

The Intelligent Gambler™

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Number 9, Summer 1998

PUBLISHER'S CORNER

Chuck Weinstock

Who'd of thunk it? You're holding the ninth *Intelligent Gambler* in your hands. The first issue, published almost five years ago, was 12 sparse pages long and had a print run of less than 2,000 copies. This issue is 16 pages and is being read by over 6,500 of you! We couldn't do it without the authors who provide the articles and the readers who enjoy them. Thanks!

The 1998 World Series of Poker

As I type these words, the *1998 World Series of Poker* is in full swing. ConJelCo, as usual, is a full participant—this year even more so than in the past. Not only have we expanded our Internet coverage of the tournaments (available at <http://www.conjelco.com/wsop.html> year round), but our own Lee Jones participated in the first limit Texas Hold'em event (along with 580 other players.) Lee won his entry by winning a satellite tournament organized by Internet poker players. Lee busted out right around the middle but reports that it was a real kick playing against the likes of Phil Helmuth.

As to the Internet coverage, in addition to the official reports from the Horse-shoe, written by Don Larrimore, we have our own Tom Sims and Mike Paille on the scene to provide both color commentary and play-by-play of the final table. The early feedback from Internet readers is fantastic. We think you'll agree that this coverage is extraordinary.

Twenty Four Hour Phone Coverage!

For those of you who like to order products from ConJelCo by phone, we have good news. You can now order 24 hours a day, 7 days a week via our 800 number, 1-800-492-9210.

When you call that number you'll always reach a live operator who can assist you with your order. This is not a customer service or technical support number, and the operators are not trained to advise you on purchases. For those calls you should continue to call our 412-492-9210 number.

Video Poker—Optimum Play

The newest book in the ConJelCo lineup, due in late June or July, is Dan Paymar's *Video Poker—Optimum Play*. This is a major expansion of his best-selling *Video Poker—Precision Play* which will remain available until the new book is published. The new book contains all of the best of the old book, along with new material on optimum play, and how to pick the best machines to play. As usual we're making a pre-publication offer to our regular customers. *Video Poker—Optimum Play* will retail at \$19.95 when it is published. We're making it available to customers at the introductory price of \$15.95 plus our usual shipping charges. Even better, for \$25.95 plus shipping you can receive *Video Poker—Precision Play* now, and then *Video Poker—Optimum Play* when it is published. Both offers expire on June 30, 1998.

Rounders

Poker players everywhere should get ready for a treat as Miramax films will be releasing a major motion picture about serious poker players this Fall. Rounders stars Academy Award winner Matt Damon, along with Edward Norton, and John Malkovich.

The poker is realistic—it should be, a long-time ConJelCo customer wrote the screenplay!

This Issue

This issue of the *Intelligent Gambler* is a bit more poker-centric than I would like, but I think you agree that the articles are all top notch. We start out, below, with Mason Malmuth's discussion of stud vs. hold'em. Then Bob Ciafone tries to help you determine why you aren't winning.

Taking a break from poker, Rob Fagen puts you into the mind of someone who lets gambling run away with his life—at least for a while. Then J. P. Massar will convince you that it's better to play in satellites than in ring games—if you're an expert satellite player. Lou Krieger helps your low-limit game. Finally, for blackjack players, Abdul Jalib tells you what he would do if he ran a casino.

WHICH IS BIGGER?

Mason Malmuth

One question that poker players ask is which game is bigger, stud or hold'em. The stud advocates will tell you that there are five betting rounds instead of four, that it is much easier to draw out so that there is much more chasing, and that calling a bet on sixth street is usually automatic. The hold'em advocates will tell you that there are more multi-way pots, the betting on the first round is often two full bets as opposed to a bring-in, and the large luck factor that is present between the first two cards and the flop encourages maniacal play. So who is right?

During the past few years I have been collecting data on both games, and have come to some conclusions that are surprising. I and a friend, who is an expert stud player and a very good hold'em player, have kept careful track of our results and now have good estimates of "our" standard deviations for some of the games that are spread in Las Vegas. At first we found these results to be somewhat contradictory, but I now believe that we understand exactly what they mean. Also, you need to understand that everyone plays differently, and games in different locations can have different levels of fluctuations. So what is about to be stated may not be true in all situations.

(For those of you who are not familiar with what is meant when we talk about the standard deviation let's just say that it is a measure of how much short term luck there is in a poker game, and short term luck determines how big a poker game is. That is the bigger the standard deviation, the bigger the game.)

To start, lets look at something obvious. If you were in Las Vegas and go to The Mirage and compare any \$20-\$40 stud game to any \$20-\$40 hold'em game you will notice the hold'em game has

The Intelligent Gambler is published on an irregular basis by ConJelCo, 132 Radcliff Drive, Pittsburgh, PA, 15237. 412-492-9210, 800-492-9210 (orders). Fax: 412-492-9031. www.conjelco.com, orders@conjelco.com

far more chips on the table per person than the stud game. If you watch the pots they are much bigger. A typical hold 'em game generally has many more multiway pots than the stud game. And, a typical hold 'em hand has many more raises than the typical stud hand. Thus it seems obvious that hold 'em should produce a much higher standard deviation than stud, and thus be considered the bigger game. But our results show an hourly standard deviation of \$280 for the \$20-\$40 hold 'em and \$350 for the \$20-\$40 stud. This brings us to the surprising conclusion that if your skills are somewhere between that of a "live one" to a marginal player, then hold 'em is bigger. If your skills are somewhere between playing pretty good to expert, then stud is the bigger game. (We also have results, again based on our play, for higher limit games which are consistent with these numbers, but for purposes of this essay I will not address them at this time.)

