

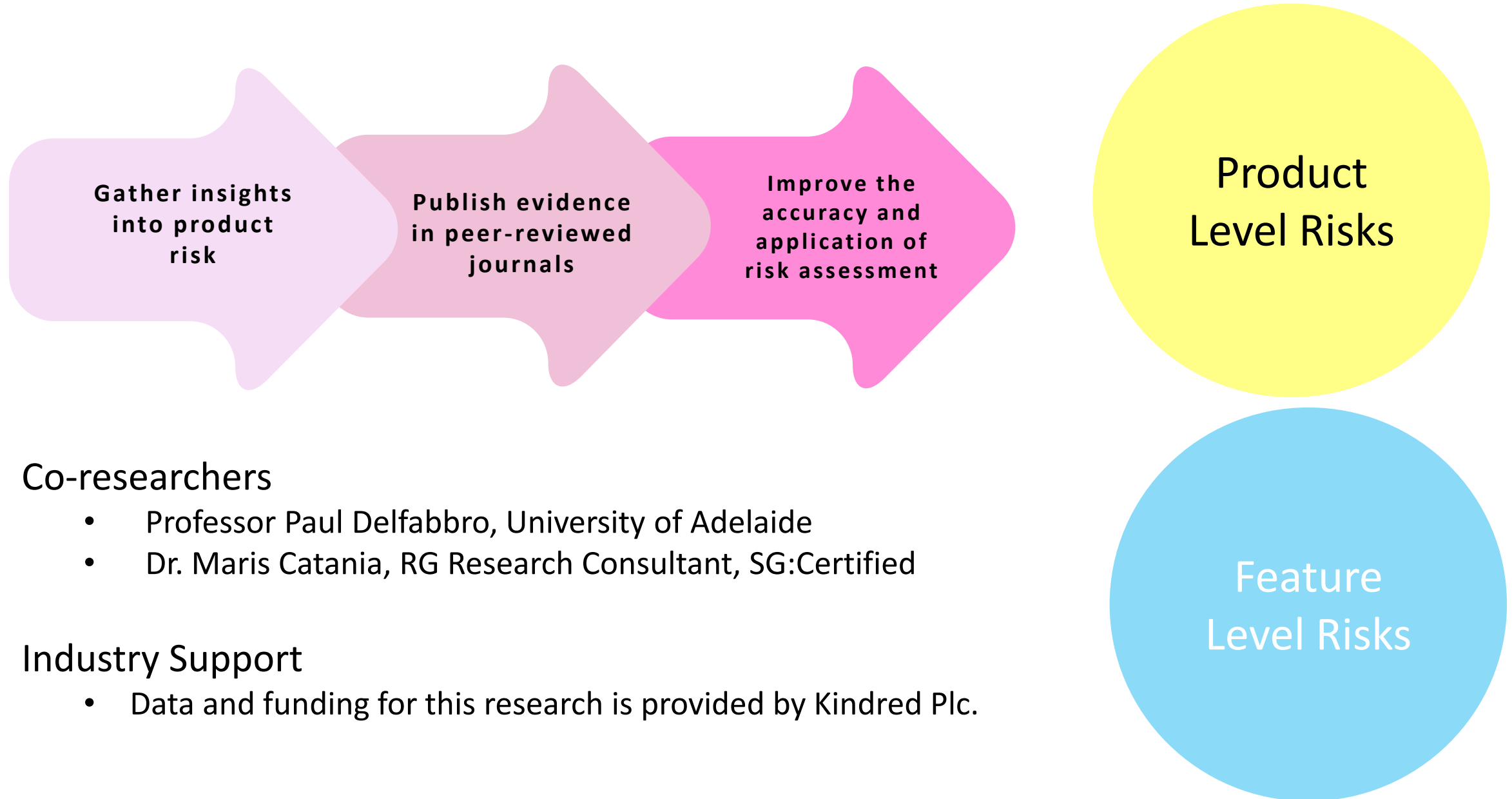
Behavioural markers of harm and their potential in identifying product risk in online gambling



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Context - Research on Product Risk with Kindred Group



Gather insights
into product
risk

Publish evidence
in peer-reviewed
journals

Improve the
accuracy and
application of
risk assessment

Product
Level Risks

Feature
Level Risks

Co-researchers

- Professor Paul Delfabbro, University of Adelaide
- Dr. Maris Catania, RG Research Consultant, SG:Certified

Industry Support

- Data and funding for this research is provided by Kindred Plc.

