn More

18+. New customers only. Offer expires 7 days after redemption. Valid for selected games only. 30x wagering requirement applies.

Section 1: Background

The study's origins and aims


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What are wagering requirements?

Wagering requirements are a common feature of bonus offers in gambling that stipulate **the number of times consumers must play through, or stake, bonus funds before they can withdraw winnings derived from the bonus.**

The amount of bonus funds needed to bet to meet a wagering requirements can be framed in terms of:



The value of the bonus amount offered (“bonus only” wagering requirements): For example, if a £10 bonus has a 50 times wagering requirement and the consumer deposits £10, this requires the consumer to play through (wager) **£500** of bonus funds before the winnings derived from the bonus can be withdrawn ($\text{£}10 \text{ bonus times } 50 = \text{£}500$).



The combined value of the bonus amount and the deposited amount (“bonus + deposit” wagering requirements): For example, if a bonus has a value of £10 and the consumer deposits £10, this has a combined value of £20. A 50 times wagering requirement on the combined value of £20 would require the consumer to play through (wager) **£1,000** of bonus funds before the winnings derived from the bonus can be withdrawn ($\text{£}20 \text{ combined value of the bonus and deposit, times } 50 = \text{£}1,000$). These types of wagering requirements are reasonably common in the UK.

These **wagering requirement types**, therefore, determine the amount a consumer needs to bet before they can withdraw winnings derived from bonus offers. For 100% matched bonuses (e.g. £10 when you deposit £10), a bonus + deposit type doubles the wagering requirement, which might not be fully understood by consumers.



Wagering requirements can have significant consequences for withdrawing funds, but consumers often do not notice them nor do they understand what they mean.

Two of our earlier pieces of work examined wagering requirements:



Our [contents analysis of slot game advert features](#) found that **wagering requirements were often hidden in footnotes**, despite the [ASA specifying they are a significant condition](#), which means they need to be [prominent or signposted to](#).



Our [experiment testing the impact of slot game advert features](#) found that consumers often do not pay attention to features hidden in the footnotes, and only **a minority of people understood what wagering requirements mean**.

The Department for Culture, Media and Sport, in their recently released [gambling White Paper](#), provide rationale for **potentially capping wagering requirements**:

“The combination of high re-wagering requirements and tight time limits to claim winnings poses clear risks in terms of creating a sense of urgency to gamble, incentivising high intensity play and potentially gambling more than one had originally planned to.” - 2.36

Given the significant consequences of wagering requirements on gambling spend and withdrawals, coupled with a lack of consumer awareness and understanding, **a regulatory (or policy) intervention might be needed to minimise negative impacts from wagering requirements.**



This experiment tested the impact of different wagering requirement levels on consumers' regret, comprehension, recall, and play behaviour.

In this experiment, we measured the impact of different wagering requirement levels on:

- **Regret:** whether consumers wish they hadn't (or had) played the game.
- **Comprehension:** whether consumers understood what wagering requirements mean and how to calculate them.
- **Recall:** whether consumers noticed wagering requirements in a realistic sign-up process.
- **Play behaviour:** how consumers played the slot game, including time and money spent.

We define the impact of wagering requirements to be negative if they are associated with higher levels of regret, lower levels of comprehension and recall, and higher play intensity.




We measured:	We hope to answer:
Regret	1. What are the effects of lower (vs. higher) levels of wagering requirements on consumers' sense of regret ? <i>(both those who played and did not play were asked regret questions).</i>
Comprehension	2a. Is comprehension of wagering requirements affected by the level of the requirement?
	2b. Is comprehension of wagering requirements affected by the type of the requirement? We tested two types: bonus only and bonus + deposit.
Recall	3. Is recall of wagering requirements affected by the level of the requirement?
Play behaviour	4. Does play behaviour change with the level of the wagering requirement?



The outcomes of this experiment provided evidence for the Gambling Commission's Autumn 2023 consultation on socially responsible incentives.

This evidence informed the Gambling Policy and Research Unit (GPRU)'s response to the Gambling Commission's Autumn 2023 consultation on socially responsible incentives – specifically our recommendations on the likely efficacy of capping wagering requirements, as proposed in the [Gambling White Paper](#).

We tested three lower wagering requirement levels proposed in the consultation (1x, 5x, 10x) against a higher, more commonly used¹ wagering requirement level by UK operators (30x). The outcomes across these four different levels can provide support for three different policy options: banning or capping wagering requirements, or taking no immediate action.²

Policy option	Evidence in support of policy option
Ban 	All levels of wagering requirements resulting in equally high levels of negative impact ³
Cap 	(1) The impact of wagering requirements varies by level of wagering requirements, and (2) there is a level of wagering requirements below which the amount of negative impact is minimal
No action 	Only minimal levels of negative impact regardless of wagering requirement level

¹ This the higher end of the typical range the Gambling Commission identified in their [consultation on socially responsible incentives](#).

² We discuss these policy options and their implications in more detail in [Appendix A](#).

³ For a ban to be effective, however, several implementation and game design issues would need to be addressed. We elaborate on these in [Appendix E](#).

Section 2: Methodology

Experimental design and materials tested


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Methodology - user journey & intervention materials



4,012 participants were randomised to see one of four slot adverts.¹ Each had the same bonus, with a different level of wagering requirement in the footnotes.

High wagering requirement - 30x (control) N = 1,037 Median Viewing Time = 22s	Minimum wagering requirement - 1x N = 1,010 Median Viewing Time = 22s	Low wagering requirement - 5x N = 996 Median Viewing Time = 22s	Medium wagering requirement - 10x N = 969 Median Viewing Time = 22s
<p>18+. New customers only. Offer expires 7 days after redemption. Valid for selected games only. 30x wagering requirement applies.</p>	<p>18+. New customers only. Offer expires 7 days after redemption. Valid for selected games only. 1x wagering requirement applies.</p>	<p>18+. New customers only. Offer expires 7 days after redemption. Valid for selected games only. 5x wagering requirement applies.</p>	<p>18+. New customers only. Offer expires 7 days after redemption. Valid for selected games only. 10x wagering requirement applies.</p>

18+. New customers only. Offer expires 7 days after redemption. Valid for selected games only. 30x wagering requirement applies.

Predictiv sample
N = 4,012

Screeners
Qs +
endowment
task²

Show
Advert

Participants who successfully completed a simple [number switching task](#) received £1.80 to use in the slot game.

Participant randomised into a specific wagering requirement

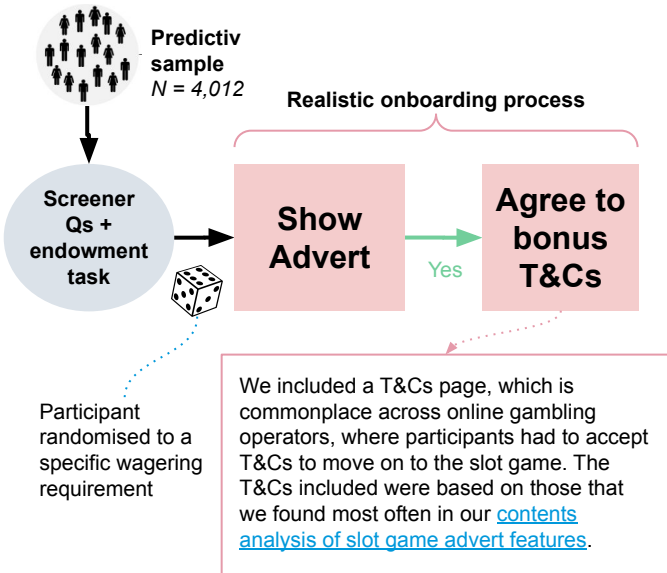
An example footnote, where the level of the wagering requirement was specified. The level varied for each advert (30x, 1x, 5x, 10x).

¹ These adverts were developed based on [a content analysis](#) of 100 real slot game adverts, shared on social media in the UK.

² See [Erkal et al. \(2011\)](#), [Marsh et al. \(2018\)](#), [Newall et al. \(2022\)](#) and [Carpenter and Huet-Vaughn \(2019\)](#).



Participants who wanted to find out more or wanted to play then saw a “T&Cs” page similar to the landing pages we analysed in our [contents analysis](#).



NEW CUSTOMER OFFER

100% DEPOSIT MATCH BONUS

PLAY NOW

1 CLICK 'PLAY NOW'

2 DEPOSIT & BET
On qualifying games

3 GET BONUS
Matched to your deposit

Terms and conditions

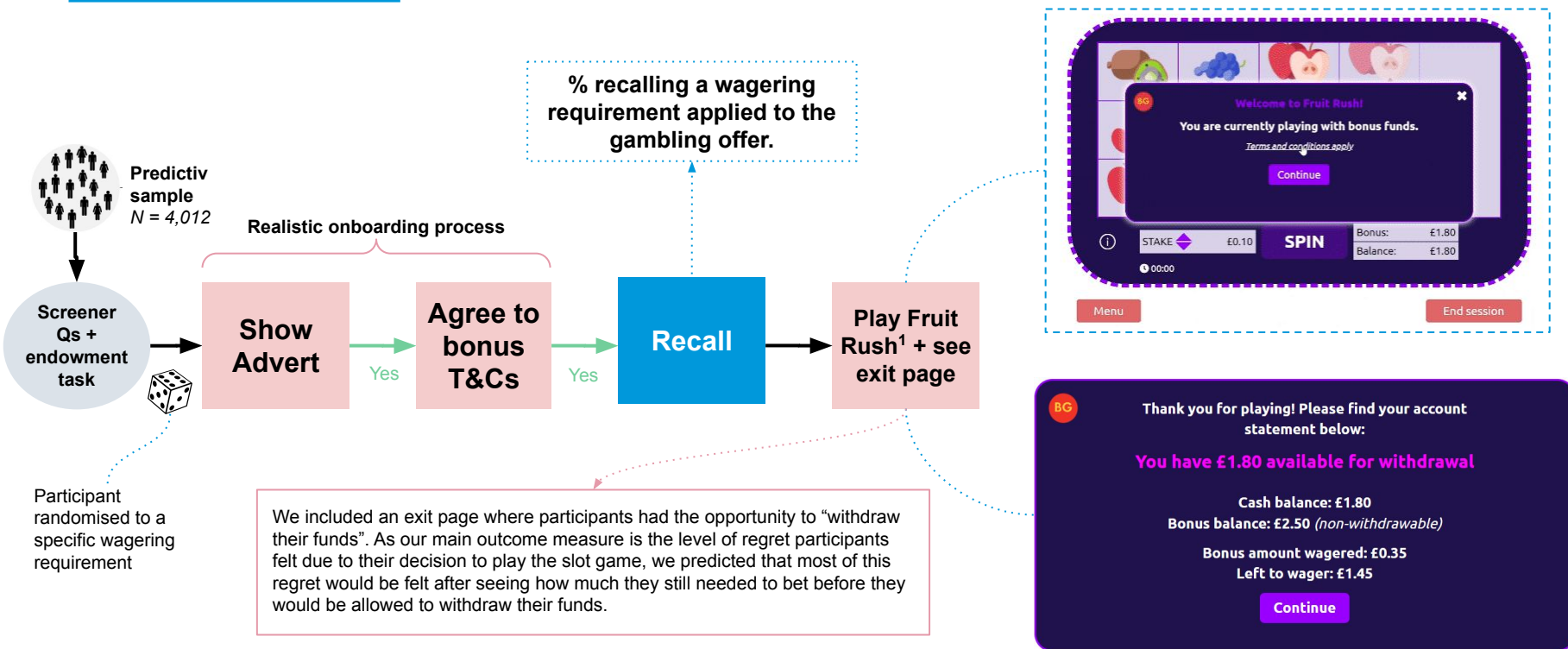
1. The Promotion is only available to new customers aged 18 years and over in the United Kingdom, and who agree to all of BetGain's terms and conditions.
2. The Promotion runs from 15th November 2023 until 15th January 2023.
3. The Promotion is only available on Fruit Rush.
4. A 1x wagering requirement of the bonus applies to this Promotion. Any stake qualifying for this promotion that is taken from your bonus balance will be taken off the wagering requirement. Any amount of stake taken from your main balance will not be taken off the wagering requirement.
5. In order to qualify for this promotion, customers must deposit a minimum of £1.80 on BetGain, and then stake a minimum of £0.05.
6. The maximum bonus is £10. The bonus must be redeemed within 72 hours from issue (bonus period). Any bonus that has not been redeemed before the end of the bonus period will be deleted.
7. This promotion can only be claimed once per customer / per household / per IP address.
8. Additional Terms & Conditions apply.
9. BetGain reserves the right to withdraw this Promotion from anyone who does not qualify and/or is excluded from receiving its offers or promotion under the Terms & Conditions. BetGain reserves the right to change or end any promotion at any time, if required for reasons beyond our control.
10. BetGain is a fictitious gambling operator and is not meant to represent any existing gambling operator.