So this brings up the obvious question as to why is this the case? Why does the expert hold 'em player have more control over his results than the expert stud player while the live one will swing more wildly?

We believe it is because of two reasons. First, reading hands may be more effective in hold 'em. You only have to figure out two cards instead of three, and you get to see your opponent's last card. This impacts your results in two ways. When playing stud you may know your opponent's primary hand such as two aces, but you won't know his kicker; or you may know he started with a three flush, but will have no idea if he improves his hand in other ways. On the end, when playing stud you frequently have to call because of the size of the pot. In hold 'em, even though the pot may be bigger than it is in stud, you can sometimes safely throw your hand away. If the flush card gets there you may know with no doubt if you are an expert card reader that you are beat.

The other reason is that the expert stud player plays much looser than the expert hold 'em player. In fact, as your stud game improves you will gradually find yourself playing more hands, while the opposite is true for hold 'em. There are many reasons for this, but two of them are that in stud you can adjust hand values based on the upcards, and that you can often play for just the bring-in. Hold 'em seems to work just the opposite. The better you play, the more traps you seem to be able to avoid,

thus many players concede that their hold 'em games tighten up as their skills get better.

This brings us to a final and somewhat entertaining conclusion. If you are talking to another poker player and they begin to argue that hold 'em is the bigger game, then it may be safe to assume that they "play bad." On the other hand, if they argue that stud is bigger, not only might they be an expert player, but you may not even want to be in the game with them no matter if it is stud or hold 'em.

Mason Malmuth is a regular contributor to the Intelligent Gambler and the author and publisher of many books about poker and gambling. See the special section on Page 11.

WHY AREN'T YOU WINNING?

Bob Ciaffone

[Special to *The Intelligent Gambler*]

Since I moved to Saginaw, Michigan in May of 1996, I have been giving poker lessons to students over the telephone. So far I have worked with about three dozen people, who vary widely in ability and poker experience, but have remarkably similar problems they need to overcome. All of course want to be winning players. Here are the most frequent obstacles they need to surmount.

(1) *Overcoming an exorbitant rake.*

How would you like to be a track coach for an athlete that wants to run a fast time for the mile, but his home course is up a steep grade? You would say, "I can help you run more quickly, but neither I nor anyone else can instruct you how to get a fast time on an uphill course." How can the student expect me to teach him how to win in a game that I would be hard-pressed to beat myself? If the rake is too strong, you can't win. My poker experience has taught me that when the rake gets above five percent, nobody wins except the house. The first thing every poker player needs to do is find a place to play poker that charges only a fair amount for playing the game.

(2) *Playing too many starting hands.* I have never met a limit hold'em player who's vice was playing too tight before the flop. I am convinced such an animal exists only in theory, and does not actually occur in the real world. Nearly everyone I know, from pro to beginner, plays too many starting hands to get his or her optimum result. The two main sins weaker players commit are playing small pairs and small suited connectors, and not tightening up sufficiently in

pots raised by a player who is marked with a good hand. Anytime you have to pay a full bet to play a hand composed of little cards you are making an error. Hands such as 9-8 suited or 5-5 are not playable hands. Being in a volume pot or being on the button does not make these hands playable, it only reduces the crime of entering the pot from a felony to a misdemeanor. In raised pots, the raiser is supposed to have big cards or a big pair, unless he is in position to steal the blind money. The worst type of hand you can have is where the raiser has one of your cards and a bigger side-card, or a pair of the rank of one of your cards. In such a case you have a crippled hand in competing with the rest of the field, and are in serious danger of flopping a second-best hand when you do hit. The implication of this is hands such as K-Q or A-J are unplayable in raised pots when unsuited, and far from a bargain even when suited. I believe more money is unnecessarily lost in a poker session from calling raises on inadequate values than any other poker error.

(3) *Playing wimpy poker in short-handed pots.* In hold'em, a player who flops a solid hand that is not the nuts (or is no longer the nuts after the next boardcard) is pretty lucky if he can get a card off the deck that looks innocuous. Most of the time the player has to deal with the possibility that an opponent has outdrawn him. The test is how realistic the threat is, because it is unfortunate to dog the best hand and lose a bet or more of profit, and a huge swing if your failure to bet results in losing a pot you were supposed to win, either by getting bluffed or having a free card provide a miracle drawout to a player that would have folded had you bet. The danger of a card is judged by two main factors; the likelihood of an opponent being helped and the number of opponents. Against one opponent, if I had enough of a hand to like it on the flop, I am going to bet again on fourth street. He does not have to be holding a flush-draw if a third card comes on suit, or a card in his hand of the same rank to pair with that overcard. Against a crowd I am much more cautious when a bad card for my hand appears. The important thing to note is that against precisely two opponents my betting behavior is a lot closer to how I would have handled the situation with only one opponent than how it would have been facing a whole crowd of people. If you bet and get raised you're probably beaten. If you check—showing weakness—and someone else bets, then

whether you opt to continue competing or abandon ship it is hard to be confident you are making the right decision.

There are a lot of other factors affecting your play besides the three mentioned in this article, but these are the three main areas that control whether you are a loser or a winner. Do your repair work here and watch your "luck" turn around to make the chips come in steadily.

Bob Ciaffone is a Card Player columnist and the author of several best-selling books on poker including his newest "Improve Your Poker."

