

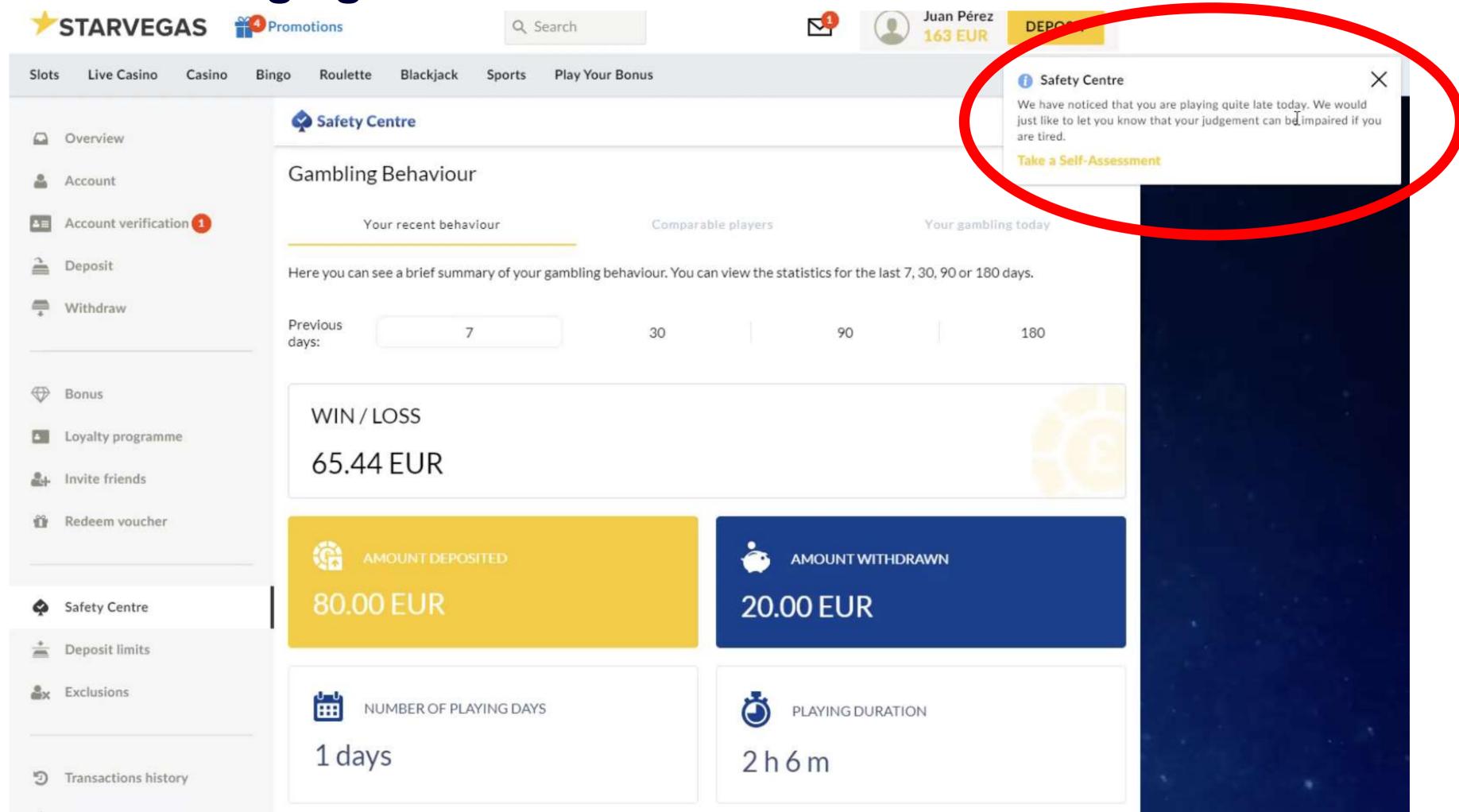
Nudging Example



We have noticed that you are playing quite late today. We would just like to let you know that your judgement could be impaired and we recommend to take a break.

What's Nudging?





Nudging as an instrument of prevention



Nudging through personalized messages can promote healthy play and prevent overspending and the development of problematic gambling



Academic evidence



Personalized messages have been the focus of a number of academic studies

- Monaghan, S. (2008). Review of pop-up messages on electronic gaming machines as a proposed responsible gambling strategy. *International Journal of Mental Health and Addiction*, 6, 214-222.
- Monaghan, S., & Blaszczynski, A. (2010). Impact of mode of display and message content of responsible gambling signs for electronic gaming machines on regular gamblers. *Journal of Gambling Studies*, 26, 67-88.
- Auer, M., & Griffiths, M. D. (2020). The use of personalized messages on wagering behavior of Swedish online gamblers: An empirical study. *Computers in Human Behavior*, 110, 106402.
- Auer, M., & Griffiths, M. D. (2023). The impact of personalized feedback interventions by a gambling operator on subsequent gambling expenditure in a sample of Dutch online gamblers. Journal of Gambling Studies, 39(2), 929-946.
- Auer, M. M., & Griffiths, M. D. (2015). Testing normative and self-appraisal feedback in an online slot-machine pop-up in a real-world setting. *Frontiers in Psychology*, 6, 339.
- Wohl, M. J., Davis, C. G., & Hollingshead, S. J. (2017). How much have you won or lost? Personalized behavioral feedback about gambling expenditures regulates play. *Computers in Human Behavior*, 70, 437-445.