Continue without playing

PLAY NOW



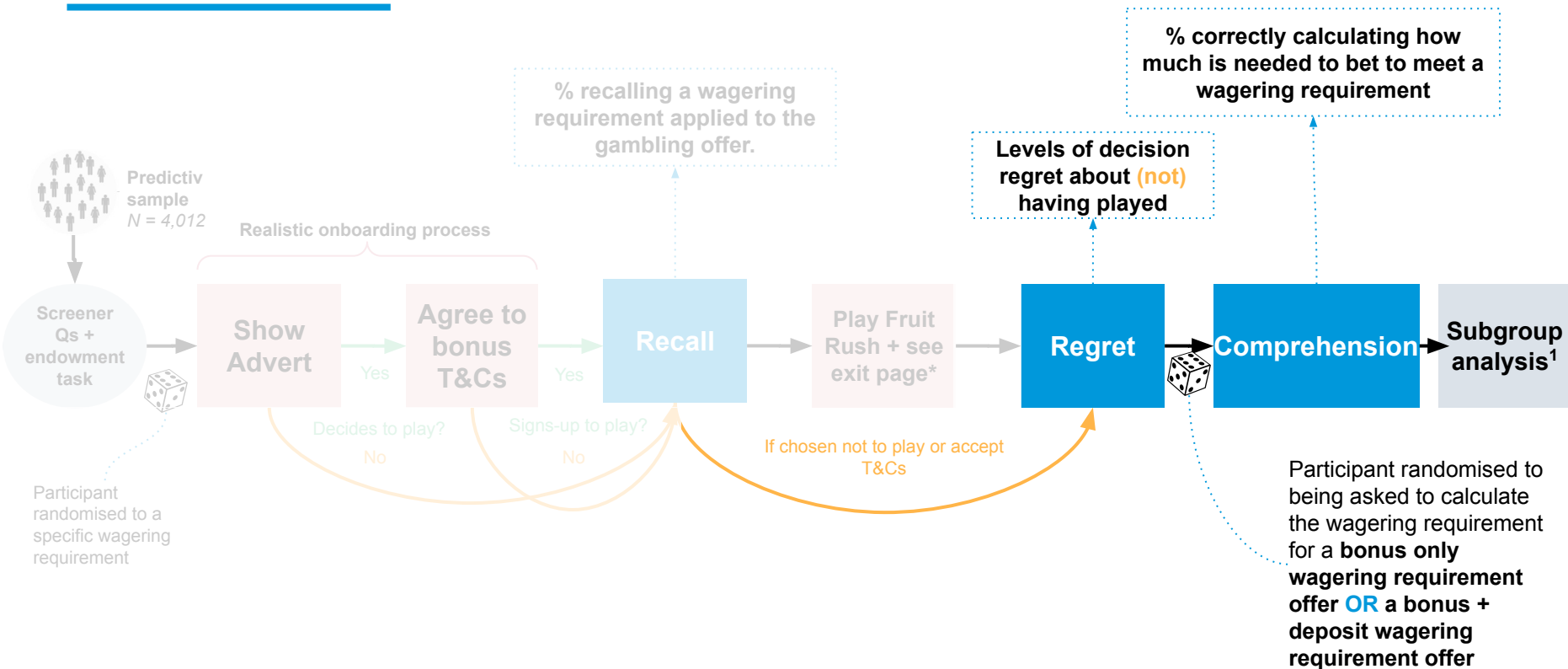
Before participants could choose to play the slot game, they were asked which T&Cs applied to the bonus offer (with one of the options being a wagering requirement).



¹ If participants decided to play Fruit Rush, they deposited their £1.80 endowment and received £1.80 in bonus funds for a total starting balance of £3.60.



We asked participants for thoughts on their decision (not) to play and to calculate what they would need to bet to meet their wagering requirement.



¹ This included a split by PGSI based on [short-form PGSI \(sPGSI\)](#) questions participants answered, as well as a split by those aware and not aware of the wagering requirement.



This experiment had several important limitations, which we have mitigated.

Limitations & mitigations:

- The impact of wagering requirements is game specific.
Differences in expected payout between wagering requirement levels depend on the mechanics of the slot game, and on more than just the return to player of a slot. This means our slot game might have different dynamics and lead to different changes in regret than more realistic slot games. Our regret results may not hold for other slots.
- Most wagering requirements take a long time to meet.
Our online experiment can't recreate the urgency caused by time-limited offers that encourage repeated engagement. We won't make recommendations about appropriate minimum time limits on offers. Although it should be noted that most wagering requirements are met in a single sitting.
- Our experiments findings come from one type of gambling played within a short period of time.
Our slot game is low volatility and findings might thus not exactly extrapolate to real world slots and to other betting types. However, we designed the experiment so that we can draw important generalisable conclusions, for example, on comprehension.
- People might make different decisions in an online experiment than in the real world.
We've audited how operators implement wagering requirements and designed our slot game to be as realistic as possible. We interpret results as an upper-bound of what we would see in the real world, and focus on the differences between treatment arms rather than absolute levels.
- Participants are not betting their own money.
We used endowment tasks to give participants a sense of ownership over the money deposited into the game.¹ We also paid participants on the basis of their real play decisions, giving them "skin in the game", which from BIT experiments is known to improve effort.²

¹ See [Erkal et al. \(2011\)](#), [Marsh et al. \(2018\)](#), [Newall et al. \(2022\)](#) and [Carpenter and Huet-Vaughn \(2019\)](#).

² There's mixed evidence about financial incentives improving data quality (see [Enke et al. \(2023\)](#) and A-3.3.1 in [Stantcheva \(2022\)](#) for a review), however experiments run by BIT have found that it can improve effort in online experiments (unpublished).

Section 3: Results



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Research Question 1

What are the effects of lower (vs. higher) **levels** of wagering requirements on consumers' sense of **regret**?

Headline findings

1. **Lower wagering requirements caused a small reduction in regret about the decision to play (or not play) a slot game.**
2. **Lower regret at lower wagering levels was driven by those who played the slot game.**



We used a modified Decision Regret Scale as our primary outcome.



Participants were asked the following question, with [not] added if they did not play Fruit Rush.

Please take a second to think about the decision you made [not] to play the game after seeing the advert and terms and conditions of the offer.

To what extent do you agree or disagree with the following:

1. It was the right decision to [not] play the game
2. I regret the choice to [not] play the game
3. I would choose to [not] play if I had to do it over again
4. The choice to [not] play the game did me harm¹
5. The decision to [not] play was a wise one

Answer options:

- Strongly Disagree (+20 to total score for Q1, Q3, Q5; +0 for Q2, Q4)
- Disagree
- Neither Agree nor Disagree (total score +10 for all questions)
- Agree
- Strongly Agree (+0 to total score for Q1, Q2, Q4; +20 for Q3, Q5)

The [Decision Regret Scale](#)² was originally developed for medical decisions and [has been widely used](#), but was shown to have [good psychometric properties](#) in non-medical scenarios as well.

The scoring is between 0-100. You can think of each of the five questions having a maximum of 20 regret points.

This means that every increment of regret within a single question contributes 5 points to the decision regret score.

For example, if someone says “*Strongly Agree*” to “*It was the right decision to play the game (Q1)*” they would score 0, but strongly agreeing with “*The choice to play the game did me harm (Q4)*” would score 20.

Each participant’s score is the sum of their regret points on these five sub-questions.

¹ Item 4 previously said “did me a lot of harm”. This was changed to “did me harm” to reflect the lower consequence of gambling in this online context versus medical decision making.

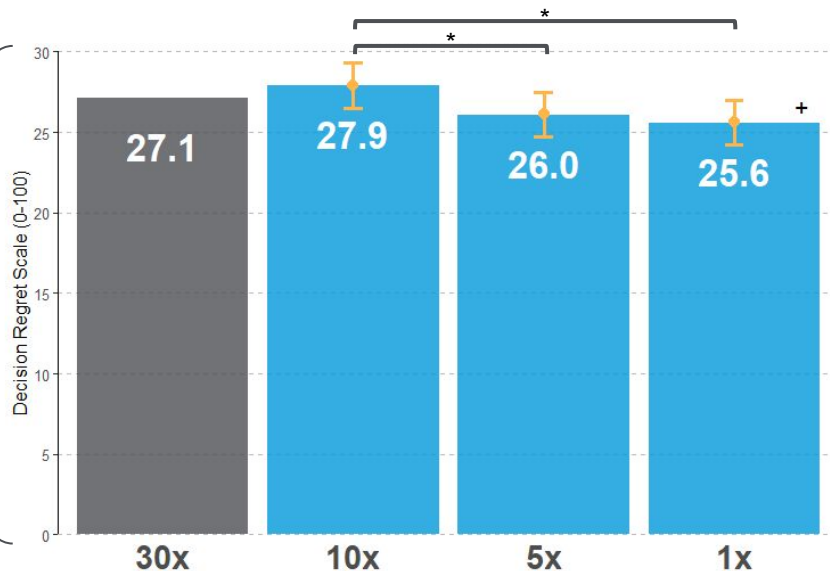
² The original question text of the scale is available [here](#), with the scoring described on pp.283 [here](#).

