

Luck vs Skill in Poker - Research Gives Us a Definitive "It Depends"

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German professor searches for an answer to the long asked question.

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Professor Ingo Fiedler of Hamburg University in Germany has been working with Pokerscout.com, the poker data collection site, to build a huge database of poker players' habits. The findings may surprise you.

Fiedler is an economist with a particular interest in gambling addiction, but his analysis of the data collected from nearly 4 million players during a 6 month period will be of interest to all regular players.

Sustainable?

Bankroll management is about the most important skill in poker. The "Gambler's Risk of Ruin" calculations give us our ground rules for how much money we need to play a particular game at a specific stake.

We all know that winning money depends on making the right decisions over the long run, but variance makes our short term results an unreliable guide to how we are doing. Fiedler has created a concept called "critical repetition frequency" that tells us how many hands we need to play on average before skill outweighs luck in our results.

Analysis

The basic idea is drawn from his statistical analysis of the data collected from 55,000 online players' winnings. He found that losing players lose more than winners when they lose a hand, whereas all the big confrontations cancel each other out.

It might feel good to get it in with A-A vs K-K and win, but it has absolutely no effect on your bottom line. In the long run, you will get it in with K-K vs A-A exactly the same number of times.

In cash games Fiedler calculates the average "long run" as 35,540 hands for a winning player. For the average winning player, that's how many hands it takes before skill overcomes luck. The result is asymmetrical. For the losing player, 1,560 hands is all it takes for his bad play to dominate his lucky streak.

Thoughts From a Grinder

As a 12-tabling million hand a year grinder, I'm extremely sceptical of these results. 120,000 hand periods of misery when I either lose money or just run flat for a month happen to me at least once a year. I instinctively feel that he can't be right, and that the long run is a hell of a lot longer than he proposes.

But, and it's a BUT in capital letters, maybe I just have periods when I play like a losing player. Maybe I can no longer console myself that my three week losing streak is "just variance" and should perhaps accept the possibility that I've become a donk!

[George Lind III](#) once wrote a detailed breakdown of how much his ROI was affected by the ROI's of the other players sat in a nine man Sit & Go. He made it clear that his ROI, and therefore his variance, was heavily dependent on the other players.

I think that Fiedler's critical repetition frequency number is an interesting marker, but the true number for you will depend on the game and stakes that you play. Higher stakes, more regulars, higher numbers.

Politically speaking, his results are very interesting. He argues that poker is a game predominantly dominated by luck up to the critical repetition frequency and thereafter by skill. Recreational players are playing a game of luck, but professionals and semi-professionals are playing a game of skill.

His results will muddy the water for legal actions in the United States, and give both pro and anti-poker activists additional but inconclusive support.

Pathological Gambler or Rakeback Pro?

Professor Fiedler was surprised by the distribution of players. 1% of players play about 60% of all hands and 10% play over 90%. "Teach your granny to suck eggs" was my first thought, but digging deeper, even I was surprised. 50% of players played for less than five hours over the six month research period, and they averaged only 1.05 tables at a time.

Professor Fiedler concludes that the mass multi-tabling regulars, whom he calls "intensive" players, must be either professionals or pathological gamblers. He proposes further research to determine how to differentiate between the two, and raises the suspicion that all "intensive" players must be addicted to poker in a psychologically damaging way.

Maybe he could just look at all the "intensive" players and see who continues despite losing consistently over huge numbers of hands.

Rakeback needs to be taken into consideration here. One of my best poker buddies loses 0.08BB/100 at \$1/2. On 2.5 million hands a year, he makes an income of over \$100,000 when rakeback is included.

My own experience tells me that compulsive gamblers are in short supply among the cohort of "intensive" players. They are the guys to be found in the group that makes multiple deposits and loses it all quickly in rapidly escalating stakes. The discipline you need to play high volumes is probably alien to gambling addicts.

Professor Fiedler's paper [can be read in full here](#).