SEEING YOURSELF IN OTHERS

Rob Fagen

I have a problem with gambling. I'm lucky enough in my 'real' life that a down session at the blackjack table won't leave me homeless. However, an up session still provides a rush. As my shrink suggested, gambling is where I get my juice because I overmitigate the more mundane risks in my life.

I currently have a problem. I will always have this problem, regardless of if it currently affects my life. To deal with this, I have rules for constraining my behavior, including rules for dealing with breaking the rules. The 'broken rule' incident I remember is what this story is about.

I was at the University of Arizona and had a programming job with a local company. Sometimes I would work late one evening and call my fiance to let her know I would be home very late. Then off to the airport to catch a 9 p.m. flight to Vegas and play a little blackjack. I would plan to fly back at 8 a.m. and 'awaken' at my desk, having 'fallen asleep' at my keyboard. Then off to classes and sleep there part of the day, and resume my regular schedule late that afternoon.

One of these trips, I went through the \$200 I brought in short order. This isn't easy betting \$5 per hand of blackjack, but it is well within the realm of possibility. I proceeded to get \$300 from the ATM, which was the daily limit. Unfortunately, that also disappeared around 2:30 or 3. By then it was the next day as far as the ATM was concerned, so I got another \$200 out of the machine, which was all the cash I had left aside from rent.

5 a.m. rolls around, and I'm functionally broke. It has been an unusually bad trip, but not unheard of playing \$5 blackjack. I had kept \$20 aside for get-

ting back to McCarran airport and parking in Tucson, but I had nothing left to gamble.

I walked out onto the strip. I left the Flamingo Hilton, and as I stepped onto Las Vegas Boulevard South, pink fingers of a desert dawn rose from the east. The Strip was deserted except for a jogger in front of Caesar's Palace and tired looking people with that thousand-yard stare of the economically shell-shocked.

Avoiding the non-existent traffic, I crossed the median and approached the driveway to Caesar's Palace. I passed the fountains that Evel Knievel jumped across time and again. The sun peeked over the eastern mountains illuminating the western mountains. The sky lightened and the hotel loomed above me in silhouette as I walked up the driveway.

Ahead of me was an ornate shrine featuring a white elephant. I stopped to consider it. It was done up in an appropriately tacky Las Vegas fashion. The elephant was covered in various colors of mirrored tile and was dramatically up-lit by hidden lights of various colors. There were coins all around the base of the elephant and a placard with a warning that the shrine was alarmed and monitored on video. I laughed at the prospect of a wishing well under surveillance.

Even though I don't believe in lucky elephants, this burst of black humor motivated me. I decided that I would return a really big winner or a really big loser. \$700 was already the biggest loss that I ever had in Vegas, but I was past the threshold of misery. I credit Mike Caro with that phrase. It refers to the state where you've lost an amount of money that has numbed you to any further pain of any additional losses. It doesn't hurt any more to lose another \$1, so losing it becomes very easy. I decided to charge another \$700 to my credit card, and I would play quarters for the first time.

My step lightened, my eyes cleared, and my blood began to flow. I was back in action. Deciding to start on this path was enough to lift my spirits. I made my way to the Comcheck machine quickly and ran my card through jauntily. Requesting \$700, I strutted up to the cashier's cage as if I owned the place. With my seven one-hundred dollar bills I advanced on the casino floor.

I spied my victim. A six deck shoe at a \$25 table near the entrance with four players on it. After all, I wanted an audience for my big comeback. The

poor dealer and pit bosses wouldn't know what hit them.

I spread those seven insignificant pieces of paper across the felt and the dealer pushed me a stack of even less significant green chips towards me. My destiny hung from those 28 clay discs. I saw visions of them turning into black or even purple chips.

Before counting, I played a simple progression. I would always start betting one unit, in this case one green chip. If I won the hand, I would wager two chips on the next hand. If I won my second hand, I would then wager three chips. Continuing to win, I would wager five chips, then five again, then seven and then ten after the sixth win. The seventh hand would treat ten chips like one chip but I would repeat the ten, so the wagering would go ten, ten, twenty, thirty, fifty, fifty, seventy and one hundred. Then in the unlikely circumstance of getting that far, the series repeats itself, treating 100 chips like 1 chip.

I had played for a while, never varying too far from even, when it happened: a losing streak that would not snap. I was down a little at first, then my stack steadily dwindled. Twelve chips. Eleven. Ten. With only a single digit worth of chips in front of me, I seriously questioned my earlier optimism.

With 45 minutes until I had to leave, I was resigned to seeing this grim scene to its conclusion. Then I won a hand. Suddenly I could do no wrong. My two chip wager won. My three chip bet was graced with a natural. I got back four green chips and the odd money. The odd money went out as a toke and I won my five chip bet. I repeated my five chip bet and won. Seven chips in the circle got an 11 vs. a dealer 6. I placed my hard won profits out there for the double. The dealer turned over a 4 followed by a face and the whole table slumped in disappointment at the dealer's 20. I hadn't looked, but I was certain I had a ten underneath. The dealer proved me right. Fourteen green chips were restacked in three piles of four and a remaining pile of two. He placed a black chip in front of each of the three piles, placed a fourth black chip in front of the pile of two green and picked them up as change.

I took back the black and two of the green leaving a ten chip bet out. I won that one and the dealer repeated the restacking ritual to pay me again. I restored my ten chip bet and won again. The dealer paid me again. I stacked up all the chips in the circle to make a pile

of three black chips and eight green chips.