RQ1 - What are the effects of lower (vs. higher) levels of wagering requirements on consumers sense of regret?



Lower wagering requirements resulted in marginally lower levels of regret in participants' decision to play (or not to play) a slot game.

Average decision regret scale score by wagering requirement level



Moving from 27.9 to 25.6 is equivalent to ~460 (46% of) people in the 1x arm indicating one level higher regret than the 10x arm on any of the 5 questions in the decision regret scale.

Please see the previous page for details on scoring.

These results suggest a modest decline in feelings of regret about the decision to play/ not to play for lower wagering requirements.

Seeing a wagering requirement of 1x or 5x resulted in lower levels of regret compared to a wagering requirement of 10x or 30x. Only the difference with 10x was statistically significant at the 5% level.

There was no detectable difference between the 5x and 1x wagering requirement, nor between the 30x and 10x wagering requirement.

We expect regret to be driven by participants' realisation that a wagering requirement applied while they attempted to withdraw their funds, and their potential inability to withdraw funds because of the requirement, which is more likely at higher wagering requirements.

¹ Our regret questions were derived from the decision regret scale (Brehaut et al., 2003). The full question wording is available in the [supplementary results](#).

Primary analysis. $N=4,012$. ** $p<0.01$, * $p<0.05$, + $p<0.10$.

Stars indicate covariate-adjusted significance after correction for 6 comparisons. Please see [appendix C](#) for covariates.

Error bars are 95% confidence intervals for treatment effects versus the 30X wagering requirement and are derived from standard errors that are robust to heteroskedasticity.

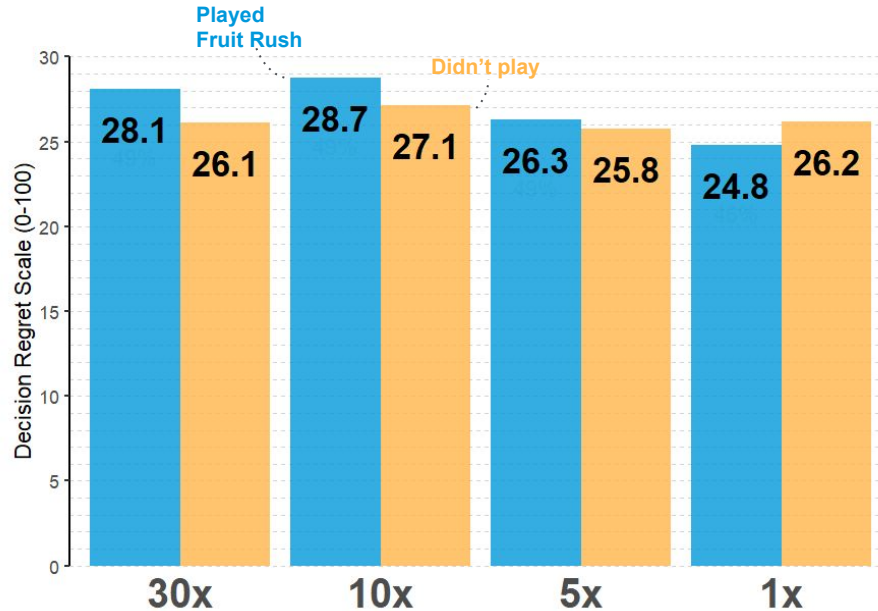
Participants were asked: "Please take a second to think about the decision you made [not] to play the game after seeing the advert and terms and conditions of the offer."

Data collected by BIT on 6th - 22nd December 2023

RQ1 - What are the effects of lower (vs. higher) levels of wagering requirements on consumers sense of regret?



The lower regret associated with lower wagering requirements was largely driven by those who played. Non-players' regret was more stable across arms.



Our headline result of lower regret as wagering requirements fall is due to lower regret among those who played.

Participants who **play** are less likely to regret their decision in the 1x compared to the 30x and 10x arms. There were no detectable differences in regret between those who **didn't play** across arms.

Whilst comparisons between those who **played** and **didn't play** are not causal, the falling relative regret of those who play, combined with the low comprehension and recall found in sections 2 and 4 of this report, suggests a mechanism for higher wagering levels causing increased regret: people are surprised by how far they were from being able to withdraw their "winnings".

Exploratory analysis. N=4,012. 49% of participants played in the 30x, 10x and 5x arm, and 46% in the 1x arm.

Those who played in the 1x arm had lower regret than those who played in the 30x arm ($p=0.02$) and those who played in the 10x arm ($p<0.01$) after correcting for 12 comparisons.

All testing included covariates. Please see [appendix C](#) for covariates.

Participants were asked: "Please take a second to think about the decision you made [not] to play the game after seeing the advert and terms and conditions of the offer."

Data collected by BIT on 6th - 22nd December 2023



Research Question 2a

Is **comprehension** of wagering requirements affected by the **level** of the wagering requirement?

Headline findings

1. **Comprehension** of how much is needed to bet before it is possible to withdraw any winnings **was low at all wagering levels.**
2. **Higher wagering requirements caused lower comprehension of how much is needed to bet.**
3. 3 in 4 participants (74%) underestimated the amount needed to bet before being able to withdraw winnings.



To measure whether participants understood wagering requirements, we gave them two questions, and two chances to get the answer right.

“ We asked participants: ”

Imagine you see a different gambling advert for Fruit Rush that says: “We’ll double your deposit up to £20. [30x/10x/5x/1x] wagering requirement applies to the [bonus/bonus + deposit]”. Please imagine you have signed up for this bonus and deposited £20.

Q1) What is the total amount of money you would have to play with? *This includes both the bonus amount and the money you deposited.*

Correct answer: £40. *This is made up of £20 of the individual’s own money and the £20 bonus, and independent of the wagering requirement.*

Q2) How much do you think you need to bet before you meet the wagering requirement?

Correct answer: *If one deposits £20 on a 100% matched bonus offer, to meet the wagering requirement one would need to bet:*

	30x	10x	5x	1x
Bonus Only	£600	£200	£100	£20
Bonus + Deposit	£1200	£400	£200	£40



If participants answered incorrectly, they were asked again with this definition:

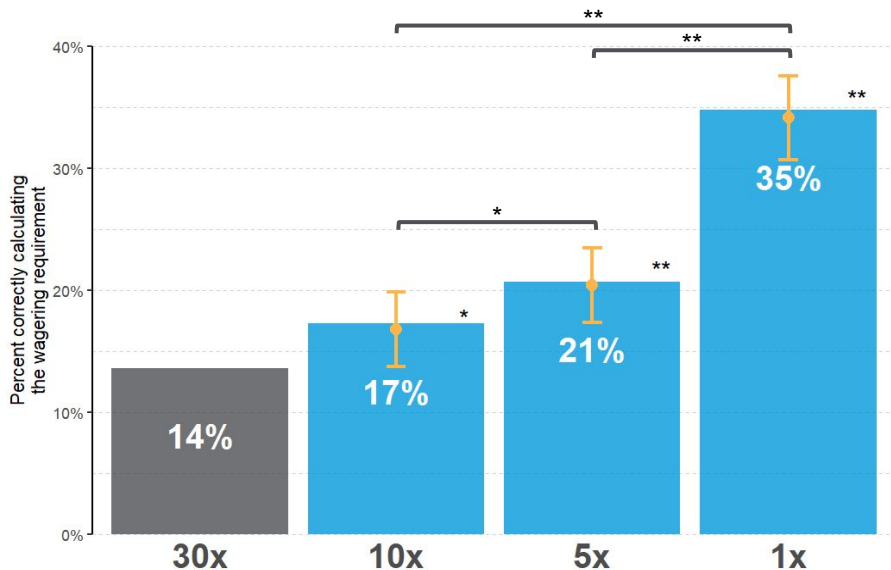
Wagering requirements are specific terms and conditions (T&Cs) on promotions offered by gambling companies. A wagering requirement is the number of times customers play through, or stake, bonus funds before they can withdraw winnings derived from the bonus. They can apply to the bonus amount, or the bonus plus the deposited amount. [Adapted from the Gambling Commission’s [consultation document](#)]

RQ2a - Is comprehension of wagering requirements affected by their level?



Most participants did not know how much they would need to bet to meet a wagering requirement, but lower wagering levels increased the percentage of correct answers.

Percentage correctly calculating the amount required to bet to meet a wagering requirement per treatment arm (Q2)



Overall comprehension of how much one needs to bet to meet a wagering requirement was low. Across both “bonus only” and “bonus + deposit” offers, even in the best performing arm, only 1 in 3 (35%) answered correctly. 3 in 4 underestimated how much they would need to bet (see next slide).

Every reduction in the level of the wagering requirement led to a significant increase in the percentage of correct answers for how much one would need to bet to withdraw winnings.

1 in 4 (26%) participants in the 5x, 10x, or 30x arms answered with £20 (the correct answer in the 1x arm), providing an explanation for the majority of the difference between arms: the intuitive answer happens to be correct in the 1x arm.