Regulation



Several regulators meantime have introduced specific monitoring metrics such as

- chasing losses
- re-gambling of winnings
- playing during unusual hours
- frequent deposits
- long sessions
- using multiple payment methods
- etc...

These behaviour indicators can be detected and players can be nudged to change their habits.

Method

4,049 Dutch online gamblers read one of two personalized messages between October 1st 2022 and January 31 2023

'Winning streak' message: Happy to see that you have recently won! Why don't you use some of that money on a nice dinner or buy yourself something you want? Otherwise, it could be gone faster than you think.

'Withdrawal' message: It seems like you rarely cash out, even when you win. Withdrawing some money after a win can help you avoid spending more than you can afford.

Criteria:

- Deposited at least €500 over the past 30 days
- Less than 20% of that amount of money has been withdrawn
- Gambled on at least fve days during the past seven days

Matched Pairs



Due to a missing control group players which read messages were matched with similar players which did not read messages.

Matching was performed based on: age, gender, amount of money bet/deposited/lost

seven days before.



Outcome/dependent variable



- Previous studies have measured the impact of nudging on reduced money or time spent
- This study used the withdrawing of money from the gambling account as outcome variable
- In order to gamble players must have money in their accounts
- Withdrawing money reduces the chance to lose money
- Withdrawing money can be seen as a responsible gaming behaviour
- The message trigger was not previous overspending, losses or long sessions
- The message trigger was winning and thus a positive experience
- It is assumed that players were in a positive state of mind when they read the message

Results



The outcome variable was withdrawing on the day the message was read

Table 3 Number of observations with a withdrawal on the day a message was read and respective numbers for the matched observations

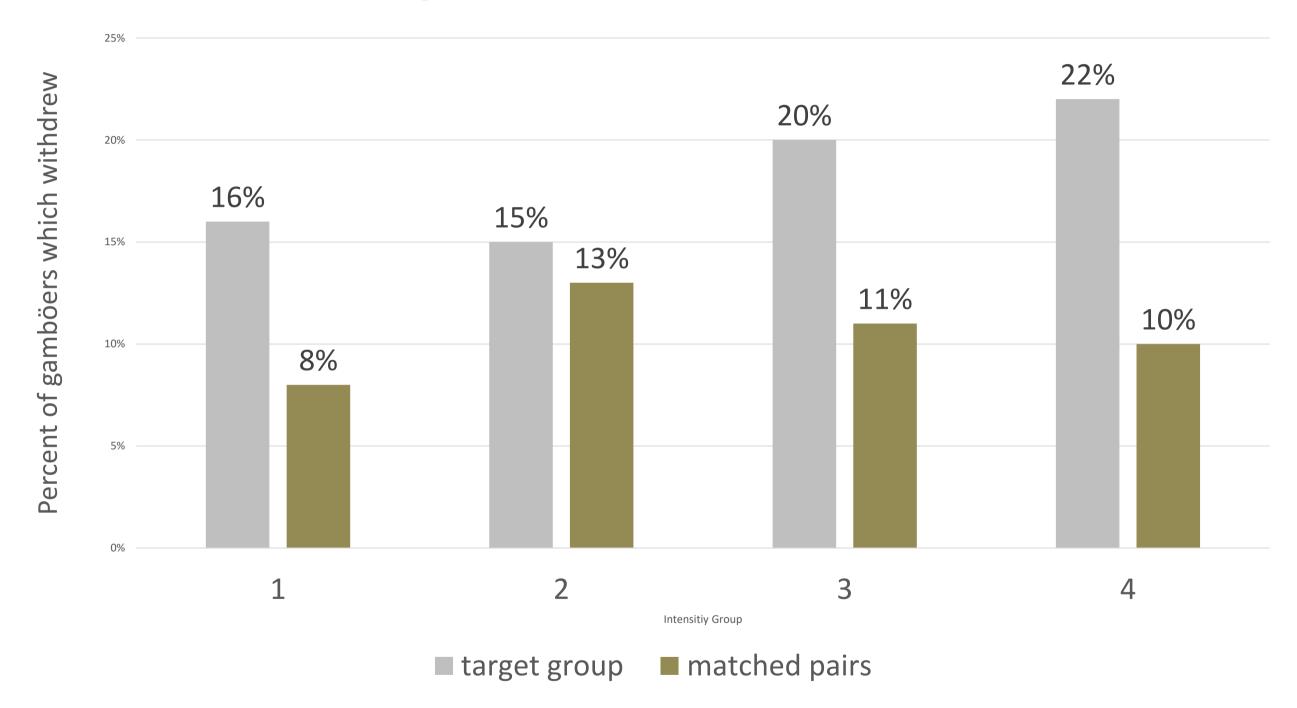
	N	Number of observations with withdrawal	Number of matched observations with with-drawal
'Winning streak' message	372	143 (38%)	52 (14%)
'Withdrawal' message	1291	236 (18%)	131 (10%)