I won the next hand and the dealer paid me with five black chips. Now my progression called for thirty green chips. I fumbled adding green chips from my stack to the stack in the circle when the dealer said to me, "Hey buddy, slow down, the casino will still be here tomorrow."

I actually snapped back, "Thanks for the advice, but I know what I'm doing," as I added the green chips to the top of the stack. The dealer just looked at me.

I won that hand as well.

Now my hands were visibly shaking.

I had won ten hands in a row. As the dealer paid me with a purple chip, two black chips and two greens, he called out to the pit boss, "Purple out."

The pit boss looked over, then slowly walked over. He said, "Ok."

My next bet was fifty green chips. I added the purple chip to the bottom of the pile as the dealer got ready to deal the next hand. The rest of the table was quiet. I won. The whole table cheered. Well, maybe they didn't cheer, but they did make a set of noises that could be interpreted as well wishing.

The dealer set out one yellow chip, two black chips and two green chips. I realized two things: one, I had risen out of my seat, and two, that yellow chips are worth \$1,000. I had just been paid one thousand, two hundred and fifty dollars. This was more than I and my two roommates were paying for rent. Combined. For two months. I was past caring. I realized that there are two thresholds: one for pain and one for pleasure. Once you win a certain amount of money, you are indifferent to any more.

Mechanically, I put out the \$1,750 required by the progression for the next bet. I lost. I once again began shaking. I said to the dealer, "I think I'm ready to go now, please."

The pit boss said, "Son, I think that would be a good idea." I don't believe I imagined the look of concern on his face. I also don't believe he was concerned over the money leaving the table. All told, that run of cards left me \$2,250 on the table, which made back my \$700 cash advance and my earlier losses of \$700. I had come out to the good by \$850. I gave the dealer a \$25 chip as I departed and thanked him.

As I looked from him to the other players at the table I saw something that

scared me. I saw three aging people, smoking, drinking and hunched over. They were immersed in their own world and my passing through was an eye-blink, quickly forgotten. I put myself in their shoes and imagined a young person viewing me as one of these caricatures through young eyes. That is the image that I remember whenever I find myself getting carried away by my addiction.

Rob Fagen is a computer professional and gambling degenerate living in San Francisco.

A LOOK AT SATELLITE PLAY

J. P. Massar

A satellite is an N-player, single-table poker tournament. Each contestant pays an entry fee and the winner (the person who ends up with all the chips) wins the sum of the entry fees. Each player starts with an equal amount of chips, and typically the blinds and/or antes are raised every 15 minutes, insuring a timely finish to the event (1-2 hours).

Satellites are held at major poker tournaments, for the avowed purpose of providing a 'cheap' way to enter a tournament. For example, each player might pony up \$200 in a 10-player satellite for a chance at accumulating enough capital to enter a \$2000 event.

According to Bob Ciaffone in his latest book, *Improve Your Poker*, (p. 205) a top satellite player can win 1 out of every 5 10-handed satellites.

In this article I look at the implications of being able to play satellites at this and lesser skill levels, from the points of view of expectation (aka 'EV'), variance, and comparisons with the earnings of professional level Texas Hold 'em ring game players. In particular I look at a week's worth of satellite play (36 satellites, assuming 1 satellite per hour), versus a week's worth of ring game play (36 hours). Let's first look at a 'generic' satellite: Each player buys in for 1 unit. The winner's profit is 9 units (the total pool of 10 buyins, minus his buyin.) and the other 9 players lose 1 each.

As an average player, your chance of winning the satellite is 1 out of 10. Your EV, which is defined as $(P_{win} \times \$_{won}) - (P_{lose} \times \$_{lost})$ is therefore $EV = ((1/10 \times 9 \text{ units}) - (9/10 \times 1 \text{ unit}))$ or zero, as we would expect.

The variance (using a standard mathematical formula) is

$$V = \sum_i [P(i) \times ((X(i)) - EV)^2]$$

where P(i) is the probability of outcome i and X(i) is the win resulting from outcome i. In our generic satellite model there are only two possible outcomes: +9 (with probability 1/10) or -1 (with probability 9/10). Your variance as an average satellite player is therefore

$$(1/10 \times (9 - 0)^2) + (9/10 \times ((-1) - 0)^2) = 9$$

and your standard deviation, (the square root of the variance, aka σ), is therefore 3 units.

Now assume you are better or worse than average satellite player. That is, your probability of winning a 10-handed satellite is p, where p is 1/12, 1/9, 1/8, 1/7, 1/6 or 1/5 (Ciaffone's estimate for a top player). Table 1 presents the results of EV and variance calculations using the above formulas for these probabilities of winning a satellite, and assigns a label to each skill level for future reference.

TABLE 1. Generic Satellite

P_{win}	EV	σ	Player
1/12	-0.17	2.77	< Average
1/10	0.00	3.00	Average
1/9	0.11	3.14	Marginal
1/8	0.25	3.31	OK
1/7	0.43	3.50	Good
1/6	0.67	3.73	Very Good
1/5	1.00	4.00	Expert

Entry fee: 1 unit. Prize: 10 units.
Assumed tip: 0 units.

Two things to note are a) the rapid increase in expectation as skill level improves and b) the increase in standard deviation as skill level improves. The latter is actually in contrast to ring games: poor players generally have larger standard deviations (because they play in more pots than good players), and at least according to some poker authorities (e.g., Malmuth, in posts to *rec.gambling.poker* and the *2+2 forum* on the web at <http://www.twoplustwo.com>) standard deviation falls as one becomes more adept (because one becomes more skilled at reading hands, escaping future bets when drawing dead or near dead).