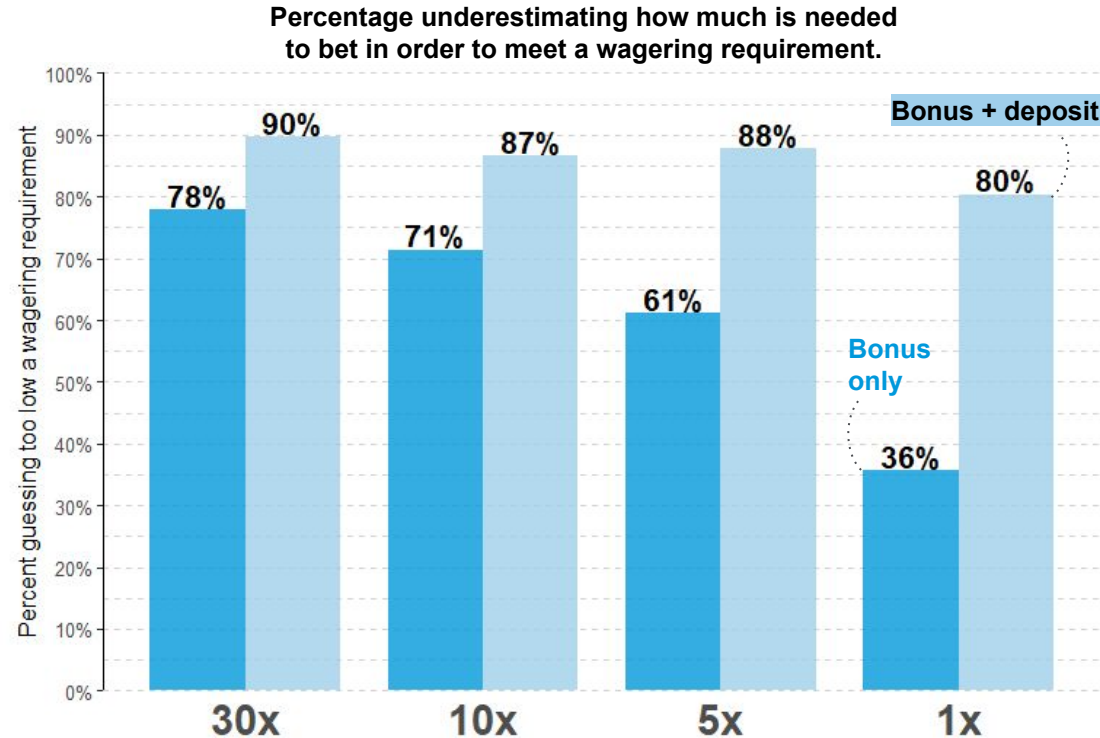
The low rate of correct answers overall is partly explained by [poor understanding of how much money they would start with](#), and [poor understanding of ‘bonus + deposit’ wagering requirements](#).

Secondary analysis. N=4,012. ** p<0.01, * p<0.05, + p<0.10.
Stars indicate covariate-adjusted significance after correction for 7 comparatives. Please see [appendix C](#) for covariates.
Error bars are covariate-adjusted 95% confidence intervals for treatment effects versus the 30X wagering requirement.
Data collected by BIT on 6th December - 22nd December 2023

RQ2a - Is comprehension of wagering requirements affected by the level of the wagering requirement?



3 in 4 (74%) participants underestimated the amount they would need to bet to meet the wagering requirement.



Bonus + deposit offers lead to persistent underestimation of the true amount that must be bet in order to meet a wagering requirement. **Bonus only** framings have falling rates of underestimation as wagering requirements decrease.

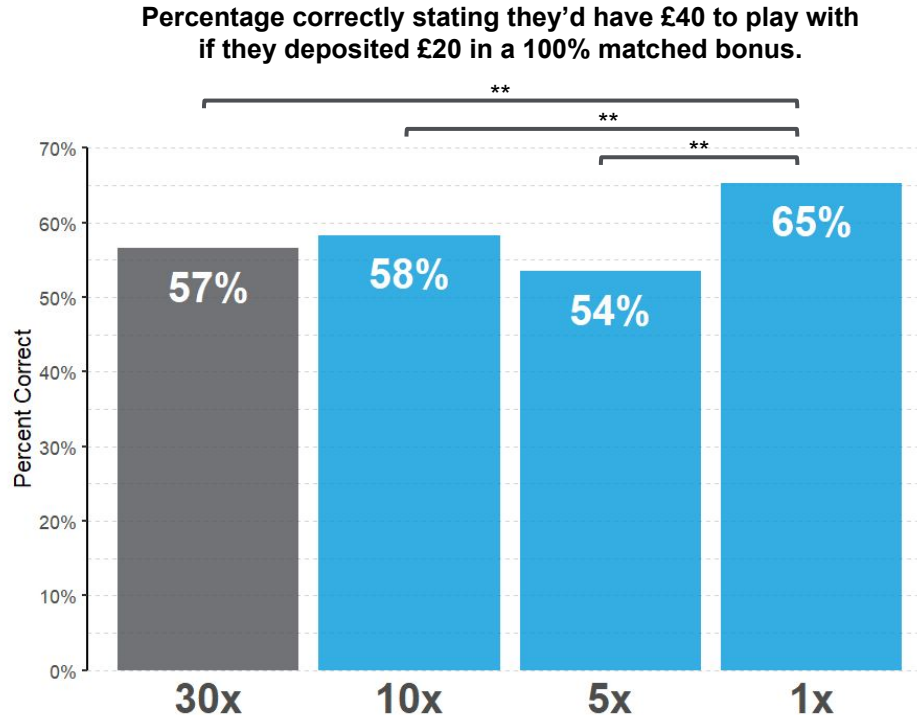
74% underestimated the amount needed to bet overall, with 86% of people in the **bonus + deposit** arms and 62% in the **bonus only** arms underestimating.

Underestimating how much is needed to bet may lead people to gamble more than they would if they knew the full amount. If that is true, even for [the minority aware of the wagering requirement](#), higher wagering requirements and “bonus + deposit” offers may increase harm.



RQ2a - Is comprehension of wagering requirements affected by the level of the wagering requirement?

At least a third of participants could not answer how much they would start betting with if they deposited £20 in a 100% matched bonus offer.



One key reason for the low levels of correct answers to the amount needed to bet (Q2) was lower than expected understanding of how much money they would start with.

Around 3 in 5 participants (58%) knew the total starting balance was £40, though slightly more accurate answers were given for the 1x wagering requirement than at other levels.

We are not sure why the higher wagering requirements confused people into answering something simple and independent incorrectly, nor why the overall level of correct answers is so low.

Exploratory analysis. N=4,012.

The 1x arm had higher comprehension against 30x, 10x, 5x ($p < 0.01$ corrected for 6 comparisons).

Please see [appendix C](#) for covariates.

Data collected by BIT on 6th December - 22nd December 2023



Research Question 2b

Is **comprehension** of wagering requirements affected by the **type** of the wagering requirement (bonus + deposit vs. bonus only)?

Headline findings

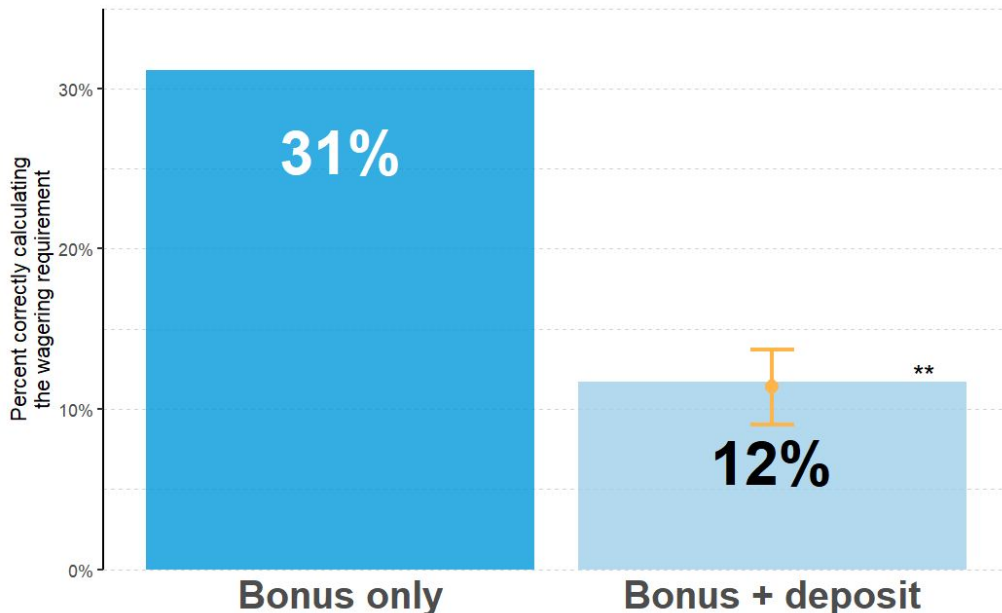
1. A **“bonus + deposit” type wagering requirement dramatically reduced comprehension** of how much is needed to bet to meet a wagering requirement compared to a **“bonus only” offer**.
2. Comprehension of **“bonus + deposit” offers was lower at all wagering requirement levels**.

RQ2b - Is comprehension of wagering requirements affected by the type of the wagering requirement?



A “**bonus + deposit**” type wagering requirement lowers comprehension of the bonus offer when compared to a “**bonus only**” requirement.

Percentage correctly calculating the wagering requirement per frame



A wagering requirement on “**bonus + deposit**” led to a dramatic reduction in correct answers to how much needs to be bet, from an already low level.

25% of those in “**bonus + deposit**” arms gave what would have been the correct answer in the “**bonus only**” arms, suggesting some did not realise they must include both.

“Bonus + deposit” offers are common, double the effective wagering requirement for most offers, and dramatically reduce comprehension. As it is easy to frame a “bonus + deposit” wagering requirement in terms of the “bonus only”, we propose to ban “bonus + deposit” offers.

Secondary analysis. N=4,012 (n=2,002 saw ‘Bonus Only’ and n=2,010 saw ‘Bonus + Deposit’). **p<0.01, *p<0.05, +p<0.10.

Stars indicate covariate-adjusted significance after correction for 7 comparisons. Please see [appendix C](#) for covariates.

Error bars are 95% confidence intervals for treatment effects versus the 30X wagering requirement.

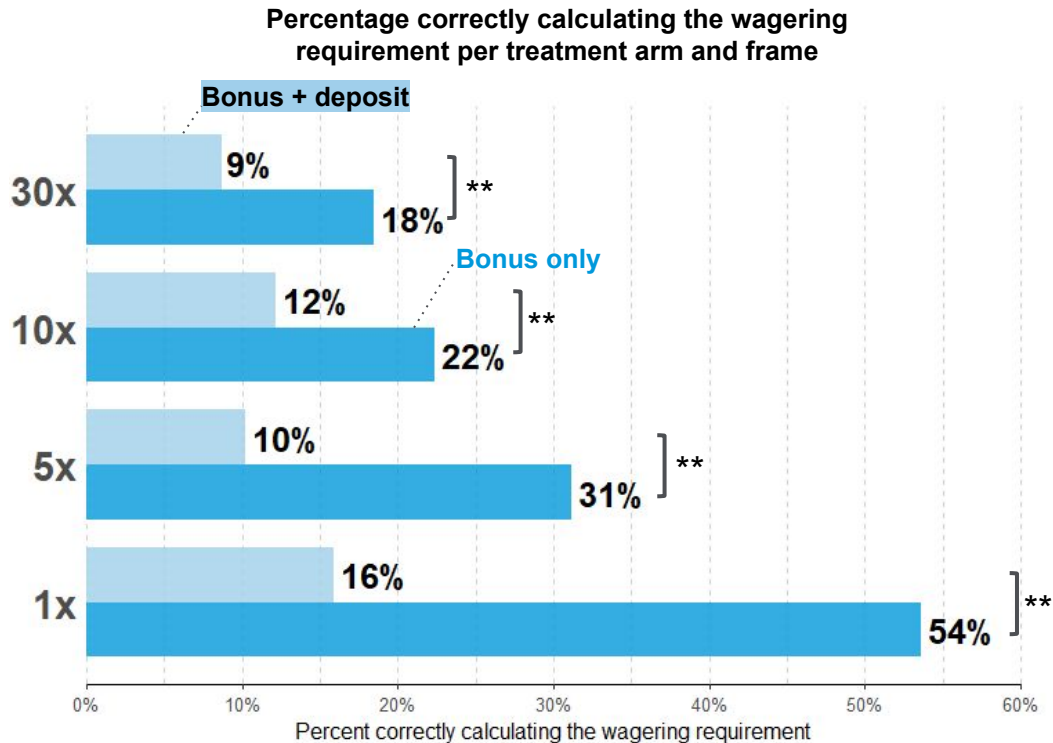
Participants were asked: “How much do you think you need to bet before you meet the wagering requirement?”