- 38% of players reading the winning streak message also withdrew money. Only 14% in the matched control group withdrew money.
- 18% of players reading the withdrawal message also withdrew money. Only 10% in the matched control group withdrew money.

Results and gambling intensity



The effect of the nudges can also be observed for different intensity groups

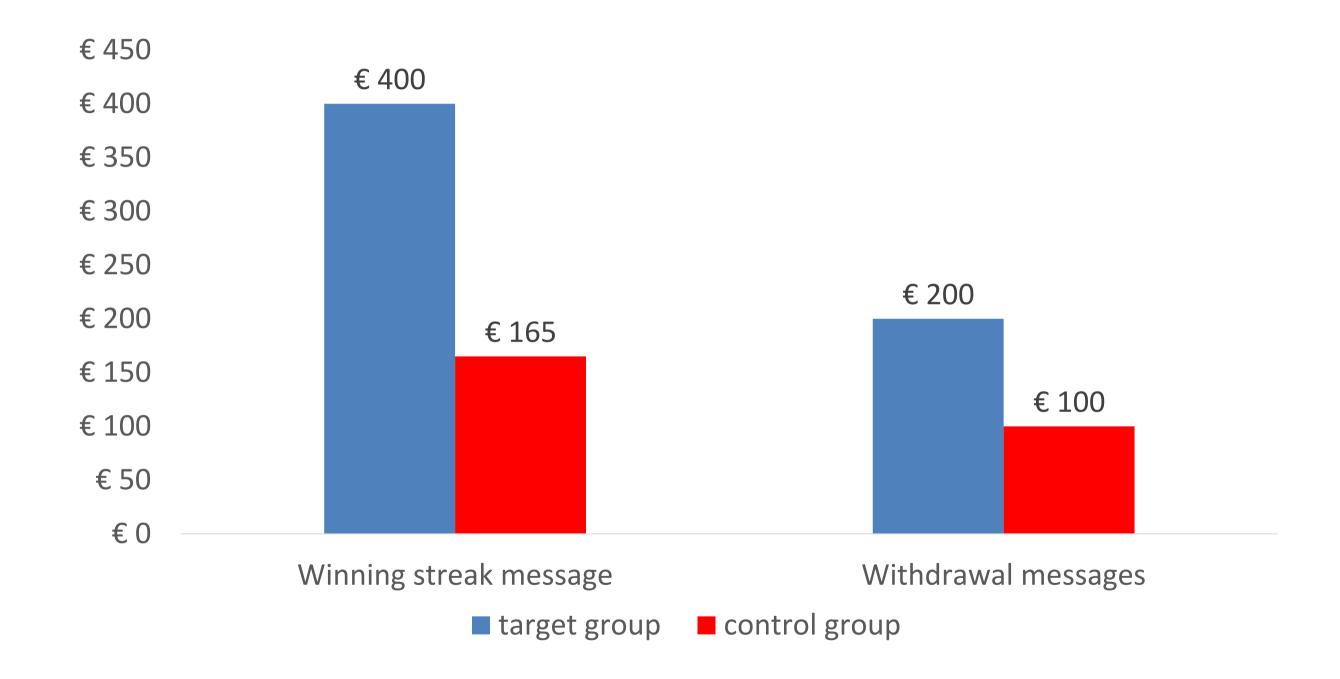


Among the top 25% spending players 22% withdraw money on the day of reading a message. 10% in the matched control group withdraw money on that day.

Amount of money withdrawn



The average withdrawal amount is sign. among players which read a message



The average amount withdrawen among players which read the winning streak message is €400 compared to €165 in the matched control group.

Summary

- Online gambling companies can detect any behaviour and message players
- It is possible to nudge players to withdraw after they have won money
- The chance of withdrawing increases when players are nudged after winning
- High intensity players are as likely to withdraw as low intensity players
- Players which are nudged withdraw larger amounts than the control group