

Should “Win Limits” Become a Part of Responsible Gambling?

Presented by Doug Walker
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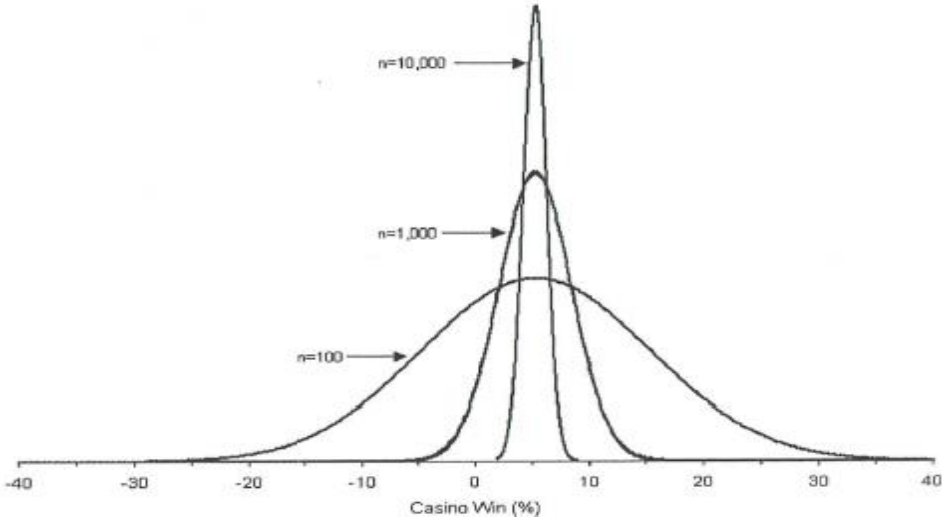
A typical casino visit

- Consider a “responsible gambler”
 - Player starts with \$200 chips/loss limit
 - Player plans to stop gambling after 2 hours, or until they’ve lost budgeted \$200
 - Responsible gambler may be likely to lose all budgeted money at the casino

Intro to win limits

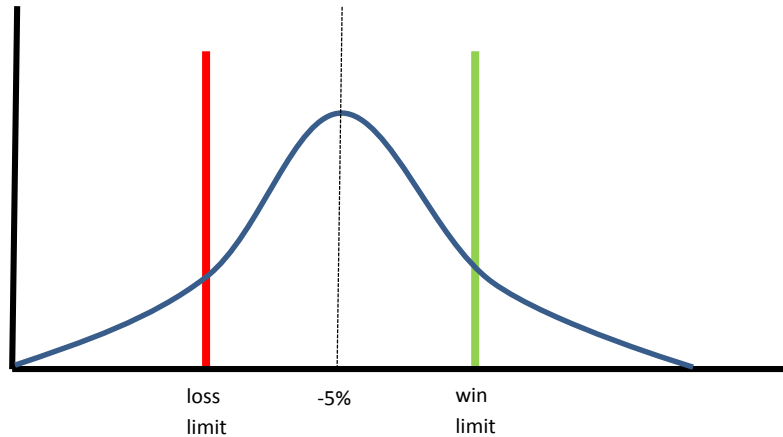
- Commitment to stopping gambling after winning a certain amount
 - Seems like obvious advice
 - Mentioned in “how to beat the casino” books, but not gambling research
 - “Prize target” may be better term
- Decreases expected loss from gambling
 - effectively reduces time spent gambling
- Use of win limit would result in higher % of people leaving casino as winners
 - Relative to other betting limits used alone
 - And when used with other betting limits

Probability distribution, roulette (house advantage 5.26%)



Source: Hannum & Cabot (2005, p. 22)

Player's loss- and win limits



Simulated slot machine

- Slot machine
 - \$1 per play, single line
 - 6 seconds per play
 - Random number generator,
0.000-1.000
 - Player's expected value
is -0.05

Random Number		Net Payoff
Minimum	Maximum	
0.00000	0.75000	\$ (1)
0.75001	0.90000	\$0
0.90001	0.97000	\$1
0.97001	0.99897	\$20
0.99898	0.99997	\$45
0.99998	1.00000	\$160
Overall expected value: \$ (0.05)		

Simulated betting rules

- Simulated player details
 - Each run includes 900 players
 - Each player can do 5,000 spins, if no limits set
 - Always adhere to betting limits

- Simulated self-imposed betting limits
 - [1] No win limit or loss limit (5,000 spins; 8.33 hrs of play)
 - [2] Time limit of 1 hour (at 6 seconds per play = 600 plays)
 - [3] \$100 loss limit
 - [4] \$100 loss limit; \$100 win limit
 - [5] \$100 loss limit; \$100 win limit, “going down”
 - [6] \$100 loss limit; \$200 win limit
 - [7] \$100 win limit