Data collected by BIT on 6th December - 22nd December 2023

RQ2b - Is comprehension of wagering requirements affected by the type of the wagering requirement?



Framing a wagering requirement as a “**bonus + deposit**” reduces understanding of the offer at every level of the wagering requirement compared to “**bonus only**” offers.



Levying a wagering requirement on “**bonus + deposit**” led to a reduction in understanding at all levels of wagering requirements.

Twice as many people gave the correct answer when the requirement was framed as a 10x “**bonus only**” (22%) instead of a 5x “**bonus + deposit**” (10%), despite being identical offers.

Differences may be driven by the interaction of having to calculate the required amount for both the bonus and deposit and for increasingly large numbers. Consumers might also be more familiar with “bonus only” wagering requirements and therefore find them easier to calculate (but still experience the complexity of larger numbers).

Technical note: Players of Fruit Rush might be primed to think of offers as ‘bonus only’ due to availability heuristics, leading to a bias in favour of an effect. In [appendix C](#) we show the same pattern holds comparing just those who didn’t play.

Exploratory analysis. N=4,012. ** p<0.01, * p<0.05, + p<0.10.

Stars indicate covariate-adjusted significance corrected for 4 comparisons. Please see [appendix C](#) for covariates.

Participants were asked: “How much do you think you need to bet before you meet the wagering requirement?”

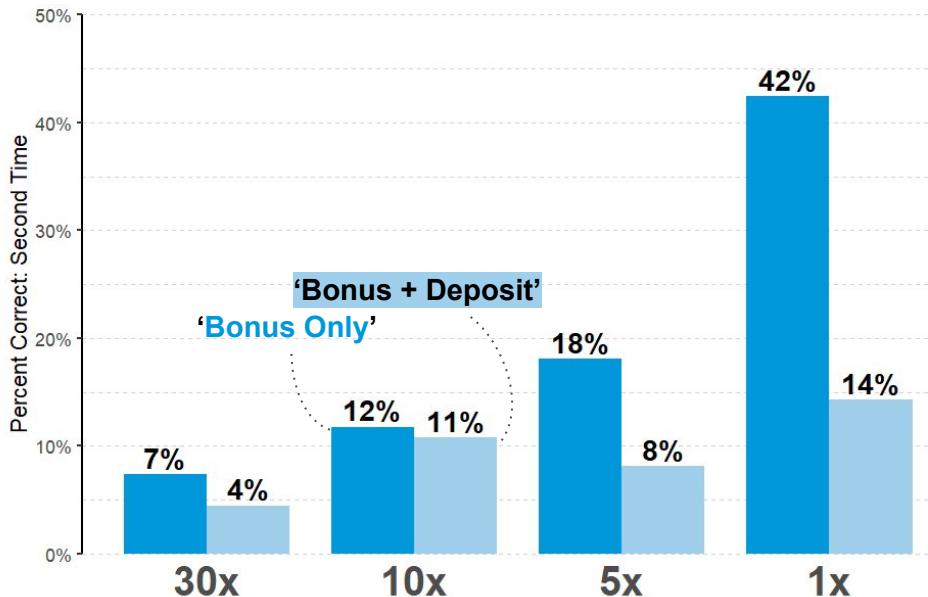
Data collected by BIT on 6th December - 22nd December 2023



RQ2b - Is comprehension of wagering requirements affected by the level of the wagering requirement?

Providing a definition of wagering requirements to those who didn't know how much was needed to bet led to 13% of people getting it correct the second time.

Percentage correctly calculating the wagering requirement per treatment arm and frame



Giving the definition of a wagering requirement to those who did not know how much they would need to bet the first time of asking led a minority of these participants to get it right when asked again. Across both “**bonus + deposit**” and “**bonus only**” framings, 24% of people in the 1x arm gave the correct answer compared to an average of 10% answering correctly across the 30x, 10x and 5x levels.

The combined percentage of participants getting the amount required to bet at either the first or second try (the latter with the definition) try are:

	30x	10x	5x	1x
Bonus Only	24%	31%	43%	73%
Bonus + Deposit	13%	22%	17%	28%

Taken together, the 1x “bonus only” arm outperforms the other arms and is the only arm for which a majority of participants got the answer correct. We interpret this as strong evidence in favour of a 1x cap

Descriptive analysis. N = 3,133 (those who didn't correctly say the amount needed to bet at the first time of asking).

From left to right, the number of people in each arm are: 30x (n=422, n=470), 10x (n=383, n=446), 5x (n=337, n=445), 1x (n=224, n=406)

Participants were asked: “How much do you think you need to bet before you meet the wagering requirement?”

Data collected by BIT on 6th December - 22nd December 2023



Research Question 3

Is **recall** of wagering requirements affected by the **level** of the wagering requirement?

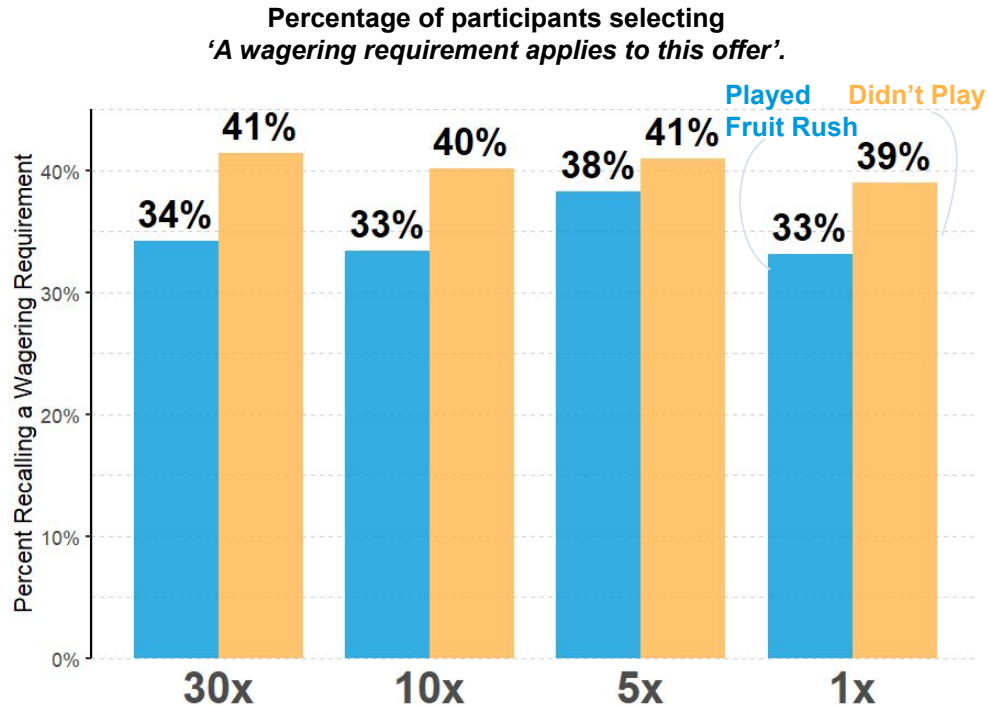
Headline findings

1. **Most participants did not notice the wagering requirement.** This was consistent across the four levels of wagering requirements.
2. **Those who did not play were more likely to have noticed the wagering requirement.**



RQ3 - Is recall of wagering requirements affected by the level of the wagering requirement?

3 in 5 (62%) were unaware that a wagering requirement applied to the slot game before they played. Recall was higher among those who did not play.



After seeing a realistic sign-up process (including a T&Cs page), and having made their decision to play, 38% of participants recalled there was a wagering requirement on the offer. There were no detectable differences by wagering requirement level.

Those who **chose to play** were 6pp less likely to know there was a wagering requirement.

Whilst not causal, this suggests noticing a wagering requirement might have contributed to participants' decision not to play.

Those who recalled a wagering requirement regretted their decisions less in all but the 1x arm (see [exploratory subgroup section](#)).

Exploratory analysis. N=4,012.

Between 21% and 29% said they didn't know. There were no differences in overall recall between any arms. Those who played had significantly lower recall than those who didn't ($p < 0.001$)

Please see [appendix C](#) for covariates.

Participants were asked: "Based on your understanding of the offer, which of the following are true?"

Data collected by BIT on 6th December - 22nd December 2023



Research Question 4

Does the **level** of the wagering requirement
impact **play behaviour**?

Headline findings

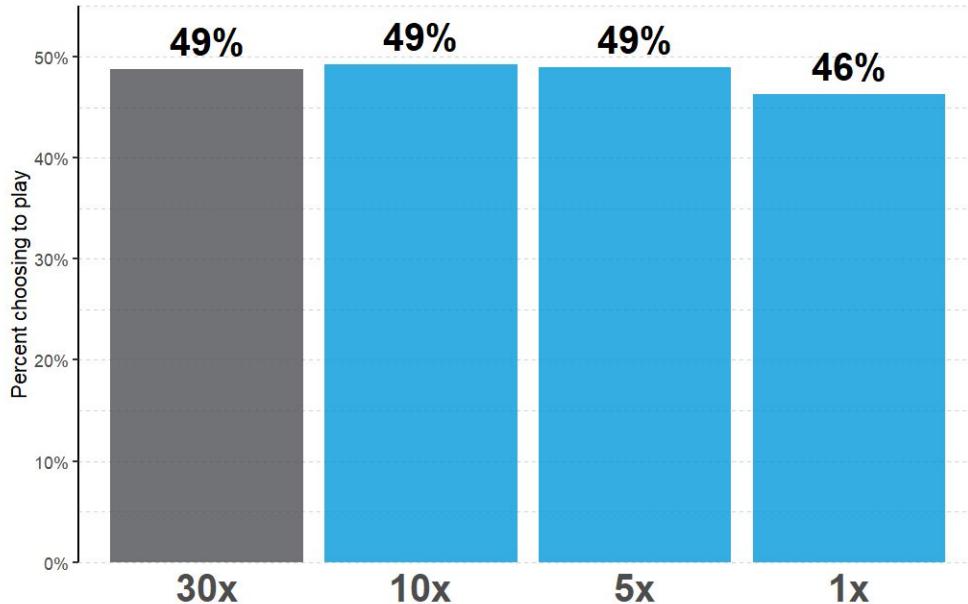
1. **There were no differences in the proportion choosing to play across wagering requirement levels**, despite meaningful differences in the generosity of the offer.
2. **Those in the 1x arm spent less time playing**, but the fraction of participants losing money was constant across wagering levels.