Now let's look at a couple realistic satellite structures.

In January, 1998, the Commerce Casino ran limit hold 'em satellites with a \$40 entry fee and a \$330 prize. Table 2 shows EV and standard deviation data for this structure, and includes EV and 2 standard deviation bounds for a week's worth of play (i.e., one can rea-

sonably expect results for a week to fall somewhere within these limits). Also built-in is a \$20 dealer tip if you win.

TABLE 2. Commerce Low-Limit Satellites

P_{win}	EV	σ	$EV*36$	2σ bounds
1/12	-14.17	97	-510	[-1675 — 655]
1/10	-9.00	99	-324	[-1521 — 873]
1/9	-5.56	101	-200	[-1417 — 1017]
1/8	-1.25	103	-45	[-1285 — 1195]
1/7	4.29	106	154	[-1115 — 1423]
1/6	11.67	109	420	[-883 — 1723]
1/5	22.00	112	792	[-553 — 2137]

Entry fee: 40. Prize: 330. Assumed tip: 20
Aggregate stats after 36 satellites.

Because of the house take and assumed tip, only someone who wins at least 1 out of 7 satellites (a 'Good' satellite player) can expect to make any profit.

Consider an Expert \$10-\$20 limit Texas hold 'em player who makes \$30/hr with a standard deviation of \$200/hr, and a Very Good pro who plays either \$6-\$12 or \$10-\$20 and who makes the standardly accepted one big bet per hour with a standard deviation of \$240/hr (12 big bets, again a standard number). Table 3 shows a comparison between these prototypes and our Expert and Very Good satellite players.

TABLE 3. Small Satellites vs. \$10-\$20 and \$6-\$12 Ring Games

Label	Weekly EV	2σ Bounds
Expert _{sat}	792	[-553 — 2137]
Very Good _{sat}	420	[-883 — 1723]
Expert ₁₀₋₂₀	1080	[-1320 — 3480]
Very Good ₁₀₋₂₀	720	[-2160 — 3600]
Very Good ₆₋₁₂	432	[-1296 — 2160]

Because of the relatively small standard deviation associated with satellite play, our satellite players, while making less than the \$10-\$20 expert, do so with significantly smaller swings in their bankroll. In fact a \$6-\$12 player with a small bankroll that he needs to preserve is far better off playing these satellites if he can play them at a Very Good skill level.

At the 1998 World Series of Poker (WSOP), the first event is a \$2070 entry fee Limit Hold 'em tournament. 10 player satellites for this event charge each player \$220, the winner receiving \$2070. As before, we will assume the winner leaves a tip, this time of \$40 (larger, but proportionally smaller). Table 4 shows how our satellite players

TABLE 4. WSOP First Event Satellites

P_{win}	EV	σ	$EV*36$	2σ bounds
1/12	-50.83	596	-1830	[-8988 — 5328]
1/10	-17.00	620	-612	[-8051 — 6827]
1/9	5.56	635	200	[-7415 — 7815]
1/8	33.75	652	1215	[-6606 — 9036]
1/7	70.00	672	2520	[-5546 — 10586]
1/6	118.33	697	4260	[-4102 — 12622]
1/5	186.00	727	6696	[-2027 — 15419]

Entry fee: 220. Prize: 2070. Assumed tip: 40.
Aggregate stats after 36 satellites.

Because of the reduced overhead, even a Marginal satellite player can make a (small!) profit. But an Expert satellite player, playing in the smallest satellites that the World Series has to offer, is already an awesome money making machine! (There are \$300+ and \$500+ entry satellites for later WSOP events, not to mention \$1000 satellites for the \$10,000 finale.)

Let's look at a comparison between Expert \$20-\$40 and \$40-\$80 limit Hold 'em players (the highest limit hold 'em games that are commonly available in Las Vegas), who make respectively \$50 and \$80 per hour (C.f Malmuth, *Poker Essays*, p. 52), and Good and Expert satellite players. Table 5 shows a week's results for each. We assume the standard deviation for our Expert ring game players is again 10 big bets per hour.

TABLE 5. WSOP Satellites vs. \$20-\$40 and \$40-\$80 Ring Games

Label	Weekly EV	2σ Bounds
Expert ₂₀₋₄₀	1800	[-3000 — 6600]
Expert ₄₀₋₈₀	2880	[-6720 — 12480]
Good _{sat}	2520	[-5546 — 10586]
Expert _{sat}	6696	[-2027 — 15419]

A good WSOP satellite player can make almost as much (88% as much) as his expert \$40-\$80 counterpart, with less swings (the 2-sigma interval is 84% as large). An expert WSOP satellite player makes 232% more than his expert \$40-\$80 associate, with far, far less risk of ending up negative after even only a week's worth of play.

Given the tremendous money making potential of such an expert, we might inquire as to whether players of this ilk really exist. Ciaffone does not state whether his estimate comes from records he and/or his professional associates kept or is more of a 'guesstimate'.

To address this question, the first thing to think about is whether it is possible to have played enough satellites so that

one can statistically determine whether one is actually an Expert or simply a less skilled satellite player who has gotten lucky.

Table 6 shows how many satellites an alleged Expert or Very Good player needs to play before he can assert that it is statistically unlikely (at the 1 and 2 sigma confidence levels) for him to actually be less skilled and have simply gotten lucky.