Simulation results summary
900 players, up to 5,000 spins each,
6 sec./play

	Simulation	# Winners (% Chance of Winning)	Average \$ Result	Minimum \$ Result	Maximum \$ Result	Average Time Played (# Plays ^a)	Maximum Time Played (# Plays ^a)	Minimum Time Played (# Plays ^a)
1	No win or loss limits (5,000 spins; 8.33 hrs. of play)	159 (17.6%)	\$ (251)	\$ (843)	\$ 419	8.33 hrs. (5,000)	8.33 hrs. (5,000)	8.33 hrs. (5,000)
2	Time limit of 1 hr. (6 sec./play)	315 (35.0%)	\$ (30)	\$ (220)	\$ 233	1.0 hr. (600)	1.0 hr. (600)	1.0 hr. (600)
3	\$100 loss limit	66 (7.3%)	\$ (76)	\$ (100)	\$ 382	2.38 hrs. (1,429)	8.33 hrs. (5,000)	0.25 hr. (147)
4	\$100 loss limit; \$100 win limit	275 (30.6%)	\$ (35)	\$ (100)	\$ 162	1.13 hrs. (677)	4.33 hrs. (2,595)	0.13 hr. (78)
5	\$100 loss limit; \$100 win “down”	286 (31.8%)	\$ (35)	\$ (100)	\$ 666	1.22 hrs. (730)	8.33 hrs. (5,000)	0.07 hr. (41)
6	\$100 loss limit; \$200 win limit	135 (15.0%)	\$ (53)	\$ (100)	\$ 254	1.81 hrs. (1,084)	7.46 hrs. (4,478)	0.26 hr. (156)
7	\$100 win limit	435 (48.3%)	\$ (153)	\$ (858)	\$ 186	5.23 hrs. (3,135)	8.33 hrs. (5,000)	0.14 hr. (81)

Massachusetts gamblers' survey

- Nelson et al. (2013) summarize results from a 2012 survey of Bay State residents
- 273 of 511 respondents were past-year gamblers
 - Asked about their bet-limiting behavior, etc.

Who sets betting limits?

- 83% usually set a loss limit
 - 80% of those adhere or never reach limit
- 25% usually set a win limit
 - 60% of those adhere or never reach limit

Survey question categories

- Demographics (sex, race, age, marital status, education employment, household size & income)
- Leisure activities enjoyed over last 12 months
- Types/amount of advertising seen for gambling
- Gambling attitudes and beliefs
- Gambling frequency, types of gambling, past year
- Wager size, loss size over past year
- Where you've gambled during past year
- DSM disordered gambling criteria
- Betting limit setting, adherence
- When you started gambling, have you sought help, etc.
- Familiarity with help for gambling problems
- Drinking habits, drug use, other psychological problems
- Saving for retirement, non-retirement savings

Data, model

- 247 survey respondents gambled in past 12 months
 - 264 of 511 did not, and are excluded
 - Lottery-only players also excluded
- Correlations between variables (previous slide)
- Four logit models
 - Set, win/loss
 - Adhere, win/loss

Set/adhere to loss limits

- Females 2.2 x as likely to set loss limit
- Income \$50-100K are 70% less likely than higher income to adhere
- People who don't go to the ATM while gambling are 11 x more likely to adhere to loss limits

Set/adhere to win limits

- Females 90% more likely to set win limits
- Each year older when first bet placed, 5% more likely to set win limit
- Income \$20-50K, then 2.4 x more likely than income >\$100K to set win limit
- +1 on “luck”/cognition questions, 17% more likely to adhere (p=0.064)
- +1 on DSM criterion, then 70% less likely to adhere

Omitted variables

- Drinking and drug use omitted
 - comorbidity rate >70% with disordered gambling
- Anxiety and depression questions (4) omitted
 - Some potential overlap with DSM criteria

Relevant ideas in behavioral economics

- “House money” effect
 - Difficult to adhere to win limits
 - Chasing losses
- Prospect theory
 - Impact of loss $>$ impact of symmetric win
- Betting limits and breaks in play
 - Mental accounting/Gertner (1993)
 - “Decision exercise”

Future research

- Experimental/lab research is needed
 - Real players
 - Cheating on limits
 - Realistic betting rules
 - Variable bets
 - Various slot machines types

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Paper on Win Limits

Walker, Litvin, Sobel, & St-Pierre (2015).
Setting win limits: An alternative approach to
“responsible gambling”? *Journal of Gambling
Studies* 31(3): 965-986.