RQ4 - Does the level of the wagering requirement impact play behaviour?



The lower regret associated with lower wagering requirements was largely driven by those who played. Non-players' regret was more stable across arms.

Percentage of participants choosing to play Fruit Rush



There were no detectable differences in the proportions choosing to play across wagering requirement levels.

If people noticed and understood wagering requirements, we would expect more people would play in the 1x arm because there are meaningful differences in potential earnings from the different offers: those who play in the 1x arm earned £1.10 more (60%) more than in the 30x arm.

We think the similar play percentages are due to (i) at least 60% of participants not realising there was a wagering requirement on the offer in each arm, and (ii) those who are aware of wagering requirements having little understanding of how they work.

Exploratory analysis. N=4,012.





There were no significant differences between the play rates in any arm using a covariate-adjusted logistic regression. See [appendix C](#) for covariates.

Data collected by BIT on 6th December - 22nd December 2023

RQ4 - Does the level of the wagering requirement impact play behaviour?



Participants with a 1x wagering requirement spent less time playing and won more money vs. those with the 30x requirement.

	 Time spent playing Fruit Rush	 Final balance (participants started with £3.60)	 % losing money by playing	 % hitting wagering requirements
	1x was the only level where average time spent playing was significantly lower than 30x.	The 30x requirement was the only level where, on average, those who played ended with less than if they hadn't played (£1.80).	There were no differences in the proportion of participants losing money. This was driven by most participants (64%) exiting without betting their own money.	As participants were guaranteed to hit a 1x wagering requirement, 24% left money on the table by leaving early.
1x	2m 52s**	£2.87**	15%	76%**
5x	3m 27s	£2.18**	16%	18%**
10x	3m 35s	£2.02	16%	5%**
30x	3m 30s	£1.77	17%	0.2%

Exploratory analysis. N=1,940 (those who play). ** p<0.01, * p<0.05, + p<0.10.

Stars indicate covariate-adjusted significance after correction for 6 comparisons. Please see [appendix C](#) for covariates.

Additional play outcome data is reported in [appendix B](#).

Data collected by BIT on 6th December - 22nd December 2023



Results from exploratory subgroup analysis

Headline findings

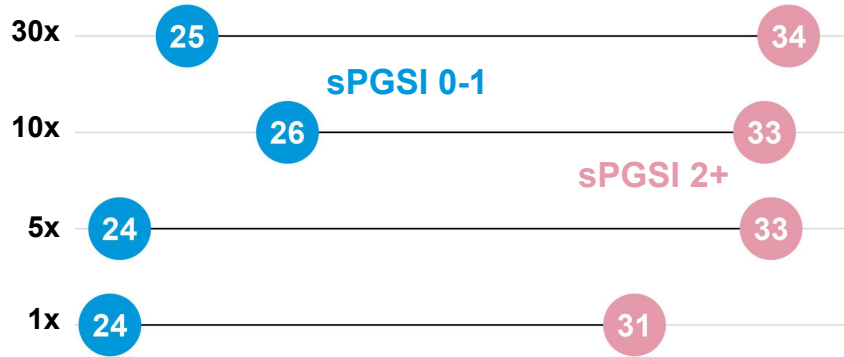
1. Across wagering requirement levels, those more vulnerable to gambling harm (higher sPGSI scores) regretted their decisions more than the less vulnerable.
2. Those who were aware of the wagering requirement when they made their choice regretted their decision less.

RQ1 - What are the effects of lower (vs. higher) levels of wagering requirements on consumers' sense of regret?



Those classed as medium to high risk on the short PGSI were more likely to regret their decision, but their regret does not vary with wagering levels.

Average regret by score by sPGSI (n=4,012)



Those with a higher problem gambling severity index (sPGSI, measured through a [shortened questionnaire](#)) reported higher regret about their decision to not play or play Fruit Rush. There was no statistically significant variation by the wagering requirement level.

Average regret is the same if higher sPGSI participants played or did not play. They are more likely to regret any decision they take, rather than the experience of wagering requirements having larger impacts on them.

% saying the correct amount needed to bet by PGSI

	30x	10x	5x	1x
PGSI (0-1) (N =2,976)	15%	18%	21%**	36%**
sPGSI (2+) (N = 1,036)	11%	14%	20%**	31%**

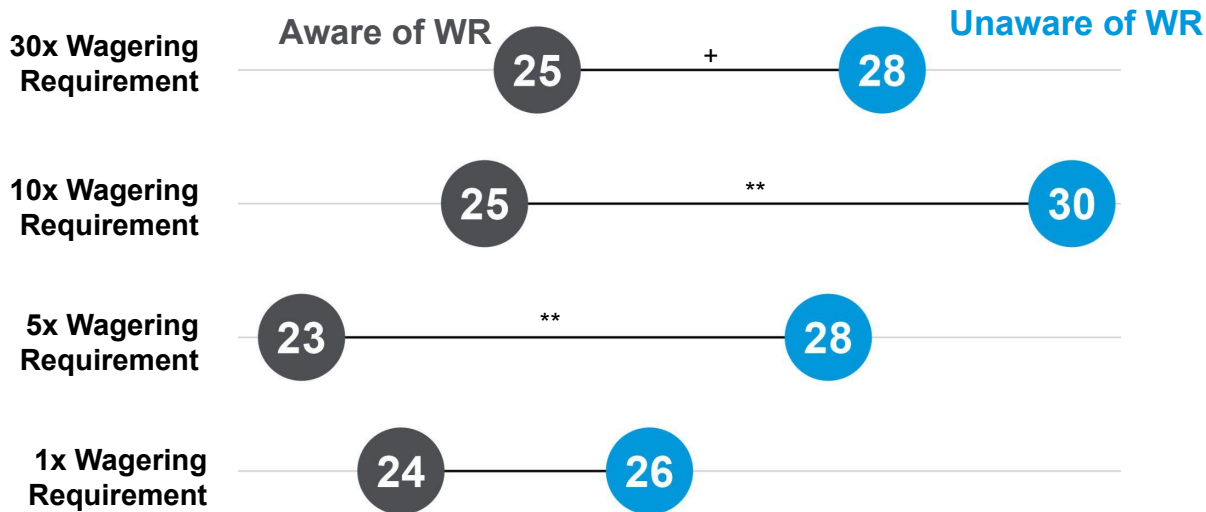
People scoring higher on the sPGSI are slightly less likely to answer the comprehension questions correctly. As for other groups, comprehension is lower for higher wagering requirements.'

Exploratory analysis. N=4,012. ** p<0.01, * p<0.05, + p<0.10.
sPGSI 2+ have higher regret levels (p<0.001, 4 comparisons, OLS) and lower correct comprehension (p=0.01, 4 comparisons, Logistic) adjusting for covariates.
Please see [appendix C](#) for covariates.
Data collected by BIT on 6th December - 22nd December 2023



Those who were aware of the wagering requirement regretted their decision less.

Average Regret¹ by awareness of the wagering requirement (WR) (n=4,012)



Those who were **unaware** of a wagering requirement regretted their decision to (not) play more, though the difference within the 1x group was not significant.

Whilst this is exploratory analysis and differences across subgroups are not causal, this suggests not realising there is a wagering requirement on an offer under a 1x wagering requirement might be less frustrating than at other levels.

¹ Numbers are rounded to zero decimal places and therefore similar values may not line up perfectly.

Exploratory analysis. N=4,012. ** p<0.01, * p<0.05, + p<0.10.

Those who recalled the wagering requirement had lower regret under a 30x (p=0.08), 10x (p<0.01) and 5x (p<0.01) but not the 1x wagering requirement, after correcting for 4 comparisons.

Please see [appendix C](#) for covariates.

Data collected by BIT on 6th December - 22nd December 2023

Section 4: Discussion

Study conclusions & implications for policy


THE
BEHAVIOURAL
INSIGHTS
TEAM


THE
GAMBLING
POLICY &
RESEARCH
UNIT



We propose capping “bonus only” wagering requirements at 1x, and banning “bonus + deposit” wagering requirements.



Cap “bonus-only” wagering requirements at 1x.

Our results suggest that a **1x “bonus only” wagering requirement cap would increase the proportion of people who can identify the amount they would need to bet to meet the wagering requirement, reduce play intensity, and lower decision regret** compared to higher level caps.

However, **potential harms are not completely mitigated. A 1x cap might not fully allow customers to make an informed decision** on whether to redeem an offer containing a wagering requirement. This is partly due to **wagering requirements being complicated concepts to understand**. We therefore recommend investigating replacement wordings for “wagering requirements”, perhaps with action-based descriptions, e.g. “Deposit £10 and get a £10 bonus. The £10 bonus must be bet once before withdrawal”.



Ban “bonus + deposit” wagering requirements.

As a result of poor comprehension of “bonus + deposit” wagering requirements (regardless of the level), **consumers may be harmed due to making uninformed decisions about terms that have significant implications on withdrawing funds**. Mainly through how much of their own money they might need to spend to meet those terms.



Make wagering requirements more salient in the place of advertisement¹.

The majority of people (62%) did not recall seeing a wagering requirement after a realistic sign-up process. On top of measures to increase understanding, we suggest making offers more salient by **mandating a minimum font size and colour contrast against the rest of the advert**.

¹ The [Competition and Markets Authority in 2018](#), already indicated T&Cs applicable to bonuses should be made “accessible”, i.e. no more than one click away from the bonus tab. We acknowledge these changes, however our [contents analysis of slot game advert features](#), as well as this current research, imply further action is needed.



Although our experiment focused on slot games and static online adverts, there are implications for other casino games and, to a lesser extent, betting.

Betting: betting generally relates to events external to the gambling environment (e.g., results of cricket matches).