TABLE 6. Number of Satellites

Comparison	# of Satellites required to distinguish	
	1 σ	2 σ
Good vs. Expert	33	134
Good vs. Very Good	196	784
Very Good vs. Expert	105	420

If one is winning satellites at a rate of 1 out of every 5, then to reliably assert that one is not simply being lucky, but is in fact winning at a rate that is clearly in excess of 1 out of every 7, one needs to have played 134 satellites. And to assert that one is winning at a rate clearly in excess of 1 out of every 6, one needs to have played 420 satellites.

It is certainly possible for someone to have played far more than 420 satellites similar in structure to the one analyzed here in a person's lifetime. There are major tournaments with satellites of this size going on somewhere in the U.S. at least 100 days a year, and probably more. Therefore it is quite conceivable that someone could say, 'I am an Expert satellite player, and I have the data to prove it.'

The second question is whether it is mathematically and logically plausible that someone could win at such a seemingly large hourly rate. After all, a satellite lasts about 2 hours; one might think that over this time period skill is minimized, not increased, while luck becomes the dominant factor, especially as the antes/blinds grow.

To this question I have no great insight. It may be that the average satellite entrant plays satellites in such a way that he is constantly making huge mistakes, and the skilled players continuously take advantage of these mistakes. The opposite may also be true, and Ciaffone's estimate may simply be very optimistic. It may also be that the average satellite contestant is getting more savvy, and Ciaffone's estimate, while true some years ago, is no longer attainable. Finally, there are other factors which influence satellite play which I

will discuss briefly but not present quantitatively.

First, in order for a satellite player to stay in continuous action, he needs to be able to play a variety of types of satellites. For example, the day before a 7-Stud tournament, 7-Stud satellites are the satellite 'du jour'. While limit and no limit hold 'em satellites are by far the most common over the course of the WSOP and other major tournaments, limiting oneself to only these events will produce a significant amount of downtime (especially at East Coast tournaments, where stud is more popular).

Second, satellites are often 'chopped'. That is, when the satellite gets down to 2 or 3 players, often an agreement is reached to split the prize money. This has the effect of reducing a satellite player's standard deviation, while, if he is astute, maintaining or even increasing his EV (depending on his negotiating skill—the distribution of the prize money in a chop is not fixed and amenable to bargaining). Estimates I have made show that chopping has a relatively small, though non-negligible effect on standard deviation, reducing it by something on the order of 10%. And of course negotiating skill will increase one's EV in proportion to how good a deal one can strike and how often one can deal. Chopping and negotiating (skillfully) thus have the property of making skilled satellite play even more attractive than has already been presented.

J. P. Massar owns a B&B in Cambridge, MA, but makes his living fishing.

BEATING LOW LIMIT GAMES

Lou Krieger

"Can a low-limit game be beaten?"

Recently I received an e-mail from a player from Oregon who asked about this, and shared a number of other concerns I suspect are common to many lower limit players, particularly those who are contemplating moving up to bigger games.

Q: Can a \$3-\$6 or \$4-\$8 hold'em player beat the rake, toke, and jackpot drop? They deal 30 hands per hour where I play. The rake is 10% with a \$3 maximum, plus one dollar per hand is also dropped to fund the jackpot. The usual dealer toke is a dollar per hand. I spend approximately \$15 per hour to play this game. Over the course of 500 hours I am losing an average of \$5 per hour. That means, however, that I am winning \$10 per hour before accounting for the rake, toke, and jackpot drop.

A: These issues are vexing to many players. If you were paying a time charge of \$15 per hour, I'd say it would be nearly impossible to beat that game. Most poker pundits will tell you that a good player should be able to beat a game for somewhere between one to one-and-one half big bets per hour. I regularly play \$15-\$30 and \$20-\$40, and my average winnings fall within that range year in and year out. However, I only pay \$6 and \$7 per half-hour respectively to play in those games. As a percentage of the betting limits, your cost is much higher. There are some mitigating circumstances, however, and it's important to consider them when you examine the costs and benefits of playing in various games.

Lower limit game usually have more callers per hand. More importantly, your game is raked ~not time-charged. In a time-charged game you pay the same amount of money regardless of the number of hands played. In a raked game, the players who win the most pots pay the most money. Those who win the most pots invariably play the most hands, and they, or course, are generally poorer players.

Since you only pay when you win a pot, good players beat the rake by being selective about the hands they play. Moreover, lower limit games are generally looser games, and the pots tend to be proportionally larger ~thus offsetting the relatively high rake.

Q: Some friends, including dealers and floor supervisors, tell me I should play in the \$10-\$20 game because the rake is killing me and I play well. I am not sure. I tell them I need to get better and consistently beat lower limit games before moving up.

A: I'm not sure whether you should move up to the \$10-\$20 game or not. What I can tell you with certainty is that the cost to play on a relative basis will be less, although there will probably be fewer players in each pot.

There are a couple of things to consider before making your decision. First, 500 hours is really not a large enough sample to base your decision about playing in bigger games. And if you've only played 500 hours of casino poker altogether, you are still climbing a rather steep learning curve, regardless of the amount of study time you've invested. That means your latter data would be more relevant than any earlier data you've logged, but the flip side is that you have even fewer hours at your disposal that are representative of your

current skill level — and if your skill level is still expanding, the past is an inadequate indicator of future results.

You might consider taking a shot at the \$10-\$20 game and see how it feels. Play a few sessions. You'll quickly know whether you're outclassed. If you have a friend or two who play that game regularly, they can also comment on how well you played.