Existing evidence on product risk (*land-based and online)

(Delfabbro et al., 2020; Delfabbro & Parke, 2021)



Lottery
Draws



Bingo



Card
games



Racing



Slots



Less Risky



Scratch-
Cards



Sports
betting



Casino
Table
Games

More
Risky

Reviewing evidence on behavioural markers of harm

Behavioural tracking and profiling studies involving objective data derived from online operators: A review of the evidence

Journal of Gambling Studies

<https://doi.org/10.1007/s10899-023-10247-6>

REVIEW PAPER



Behavioural Tracking and Profiling Studies Involving Objective Data Derived from Online Operators: A Review of the Evidence

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Accepted: 1 August 2023

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Behavioural Markers of Harm: A taxonomy based on published research

Gambling Intensity

Frequency

- More active days
- Higher bet volume
- Session frequency

Duration

- More total hours
- Longer sessions
- Older account

Expenditure

- Larger bet sizes
- Larger net losses
- Larger amount wagered

Speed

- Rate of betting per unit time

Account Transactions

Deposits

- Larger deposits
- Repeat deposits
- Deposit frequency
- Deposit declines
- Deposit methods

Withdrawals

- Withdrawal frequency
- Reversed withdrawals

Account depletion

- No funds left in account

Product Selection

Breadth

- Engaging in broader range of products (e.g., slots, sports betting, bingo etc)

Risky Products

- Greater engagement in fast, continuous products such as slots and in-play betting

Dynamic Behaviours

Chasing

- Within-session bet increases
- Shorter odds bets
- More frequent top-ups
- Larger top-ups

Variability

- In bet size
- In deposit size
- In play time/days

Gradients

- Gradual increases in intensity followed by steep drop-off
- Sawtooth patterns

RG Activity and Statistical Anomalies

Time of day

- Unusual hours
- Late night

Day of week

- More weekdays
- Fewer weekends

Customer Contact

- More bonus requests
- More complaints
- Self-concern

RG Activity

- Browsing RG pages
- Removing RG tools
- Easing RG settings

Dataset 1 –

- Anonymized data provided by the online gambling website *Unibet* for the first 6 months of 2022 (January to June).
- Participants were 100,000 people in the UK who had spent money on at least one online gambling product in the specified period

PAPER 2: Behavioural markers of harm and their potential in identifying product risk in online gambling

International Journal of Mental Health and Addiction
<https://doi.org/10.1007/s11469-023-01060-8>

ORIGINAL ARTICLE



Behavioural Markers of Harm and Their Potential in Identifying Product Risk in Online Gambling

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Spearman correlations between active days by product and potential markers of harm									
Products	Bonus page visits	Hours unusual times	Repeat Deposits	Removing or Easing RG Tools	Declined deposit (no funds)	Decline deposits (fraud?)			
Sports subcategories									
Single bets (in-play)	.138	.210	.261	.057	.099	.064			
Single bets (pre-event)	.111	.142	.155	-.002	.017	.015			
Multiple bets (in-play)	.06	.129	.138	.039	.055	.047			
Multiple bets (pre-event)	.04	.136	.112	.011	.02	.009			
Combination bets (in-play)	.166	.255	.359	.103	.190	.131			
Combination bets (pre-event)	.174	.221	.347	.095	.154	.109			
Less-established sports	.08	.271	.195	.03	.066	.043			
Racing subcategories									
Single bets	.112	.013	.101	-.025	-.021	.003			
Combination bets	.096	.188	.220	.059	.082	.054			
Casino subcategories									
Roulette (live)	.258	.232	.197	.084	.188	.149			
Roulette (software)	.082	.118	.115	.043	.105	.094			
Blackjack (live)	.089	.138	.118	.048	.096	.043			
Blackjack (software)	.072	.085	.071	.031	.051	.022			
Other table games (live)	.248	.245	.193	.091	.192	.149			
Poker (tournament)	.052	.129	.067	.036	.066	.058			
Poker (cash)	.052	.129	.067	.036	.066	.058			
Bingo	.169	.165	.113	.054	.141	.121			
Slots	.396	.415	.304	.154	.302	.293			

Mean correlation between 'days active on product' & 'markers of harm'

Do behavioural markers of harm indicate greater risk for certain product types?

