

EASG 2024, Roma

The number of gambling terminals in a venue
and gambling behavior

Dominic Sagoe (Professor)

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Does Individual Gambling Behavior Vary across Gambling Venues with Differing Numbers of Terminals? An Empirical Real-World Study using Player Account Data

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Background

□ The gambling environment and gambling behavior

- Availability hypothesis (Orford, 2002)
- Social facilitation (Zajonc, 1965)
- The gambling environment – audiovisual stimuli/cues
- Mixed evidence on the influence of the gambling environment on behavior

(Cole et al., 2011; Haw & Hing, 2011; Rockloff & Dyer, 2007; Sévigny et al., 2016; Young et al., 2012)

Background



- The mixed evidence on the influence of the gambling environment on behavior
- Gambling alone > Gambling with others (familiar, unfamiliar)
 - n bets, betting speed, higher losses

INTERNATIONAL GAMBLING STUDIES, 2017
<https://doi.org/10.1080/14459795.2017.1333130>

 **Routledge**
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People around you – do they matter? An experimental gambling study

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Background

□ Our study

- Limitations of previous studies
 - lower *N*s; Range: 38–136
 - Surveys vs. experiments
 - surveys – poor recall, social desirability
 - experiments – observer- and subject expectancy effect, ecological validity
- Player account-based gambling (behavioral tracking) data
 - unobtrusive and objective – observer- and subject expectancy effect
 - large datasets – ~100,000 participants, millions of observations
 - ecological validity – natural gambling environment

Methods

- Data
 - *Norsk Tipping* - Multix (VLT) – 2015
 - $N = 93,034$ (men = 74%), age: 18–99 ($M = 44.1$, $SD = 16.4$) y
 - Observations = 153,379
 - N terminals: 1, 2–5, 6–10, 11–16
- Gambling behavior (per session)
 - Time spent (s), money spent (NOK), bets placed, net outcome
- Data analysis
 - Linear mixed model – log-transformation, Bonferroni correction
 - Stata v. 13 (StataCorp)

Results+

Individual gambling participation by categories of terminals

Terminals	1 category		2 categories		3 categories		4 categories		<i>n</i>	Row %
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
1	1,748	3.6	7,678	13.3	13,813	31.4	723	25.0	23,962	15.6
2–5	39,792	81.5	28,329	49.1	14,670	33.3	723	25.0	83,514	54.5
6–10	7,023	14.4	21,107	36.6	14,548	33.1	723	25.0	43,401	28.3
11–16	244	0.5	550	1.0	985	2.2	723	25.0	2,502	1.6
N, Column %	48,807	52.5	28,832	31.0	14,672	15.8	723	0.78	153,379	100

Results+

Average overall gambling behavior in venues with different numbers of terminals

	1 terminal		2–5 terminals		6–10 terminals		11–16 terminal	
Measure	<i>M</i>	Md	<i>M</i>	Md	<i>M</i>	Md	<i>M</i>	Md
Days gambled	7.9	2.0	30.6	10.0	22.2	7.0	17.1	4.0
Sessions	23.7	5.0	138.3	27.0	105.6	20.0	96.4	14.0
Bets placed	1,338.8	249.0	7,820.6	1,383.0	6,166.1	1,125.0	5,130.6	756.0
Time spent (s)	7,803.1	1,493.0	45,410.5	8,523.5	35,750.6	6,711.0	29,198.2	4,391.5
Money spent (NOK)	10,161.7	1,929.0	56,340.1	10,887.0	43,965.8	8,976.0	35,054.5	5,813.0
Net outcome (NOK)	-787.5	-275.0	-4,425.5	-989.8	-3,491.5	-833.0	-2,738.3	-600.0

Results+

Average gambling behavior **per session** in venues with different numbers of terminals

	1 terminal		2–5 terminals		6–10 terminals		11–16 terminals	
Measure	<i>M</i>	Md	<i>M</i>	Md	<i>M</i>	Md	<i>M</i>	Md
Bets placed	60.0	44.3	56.8	46.2	63.6	51.9	66.2	52.0
Time spent (s)	355.3	262.1	350.4	285.9	381.2	310.7	382.4	296.1
Money spent (NOK)	518.5	337.8	479.7	348.3	538.3	395.0	550.7	389.3
Net outcome (NOK)	-62.9	-50.6	-54.1	-40.7	-62.2	-47.4	-66.9	-50.0

Results+

Mixed effects model predicting gambling behavior in venues with different numbers of terminals

	1 term.	2–5 terms.	6–10 terms.	11–16 terms.	Comparison	
Measure	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	Wald χ^2	<i>p</i> <
Bets placed	3.60	3.69 ^a	3.72 ^b	3.69 ^{a,b}	623.39	.001
Time spent (s)	5.44	5.57 ^a	5.59	5.55 ^a	833.86	.001
Money spent (NOK)	5.55	5.67 ^a	5.69	5.65 ^a	544.09	.001
Net outcome (NOK)	-63.24 ^a	-54.09	-62.19 ^a	-66.85 ^a	124.71	.001

Additional study – Hopfgartner et al. (2021)

Proceedings of the Fifteenth International AAAI Conference on Web and Social Media (ICWSM 2021)

Social Facilitation Among Gamblers: A Large-Scale Study Using Account-Based Data

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Additional study – Hopfgartner et al. (2021)

- Data
 - *Norsk Tipping* - Multix (VLT) – 02–05, 2018
 - $N = 61,134$
 - Observations = 2,898,320
- Data analysis
 - Sophisticated model for assessing “co-gambling network”
 - most-frequent co-gambler vs. occasional co-gamblers
- Key finding
 - “Gamblers stake more money and play longer sessions the more crowded the venues get”

Conclusion

Our two studies, from the natural gambling environment, present novel evidence of the social facilitation of gambling behavior



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Thanks!!!



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