

## Classic Article: Why Amateurs Wrongly Think Poker is Mainly Luck

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Two Plus Two Magazine, Vol. 14 No. 11

*Editor's Note: This article was first published in the June, 2011 issue*

*Author's Note: This piece is targeted to laymen and inexperienced poker players. Two Plus Two regulars are welcome to use the ideas I lay out to help them make the case that poker is predominantly skill.*

There seems to be two main reasons why people who are not serious poker players feel that poker is not predominantly a skill game.

1. It sometimes takes a long time before the best player pulls ahead.
2. Unlike games such as Bridge or Gin Rummy, you have no opportunity in most forms of poker to skillfully change your cards to increase your chances of holding the best hand.

In this article, I will show why neither of the above facts means that poker is mainly luck.

The length of time it takes for the superior player to be almost certain of being ahead in games played for money is certainly related to how much of a luck factor is involved in that game. You don't need a lot of time or need to see a lot of contests before you know who is better in chess or the hundred yard dash. When one player is even slightly better in these contests, he will almost always win.

However, there are plenty of games, even those requiring much skill, where the slightly worse player will often be ahead for a while. And yes, it's because there is a luck factor. But, so what? Luck is not the predominant factor. It might seem like it is but only because most contests usually involve contestants who are almost equally skilled.

That is the key point that is often overlooked. To show this, imagine that the contestants were drawn randomly from the whole population, rather than with an eye to match equals. If that were the case, the better player would very quickly pull ahead whenever he was matched with someone substantially worse than him as long as the game is not predominantly luck.

In sports, bowling provides perhaps the best example. The best players have much better tournament results only because they play dozens of games. They need that time for their skill to show when their opponent averages only a few pins worse. But, against even good league bowlers, a three game series would almost always be more than enough to show their dominance as would one game against me.

The point is that you can't look at TV short term bowling results and conclude that bowling is mainly luck. You can't even look at medium term results if the players are almost evenly matched. I am sure that everyone agrees that bowling is a predominantly skill game, even though the one game finals on Saturday are often won by the (slightly) lesser player. In both poker and bowling, you can rest assured that when there is not near equality, the weaker player is almost always quickly dispatched.

Why is this true in poker? Especially if you are playing a version where you can't alter the cards you are dealt? Where is the skill?

Basically, the skill is *assigning probabilities* and *assigning thoughts*. Although the cards that are dealt cannot be changed, assigning to the cards the chances that they will win is no easy task. You not only have to figure out the mathematical chances of winding up with the best hand, you need also come up with chances that you or your opponent might fold a hand for a bet that would have otherwise won. After doing that, you need to translate your results into the best decision as to whether and how much to bet, raise, or possibly check or fold.

In other words, you must somehow come up with the chances that you think your hand will win, the chances that you think your opponent is assigning to his hand, and integrate all of that in to the best poker play.

If you can't do these things well, you will lose fairly quickly to those who can.

To give you an inkling of what I mean, let's propose a simple game between two players. They both ante a dollar and are dealt a five card poker hand. The first player can bet an additional four dollars or throw his hand away. If he does fold, the second player

automatically wins the antes. If the first player bets, the second player can call or fold, but not raise.

This game has only one round of betting, no further cards, no raises, and only two players. Thus, it's a far simpler game than real poker. Yet, even it requires much skill.

To start with, the first player must know how to calculate the chances that he has the better hand. Suppose he is dealt a pair of eights. That makes him about 70 percent. If that's the case, his decision is easy. Bet. He is risking four dollars to win a minimum of two dollars. This is worth doing even if he thinks his opponent will only call with a pair of nines or better. He will win two dollars seven out of 10 times and lose four dollars the other three times, which is a net profit.

With worse than a pair of eights, it's not quite so simple. Let's say he has only an Ace-King high, which he knows is about 50-50, and he simultaneously assigns to his opponent a calling strategy of any pair. Now if he bets, he will gain two dollars about half the time, but lose four dollars the other half. So he's better off folding.

It gets more complicated. Suppose the first player is dealt that same Ace-King high, but is against that first type of opponent who needs two nines or better to call. In that case, a bluff is in order. It will lose less than 30 percent of the time and win over 70 percent. That's a big enough disparity to make it worth risking four dollars to try to steal the two dollar pot.

It can get still more complicated. Suppose the first player is dealt two sixes. We have already shown that it is worth betting against the player who needs two nines to call. But, what about the guy who only needs two deuces? To figure this out, you need to know that he will have a pair of deuces, treys, fours, or fives about 13 percent of the time. Thus, he will have a better hand than yours about 37 percent of the time. Then you have to do some calculations. Basically, you will look at your overall results on average, if the situation came up 100 times. 50 of those times, he will have no pair, and you will win \$2 or \$100 total. 13 of those times, he will have a smaller pair and you will win \$6 or \$78 total. Finally, 37 of those times, you will be beaten out of \$4 or \$148 total. That's a \$30 profit after 100 hands. By betting, you make an average of \$0.30 per hand.

This is a fairly close decision, but under these specific assumptions, the bet is correct. However, if your hand was just slightly worse or if his calling strategy was just slightly tighter, the bet might not be right. Only a very skillful player will know the difference.

Of course, I could also go into the details of the thought processes that player number two should use. But I will spare you those details. And, I could make this game far more difficult by the mere addition of one more player. With three players, you as player one, have to think about things like, "What is player two assigning to the thoughts of player three?" And even this three player game without multiple betting rounds or raises is far simpler than real poker.

Do you still think that poker is not a game of predominantly skill?

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