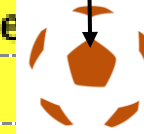
← Less Risky



Accumulators
& Multiples
Pre-event



Sports
betting



In-play
combination
bets

More
Risky →

1	Slots	0.34
2	Combination bets on sports (in-play)	0.22
3	Other table games (live)	0.21
4	Roulette (live)	0.20
5	Combination bets on sports (pre-event)	0.20
6	Single bets on sports (in-play)	0.15
7	Bingo	0.14
8	Combination bets on racing	0.13
9	Less established sports	0.13
10	Roulette (software)	0.10
11	Blackjack (live)	0.10
12	Multiple bets on sports (in-play)	0.08
13	Single bets on sports (pre-event)	0.09
14	Poker (tournament)	0.07
15	Poker (cash)	0.07
16	Blackjack (software)	0.06
17	Multiple bets on sports (pre-event)	0.06
18	Single bets on racing	0.04

Behavioural markers and product risk: Implications



Lotte Draw



Single bets
Racing



Bingo



Poker



Combo bets
Racing



Slots



Less Risky

More Risky



Accumulators
& Multiples
Scratch-off
Pre-event

Other sports, racing and table game variants in-between



Sports
betting



In-play
casino
Table
Game
combo
bets



Blackjack
software



Roulette
Live

Dataset 2 –

- A total of 21,464 individual Unibet.com customers in the international market were included in the sample based upon their completion of the Problem Gambling Severity Index (PGSI) (Ferris & Wynne, 2001) in 2023.
- Invitations to complete the PGSI were made via messaging on the responsible gambling page and through other customer messaging to multiple markets including those in Sweden, Netherlands, Belgium, Romania, Hungary, UK, Denmark, Australia, Italy, Estonia, and Ireland.
- Gambling data (similar to Dataset 1) was then obtained for all of these customers for the previous 12 months leading up to the point of completion.

Incidence of markers of harm in 12 months compared by PGSI classification

Behavioural Marker of Harm	Customers with PGSI = 8+ M (SD)	Customers with PGSI = 7 or lower M (SD)	t-value	Cohen's d
Reversed withdrawals	2.27 (15.91)	0.61 (7.26)	6.67**	.14
Removing/easing RG settings	2.07 (20.77)	1.54 (6.47)	1.71	.04
Declined Deposit (Funds)	1.60 (6.97)	0.83 (8.00)	6.37**	.10
Bonus page visits	15.48 (62.45)	11.45 (66.80)	4.07**	.06
Playing late night, very early morning	13.87 (33.51)	11.79 (41.18)	3.14**	.06
Top ups	21.83 (57.07)	17.35 (86.59)	3.20**	.06

Participation in each sub-product by PGSI group

PGSI 8+ usually more days and more money

Product Category	Customers with PGSI = 8+ N (%)	Customers with PGSI = 7 or lower N (%)	X ² -value
Single bets (in-play)	1220 (25.8)	4708 (28.1)	10.8**
Single bets (pre-event)	1130 (23.9)	5074 (30.5)	74.4**
Combination bets (in-play)	921 (19.5)	3170 (18.9)	< 1
Combination bets (pre-event)	1026 (21.7)	3832 (22.9)	3.11
Roulette (live)	2068 (43.7)	4432 (26.5)	518.3**
Roulette (software)	451 (9.5)	850 (5.1)	128.4**
Blackjack (live)	1121 (23.7)	2190 (13.1)	318.1**
Blackjack (software)	475 (10.0)	973 (5.8)	104.7**
Poker (tournament)	532 (11.2)	1301 (7.8)	56.9**
Poker (cash)	453 (9.6)	1079 (6.4)	54.6**
Bingo	557 (11.8)	1317 (7.9)	70.5**
Slots	3192 (67.5)	7232 (47.2)	869.3**
Game shows -Live	1528 (32.3)	3153 (18.5)	391.5**
esports	286 (6.4)	979 (5.9)	< 1

The 'live game show' casino product

game-frame-iframe



Summary and a Few Final Thoughts

1. Various research limitations apply (e.g., partial customer view, days active)
 - PGSI interesting but limited for this type of research
2. Some products do pose greater risk of harm
 - *More than just being able to say slots are riskier than lottery tickets (e.g., online roulette)*
 - *Not necessarily those products suggested by experts/academics (Multiple v complex bets)*
 - *Considerable variation within the same product categories*
3. Helps to shed light some important but subtle and complicated questions (selection or exposure effects e.g. gameshows)
4. The wrong product restrictions without valid/reliable evidence can be costly (and at least learn when we get it wrong)
5. The 'researcher's maxim' applies here: 'more research is needed'
 - Complexities e.g., *Individual differences and 'situation'*
6. 'Maximising value' BUT 'Minimising harm' to customers



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