Gaming: gaming outcomes are generated within the gambling environment (e.g., by the roulette wheel). Gaming covers a range of gambling activities: slots, bingo, live and virtual casino games, poker, and instant wins.




Game Type	Key Implications
Casino Games	<p>We would expect all main findings to replicate for other casino games offering a matched bonus, but only if the wagering requirement description and prominence is similar to what we tested here.</p> <p>“No wagering” free spin offers can be viewed as a 1x wagering requirement. Although the value of bonus funds is less clear, we believe comprehension will be higher for free spins.</p> <p>Slot games often have the lowest return-to-player (RTP), so wagering requirements might cause less regret when other casino games are included. This is because your chances of hitting a wagering requirement go up as the RTP increases.</p>
Betting	<p>Our results may also apply to matched bonuses in sports betting where the salience of the wagering requirement is similar. Wagering requirements are typically at lower levels on sports offers, so while comprehension and awareness may be low, decision regret might be lower.</p> <p>More often there are simple “free bets” which are essentially 1x wagering requirements. As with free spins, we expect these to be better understood.</p>

Appendix A: Policy options



We have identified potential policy interventions for which this study's findings could support their implementation, along with feasibility considerations.

Options for **policy interventions aiming to minimise the negative impacts of wagering requirements** include **capping wagering requirements**, which would be justified if there is a clear cut-off for which the level of wagering requirements produce an acceptable level of negative impacts. An alternative option would be an **outright ban**, if the negative impacts of wagering requirements are deemed high enough regardless of their level. Any policy intervention should account for **consumers' poor understanding of them**.

Policy option	Description	Feasibility considerations
Uniform cap 	Set the same wagering requirement cap for all slot game products (across all products or by category)	Our analysis of slot game simulations shows that the probability of meeting a wagering requirement (i.e. by betting the total required amount before exhausting the bonus balance) differs by slot game ¹ . Operators can therefore adjust in-game mechanics to keep the probability of meeting a lower wagering requirement (that meets the cap) the same as a higher one. Although feasible to implement, a uniform cap is unlikely to be effective, as there is no level that would offer a certain amount of protection for all games.
Tailored caps 	1) Set a cap on the probabilities of being able to hit the wagering requirement at a minimum given stake level 2) Require operators to include the probability of hitting the wagering requirement on a slot game on the advert	Operators and/or companies that certify games (e.g. Gaming Labs) would have to calculate the probability of hitting the wagering requirements on each game and for each stake level . While feasible, the cost of regulation associated with this may be significant and make such an approach potentially less viable.
Ban 	Ban wagering requirements entirely	A ban of all wagering requirements is clear to understand and implement. Extra monitoring may be required to check for potential unintended consequences (e.g. operators introducing new T&C clauses).

¹We discuss our analysis in more detail, including the mechanics of the probabilities of meeting a wagering requirement, in [appendix C](#).

Appendix B: Supplementary results

Appendix B: Supplementary results: gambling behaviour



The percentage of participants choosing to play the game was broadly similar across wagering levels, but their final balances were not.

	Wagering Requirement Level				Total (N=4,012)
	30x (n=1,037)	10x (n=1,010)	5x (n=996)	1x (n=969)	
% of participants deciding to play	49%	49%	49%	46%	48%
Of those who decided to play, average...	(n = 506)	(n =497)	(n =488)	(n = 449)	(N = 1,940)
% knowing a wagering requirement applied	34%	33%	38%	33%	35%
Final balance (players start with £3.60)	£1.77	£2.02+	£2.18**	£2.87**	£2.19
% hitting the wagering requirement	0.2%	5%**	18%**	76%**	23%
% continuing to play the slot game after running out of bonus funds	29%	26%	23%+	0% (by definition)	20%
% losing overall (finish with < £1.80)	17%	16%	16%	15%	16%
Average stake size ¹	£0.21	£0.21	£0.20	£0.19	£0.20
Number of spins	34	35	33	27**	32
Time spent playing	3m 30s	3m 35s	3m 27s	2m 52s**	3m 19s

¹ 14 people that chose to play but staked nothing have been removed.

Exploratory analysis. N = 4,012

Data collected by BIT on 6th December - 22nd December 2023

Blue shading indicates significant change in outcomes compared to the 30x arm
+ p < 0.10, * p < 0.05, ** p < 0.01 (corrected for 3 comparisons using Benjamini-Hochberg)



78% of participants who saw the T&Cs page continued to play regardless of the level of the wagering requirement.

(1) Participants were shown a realistic sign-up process, and drop-out rates were similar at every stage of the user journey.

(2) After seeing the advert, those indicating they wanted to play or wanted to find out more before deciding to play went on to see the T&Cs.

(3) While on the T&Cs page, participants could choose to play or continue the survey without playing

Wagering Requirement	All participants (N=4,012)			Those seeing T&Cs (N=2,501)		Overall Play %
	"I want to play"	"I want to find out more"	Overall saw T&Cs	Average Time on T&Cs page	% Choosing to play	
30x	46%	18%	63%	15s	77%	49%
10x	44%	18%	62%	15s	79%	49%
5x	43%	20%	63%	15s	77%	49%
1x	41%	20%	61%	13s	76%	46%



The 1x wagering requirement arm scored lower regret on every sub-question of our scale compared to the 30x arm.

	Wagering Requirement Level				Total (N=4,012)
	30x (n=1,037)	10x (n=1,010)	5x (n=996)	1x (n=969)	
Overall Regret	27.1	27.9	26.0	25.6	26.7
Mean scores for decision regret scale sub-questions (no regret = 0, neutral = 10, strongly regret = 20).					
It was the right decision to [not] play the game	5.46	5.70	5.35	5.22	5.43
I regret the choice to [not] play the game	4.90	4.98	4.66	4.50	4.76
I would choose to [not] play if I had to do it over again	5.84	5.94	5.60	5.47	5.72
The choice to [not] play the game did me harm	4.75	5.01	4.47	4.45	4.67
The decision to [not] play was a wise one	6.14	6.30	5.96	5.92	6.08
Regret by decision to play					
Mean regret of those who played	28.1	28.7	26.3	24.8	27.1
Mean regret of those who didn't play	26.1	27.1	25.8	26.2	26.3

Appendix C: Covariates, robustness checks and the decision regret scale



Detailed definitions of covariates used in all regressions in our analysis

Variable	Description
Age	Categories for under 25s, 25-54, and 55+
Female	1 if female, 0 otherwise (men + prefer not to say)
Higher-risk gambler	Short PGSI score of 2 or above
Number of gambling types	Number of gambling types participants said they participated in within the last year
Employed	1 if in full time or part time employment, 0 otherwise (including retired)
Education	1 if has at least an undergraduate degree, 0 otherwise (including prefer not to say)
Income	1 if above median gross income (£40,000 in the UK)
Ethnicity	1 if non-white, 0 if white.
Region	Categories for London, Midland, North, South & East, Wales/Scotland/NI
Used wagering requirement before	1 if experienced a wagering requirement before, 0 otherwise
Impulsivity Scores	Above median impulsivity on a subset of the BIS11



Balance checks: there was good balance across treatment arms for our covariates.

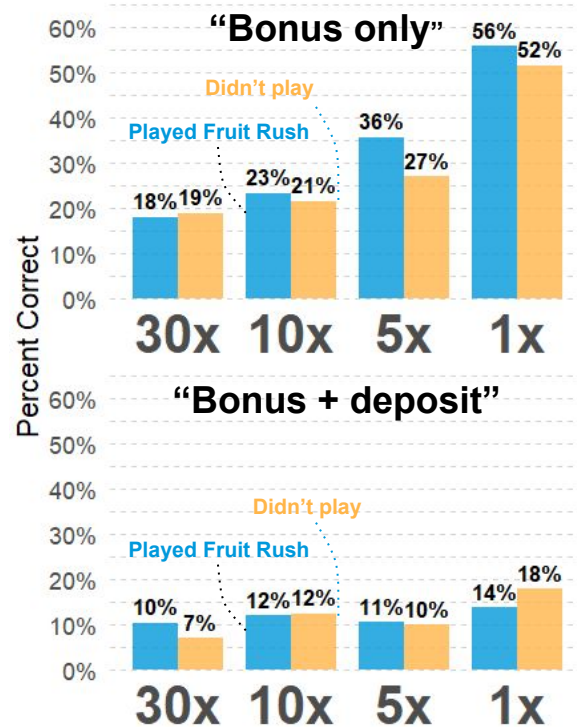
<i>Data collected by BIT on 18 May - 12 June 2023.</i>	30x (N=1,037)	10x (N=1,010)	5x (N=996)	1x (N=969)
Mean Age <i>(years) (mean, (sd))</i>	43 (15)	41 (14)	41 (14)	42 (15)
Gender <i>(female) (count, (%))</i>	408 (39%)	433 (43%)	424 (43%)	409 (42%)
Mean Short PGSI Score <i>(0-9 scale) (mean, (sd))</i>	1.1 (1.6)	1.0 (1.5)	1.0 (1.5)	1.0 (1.6)
Higher-risk gambler <i>(sPGSI 2+) (count, (%))</i>	283 (27%)	254 (25%)	245 (25%)	254 (26%)
Mean Number of gambling types <i>(last 12 months) (mean, (sd))</i>	3.6 (2.0)	3.4 (1.9)	3.5 (2.0)	3.5 (2.0)
Employed <i>(part-time or full-time) (count, (%))</i>	770 (74%)	779 (77%)	745 (75%)	733 (76%)
Education <i>(has degree or higher) (count, (%))</i>	330 (32%)	313 (31%)	310 (31%)	321 (33%)
Income <i>(above £40k) (count, (%))</i>	496 (48%)	492 (49%)	455 (46%)	478 (49%)
Ethnicity <i>(non-white) (count, (%))</i>	114 (11%)	108 (11%)	115 (12%)	131 (14%)
Region <i>(not in England) (count, (%))</i>	155 (15%)	165 (16%)	150 (15%)	143 (15%)
Used a Wagering Requirement Before <i>(count, (%))</i>	238 (23%)	264 (26%)	250 (26%)	260 (27%)
Mean Impulsivity Scores <i>(subset of BIS11 asked after experiment) (mean, (sd))</i>	13.2 (2.8)	13.3 (2.8)	13.2 (2.9)	13.1 (2.8)

Italicised values in brackets are standard deviations.



Comprehension falls as the wagering requirements increases in the “bonus only” framing, both for those who played Fruit Rush and those who didn’t play Fruit Rush

‘How much do you think you need to bet before you meet the wagering requirement?’



In section 2a of this report we showed that the percent of participants knowing how much they would need to bet to meet a wagering requirement increases as wagering requirements lower.