Q: I am concerned about "team play." While I will not get involved in it, I am sure others do. This probably is another hurdle to being a lifetime winner.

A: I've seldom found team play to be a factor in any casino game, and hold'em doesn't lend itself to team play as much as other games. Unless you are sure of team play, you probably oughtn't worry about it. If your casino uses security cameras and you suspect team play, you can have their staff review tapes for evidence of signaling.

Q: I do not lose much money for the fun I have. I will not quit my "day job." But I want to have a chance of winning. What do you think? Should I move up in class, study more and stay where I am, or just have fun and forget about the cost? And by the way, what should I do about jackpots when I play?

A: You are still on a learning curve, but there's no reason why you shouldn't be able to beat low limit games, and maybe higher limit games too. As long as you can afford it, go ahead and take a shot at the \$10-\$20 game. See if you feel comfortable with it.

One additional admonition about the jackpot: Ignore it. Don't play for the jackpot unless you have a qualifying hand and can afford to give players a chance to catch up and beat you. For instance, if you flop aces full, don't make it too expensive for your opponents to draw to their pairs in an attempt to make quads. But don't play low pairs yourself just to try to hit the jackpot.

That jackpot is essentially a zero-sum game; money invested will eventually return to the players, although you may never see your share in your own lifetime.

Too many players chase jackpots by playing far weaker hands than they should. There are usually more players per pot in jackpot games, and this makes good flush and straight draws very playable. For example, if you are in late position with any ace-suited, you should see the flop as long as the pot has not been raised. And if you flop a flush

draw, play it until the river under most circumstances.

Jackpot games are loose games by definition; since many players make questionable calls trying to hit the jackpot, instead of playing each hand soundly. My advice is to play your best game. If the jackpot comes, it comes. Consider it found money. But don't waste your bullets shooting at a target you can barely see.

Lou Krieger is a Card Player columnist and the author of two bestselling books on Hold 'em: Hold 'em Excellence and More Hold 'em Excellence.

IF I RAN THE ZOO

Abdul Jalib

If I ran the zoo, I'd have friendly zoo keepers and tour guides to create a welcoming atmosphere for the visitors. Wouldn't you too? I wouldn't station scowling managers or guards at each exhibit.

So, I can't understand what is wrong with the casinos with regards to the blackjack tables. They act like they don't want customers. I believe, but cannot prove, that the blackjack industry would be ten times as profitable if the casinos were run like I would run the zoo. They are hurting themselves more than helping themselves in their fears about card counters.

A while ago I was playing at the Rio, next to a young Japanese woman betting \$400-\$800 per hand. I asked her why she played there. She answered, "Because they don't sweat so much. I like The Mirage too. But most other places sweat too much." Her betting had no relation to the count. When a pit critter repeatedly asked for her name in order to rate her play, she refused by shaking her head and turning her face down, commenting afterwards to me that such nosiness was considered unconscionably rude in Japan. She was worth thousands of dollars per weekend to any casino, and didn't even want any comps, and yet most casinos had scared her away!

Another anecdote of a casino scaring away a good customer was told to me by a guy who had been playing at MGM for several days, getting stuck for \$5000, and then slowly digging back to about even, always just putting the chips back into his pocket. He was a gambler, not a card counter. When he went to the cage to attempt to cash his \$5000, the cashier asked where he won it, and he explained that he had been playing for several days and many tables. The

cashier refused to cash his chips, and when he cashed half the chips with her and then went to another cashier to cash the rest, the first cashier came over screaming "don't cash those chips!" The player went to the casino manager in order to get his money and informed him that he would never play in their casino again.

Some of the casino procedures, including sweating and Draconian cash out rules, are based on seemingly good excuses. The pit critters sweat to catch cheaters, counters, and dealer mistakes. The cash out rules are there partially to satisfy the U.S. federal government. But the casino revenues would be much higher if they would just relax and provide a pleasant environment for the players and use the sky to catch cheaters and dealer mistakes. What really annoys me is that the casino industry is losing probably billions of dollars in revenue just to avoid losing a few million dollars to card counters. The excuses are no excuses at all. They don't have to, and should not, scare away customers. The obstacles do little to discourage counters (or cheaters for that matter), and much to discourage good customers.

One of the reasons that sweating, cash out rules, and other protective measures do little to protect casinos against counters is that only skilled players will put up with such ridiculous behavior, since they have a monetary incentive to do so. For example, I played a blackjack game in Turkey that was positive expected value for basic strategy. The shift manager, whom I suspected was Russian Mafia, folded his arms down on the table, hunched over, and scowled at me for a couple of hours. Just who is going to take this kind of pressure? Only a skilled player! (An insane skilled player at that.) But after I endured his hostile scowl for a couple of hours, he apparently thought I must be okay. His assistant casino manager took me sight-seeing. They got me a comped room in the five-star resort for several nights. They offered to get me a "girl".

In the case of the casino chip cash-out nonsense, such as the gambler who couldn't cash out the \$5000 in chips that represented his own money, high stakes card counters know all the rules and how to get around the rules where possible. The rules only discourage the gamblers, representing at most a nuisance to the advantage players.