Because those who played might have different prior understanding of wagering requirements (and had a chance to learn about them by playing the game), the results for [RQ 2a](#) may not be considered causal.

We still believe our experiment supports the finding that lower wagering requirements are easier to understand because:

1. A similar percentage of people played in each arm (see results for [RQ 4](#))
2. The people who played are broadly similar on all demographic variables we had access to (see the next slide).
3. There is a similar pattern in comprehension for those who chose to play **Fruit Rush** and those who **didn't play Fruit Rush** (graph on this slide)

Taken together with our priors, we think this is suggestive but not conclusive evidence that higher wagering requirements are harder to understand, and strong evidence that “bonus + deposit” framings are hardly understood.



Balance checks: with the tentative exception of gender, those who played were similar across treatment arms.

	Played				Didn't Play			
	30x (N=506)	10x (N=497)	5x (N=488)	1x (N=449)	30x (N=531)	10x (N=513)	5x (N=508)	1x (N=520)
Mean Age <small>(years) (mean, (sd))</small>	43 (15)	43 (14)	42 (14)	42 (14)	42 (15)	40 (15)	41 (15)	42 (15)
Gender <small>(female) (count, (%))</small>	187 (37%)	226 (45%)	210 (43%)	183 (41%)	221 (42%)	207 (40%)	214 (42%)	226 (43%)
Mean Short PGSI Score <small>(0-9 scale) (mean, (sd))</small>	1.1 (1.6)	0.9 (1.5)	0.9 (1.5)	1.0 (1.6)	1.1 (1.6)	1.1 (1.5)	1.0 (1.5)	1.1 (1.6)
Higher-risk gambler <small>(sPGSI 2+) (count, (%))</small>	139 (27%)	112 (23%)	112 (23%)	110 (24%)	144 (27%)	142 (28%)	133 (26%)	144 (28%)
Mean Number of gambling types <small>(last 12 months) (mean, (sd))</small>	3.8 (2.0)	3.6 (2.0)	3.7 (2.0)	3.6 (2.0)	3.3 (1.9)	3.2 (1.8)	3.3 (2.0)	3.3 (2.0)
Employed <small>(part-time or full-time) (count, (%))</small>	382 (75%)	383 (77%)	367 (75%)	344 (77%)	388 (73%)	396 (77%)	378 (74%)	389 (75%)
Education <small>(has degree or higher) (count, (%))</small>	173 (34%)	146 (29%)	164 (34%)	154 (34%)	157 (30%)	167 (33%)	146 (29%)	167 (32%)
Income <small>(above £40k) (count, (%))</small>	252 (50%)	249 (50%)	240 (49%)	241 (54%)	244 (46%)	243 (47%)	215 (42%)	237 (46%)
Ethnicity <small>(non-white) (count, (%))</small>	52 (10%)	39 (8%)	49 (10%)	53 (12%)	62 (12%)	69 (13%)	66 (13%)	78 (15%)
Region <small>(not in England) (count, (%))</small>	68 (13%)	86 (17%)	72 (15%)	70 (16%)	87 (16%)	79 (15%)	78 (15%)	73 (14%)
Used wagering requirement before <small>(count, (%))</small>	142 (28%)	160 (32%)	140 (29%)	148 (33%)	96 (18%)	104 (20%)	110 (22%)	112 (22%)
Mean Impulsivity Scores <small>(subset of BIS11) (mean, (sd))</small>	13.2 (2.7)	13.3 (2.7)	13.2 (2.9)	13.3 (2.8)	13.3 (2.8)	13.3 (2.9)	13.3 (2.9)	13.0 (2.8)

Each row jointly tested the hypothesis that the coefficients on treatment terms in the regression $y \sim \text{treatment}$ are all zero for those who played and those who didn't play.

There is some evidence people in the 30x arm differ on gender ($p=0.045$), but controlling for multiple comparisons eliminates this result (we conducted 24 statistical tests).

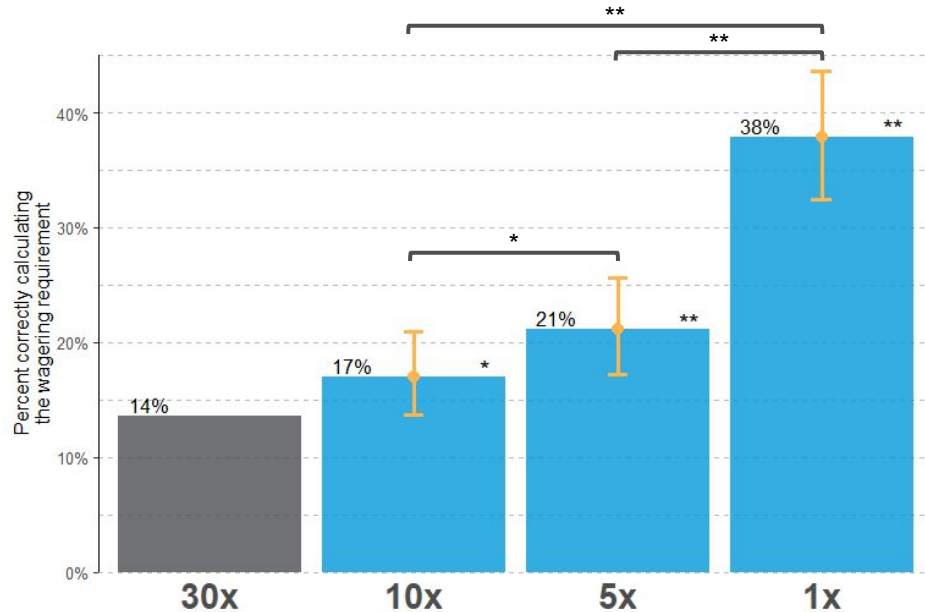
Appendix D: Logistic regression robustness checks

RQ2 - Is comprehension of wagering requirements affected by the level of the wagering requirement?



Higher wagering requirements make it more difficult to calculate the required amount needed to bet to withdraw winnings, with comprehension being low throughout

Percentage correctly calculating the wagering requirement per treatment arm and frame



Our headline results about how the percentage saying the correct amount to bet to meet a wagering requirement varies with wagering level ([RQ 2a](#)) doesn't change depending on whether we use OLS or Logistic regression.

Every reduction in the level of the wagering requirement still leads to a significant increase in correct answers to how much you'd need to bet to meet a wagering requirement.

Technical note: This graph shows what's predicted to happen in the treatment arms using a covariate adjusted logistic regression. Because of random imbalances in demographics across treatment arms, the plotted comprehension can differ from the 'true' comprehension. The true comprehension rates are 14%, 17%, 21% and **35%** in the 1x arm.

Robustness check on secondary analysis. $N=4,012$. ** $p<0.01$, * $p<0.05$, + $p<0.10$.

Stars indicate covariate-adjusted significance after correction for 7 comparisons.

Please see [appendix C](#) for covariates.

Error bars are 95% confidence intervals for treatment effects versus the 30X wagering requirement.

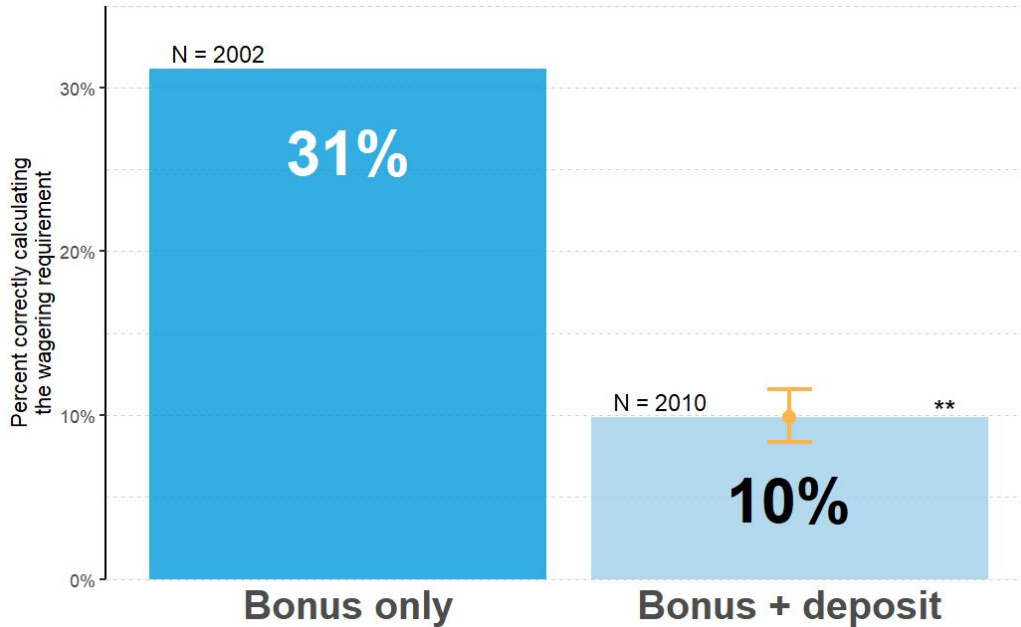
Data collected by BIT on 6th December - 22nd December 2023

RQ2b - Is comprehension of wagering requirements affected by the type of the wagering requirement?



Levying a wagering requirement on the 'bonus + deposit' leads to a larger reduction in comprehension of the bonus offer compared to levying on the 'bonus only'.

Percentage correctly calculating the wagering requirement per treatment arm and frame



Our headline results show that the percentage correctly calculating the amount they would need to bet to meet a wagering requirement between the “bonus only” and the “bonus + deposit” framing (RQ 3) doesn’t change depending on whether we use OLS or Logistic regression.

Technical note: This graph shows what’s predicted to happen in the treatment arms using a covariate adjusted logistic regression. Because of random imbalances in demographics across treatment arms, the plotted comprehension can differ from the ‘true’ comprehension. The true comprehension rates are 31% and 12% in the Bonus + Deposit framing.

Robustness check on secondary analysis. N=4,012. **p<0.01, *p<0.05, +p<0.10.

Stars indicate covariate-adjusted significance after correction for 7 comparisons.

Please see [appendix C](#) for covariates.

Error bars are 95% confidence intervals for treatment effects versus the 30X wagering requirement.

Data collected by BIT on 6th December - 22nd December 2023



THE
**BEHAVIOURAL
INSIGHTS
TEAM**



PREDICTIV

Get in touch:

Project lead

Lauren Leak-Smith

lauren.leak-smith@bi.team

Tom van Zantvliet, Advisor

Adam Jones, Research Advisor

Louis Shaw, Research Advisor

Alecs Pande, Software Developer

This work was quality assured by:

Ruth Persian, Principal Advisor

Dr. Giulia Tagliaferri, Principal Research Advisor

Dr. Bobby Stuijtzand, Head of Data Science