A further threat to the entire industry is that the casinos commit crimes against

skilled blackjack players. In Turkey, one group of counters was allegedly held hostage by the casino management, while the rest of the team was forced to gather more money for ransom. But such crimes occur on American soil too. There is the old case of Binion's security guards beating up a couple of skilled players, but there are a lot of recent incidents that have gone to court. In one such incident, a skilled player was dragged out of his room in a major Vegas strip casino-hotel by casino security in the middle of the night, false arrested for several hours during which the victim thought that he would be killed, and then they would not let him back into his room to get the tens of thousands of dollars in the safe! Other major Vegas strip casinos have refused to cash chips or have literally stolen chips from skilled players. Eventually 60 Minutes or some other show is going to give these crimes perpetrated by the casinos the publicity they deserve, and the entire industry will suffer, and the perpetrating casinos will suffer many times their ill-gotten gains.

Counters are leaches, but catching them is far more expensive than it is worth, except for the very high stakes players. The loaded cost of a pit critter's salary is much higher than the amount per hour a counter takes out of a casino, and it is going to take many hours of watching suspected counters before a pit critter is going to nail a real counter. I remember back when I was first starting out, I was betting \$2-\$8 on the single deck at Binion's. A pit critter spent a half hour watching me, and then finally came up to me and put me on "flat bets" — I could no longer vary my bets. The very most I was taking out of the casino was \$5/hour, probably more like \$2/hour. I'm sure the pit critter salaries at Binion's are pathetic, but they cannot be that low. You might argue that with a half hour of watching, she barred me from a lifetime of winnings at Binion's, but of course, that's not true. It stopped me for that weekend, but I've been back to play at Binion's many times over the years since then with normal spreads and green or black minimums.

Furthermore, counters provide some compensating value. Other customers see people, who perhaps are of similar age and appearance to them and whom they don't realize are counters, betting large amounts and winning. This encourages the other customers to bet more. I remember when I played for the largest amount I have ever played — betting \$500-\$2500 on double deck.

The spectators were roped off about five feet behind me, and they were lined up 3 deep behind me in an arc from one side of the table to the other, perhaps 50 people or so, to watch as my chip stacks grew and grew. Now, true, I was pumping at least \$500 an hour in expected value out of the casino, but don't you think each of these 50 people was more likely to bet a little more, some of them a lot more? Considering that the edge over typical players is much higher than the edge a counter has over the casino, the casino would have made out great if even just 50 people had been inspired to bet \$5 more a hand each.

Also, counters prefer to play at empty tables, whereas paying customers prefer to play at occupied tables. Without counters, it's not uncommon for a casino to have several completely full tables and several completely empty tables, with no partially full tables, which means that some paying customers wander around and don't play. I recently played in a casino that had 10 tables with dealers, and no players. When I sat down I became the casino's only table game player. I naturally got the scowling pit boss by the table, which greatly annoyed me, since I was providing a valuable service to the casino. Sure enough, a few minutes later, a paying customer sat down at my table, avoiding the 9 empty tables. After yet another customer came to the table, I left to open up another table. They should pay me for my services, or at least tolerate me, but instead the casinos occasionally boot me.

Now if I ran the casino, I'd offer a mediocre game, beatable by skilled counters, not beatable by novice counters, and I'd

not sweat it. Perhaps I'd put in 50% penetration face up double deck games with shuffle machines to eliminate the shuffle time. I would not offer late surrender, since this benefits counters too much, and I'd probably settle on stand on soft 17, double any two, but no double after splits. The table minimums/maximums would be staggered, with 3 different 1-4 spread ranges at each table, such as \$5-\$20, \$10-\$40, and \$25-\$100, or for medium stakes, \$25-\$100, \$50-\$200, and \$100-\$400, or for high stakes, \$100-\$400, \$300-\$1200, \$500-\$2000. I'd instruct my pit bosses to allow the customers to bet whatever they want, so long as they stayed within one range. No mid deck entry. Counters would be welcomed and treated well, and no effort would be spent in identifying or booting them. Any pit critter who scowled at a customer would be immediately fired. If anyone did need to be watched, perhaps for suspicion of cheating, the sky critters would do the job, with the ground critters being left to do their job—keeping the customers and dealers happy. I'd prefer to not comp the highly skilled counters too well, but then again I don't want my pit critters wasting time on such matters, so I think I would just look the other way while keeping the cash comps such as airfare at a minimum for everyone. For cash-outs, my casino would become known as the casino that will accept any other (local) casino's chips of any denomination and amount, and as the casino that will not hassle its own players with amount and size of chips cashed. I would abide by the 10K federal reporting regulations to the absolute minimum level, bending

the laws as much as possible to protect my customers from Big Brother.

I'm convinced that my casino would do stupendously well. The casino that comes closest to my vision is probably Caesars Palace in Vegas, ignoring some of their heavy handed tactics towards some skilled players in the past. They offer a game not easily beatable by counters—six decks, good rules, poor penetration—and they don't sweat it. Even when they had the single deck game, they took the action well. I had been playing for dozens of hours of \$300 minimum blackjack on that single deck game, when I realized I should easily qualify for a comp to their finest restaurant. I asked the pit boss (mistake—should have asked a host), and he said that I was a good player so he couldn't comp me, though he added he could write me a comp for the food court if I wanted and I could keep playing. I continued the high roller act by turning up my nose at the food court, but I have to admit, his "comp barring" was a lot classier than a real barring, which is sometimes accompanied by an illegal false arrest, physical violence, or robbery. Look how stupendously well Caesars Palace is doing with their atmosphere of carefree gambling. The Mirage, Treasure Island, and MGM used to be that way, but the attitudes have been changing, sweating has increased, and business has suffered, which will probably increase the sweating, and further decrease business, in an endless cycle of decline.

Unfortunately, I don't own a casino or a zoo.

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