The "High Variance Poker" Study Guide

I. Quiz: Short Answer Questions

Answer each question in 2-3 sentences.

1. What is the fundamental difference between Player A (the Crusher) and Player B (the safer player) in terms of their poker strategy?
2. How is a "marginal" or "high variance" spot defined in the context of the provided text?
3. In the first example hand, why does the player choose a big overbet size on the turn with 7-high, even though they have a weak hand?
4. Why is checking back with third pair (7-high) on the river in the first example considered a less profitable option than bluffing?
5. In the second example, why does the player eliminate the possibility of their opponent holding hands like Pocket Jacks or Queens on the river?
6. What is the "low variance option" that many winning cash game players would choose in the second example with Pocket Aces on the river, and why?
7. What is the key difference between how a player might range bet against a recreational player versus a professional player in a three-bet pot?
8. According to Dr. Daniel Jones, what is the conceptual difference between "variance" and "standard deviation"?
9. Why is the standard deviation for live poker significantly higher than for online poker, according to the text?
10. What is the surprising conclusion drawn about the expected maximum downswing for high-variance vs. low-variance players, and what is the reasoning behind it?

II. Answer Key

1. Player A, the Crusher, takes every single plus EV (expected value) spot, even if it's extremely marginal, risking more for a slight long-term edge. Player B, while still a winner, plays it safer, passing up close spots to minimize swings.
2. A marginal or high variance spot is defined as a close decision where a player risks a lot of money on a decision where they win a little if correct, but lose a lot if wrong. However, these spots are assumed to be plus EV over the long term if chosen correctly.
3. The player chooses a big overbet size because they believe their opponent's range is "capped" (lacks the strongest hands) and will be inelastic on the turn, allowing them to capture value from their opponent's range. They also believe they can get many hands to fold on the river.
4. Checking back in the first example is less profitable because the player has very little showdown value and is unlikely to win the pot by checking. By bluffing, even for a marginal amount, they create a positive expected value, whereas checking back results in $0 EV.
5. The player eliminates these hands because it's unlikely for an opponent to check-raise overpairs on the flop in a three-bet pot, then double barrel the turn thinly, and then bet overpairs on the river after a flush draw completes. This line of play is more indicative of sets or bluffs.
6. The low variance option is to simply fold the hand. Many pros would choose this because they assume their opponent is never bluffing in such a spot, and folding guarantees no further loss of money from that decision point (0 EV).
7. Against recreational players, a player might check their entire range out of position to exploit over-stabbing and telegraphing of hand strength. Against pros, who don't typically make these mistakes, a player will usually range bet on boards favorable to them and range check on boards favorable to the opponent.
8. Dr. Daniel Jones explains that standard deviation is what actually measures the spread or volatility of data, while variance is simply the square of the standard deviation. Standard deviation is the more directly useful measure for understanding swings.
9. Live poker has a higher standard deviation per hour primarily because the open and three-bet sizes are much larger relative to the blind level, leading to bigger pots and larger swings. Additionally, stack depths are often much deeper (200+ big blinds) in live play compared to online.
10. The surprising conclusion is that high-variance players, despite seemingly taking more risks, are expected to have *lower* maximum downswings over a large sample size. This is because their significantly higher hourly win rate completely offsets the increased volatility, leading to a faster accumulation of bankroll that mitigates large losses.

III. Essay Format Questions

1. Compare and contrast the poker strategies of Player A (the Crusher) and Player B (the safer player) as described in the text. Discuss the advantages and disadvantages of each approach, particularly in relation to long-term profitability and short-term variance.
2. Analyze the role of "plus EV" spots in the context of high variance poker. Explain why taking these marginal opportunities, even when they involve significant risk, is presented as a long-term winning strategy. Use examples from the text to support your explanation.
3. Discuss the challenges of calculating standard deviation in live poker as presented by Dr. Daniel Jones. Explain the concepts of "weighted standard deviation" and "extrapolation" and how they were applied to overcome these challenges.
4. Evaluate the main argument of the source material: "high variance is a myth; it is actually safer for your bankroll to take every single marginal spot long term." Provide a detailed explanation of the evidence and reasoning used to support this conclusion, including the data analysis and the comparison of expected downswings.
5. Beyond the direct calculations, what other factors or psychological considerations might influence a player's decision to embrace or avoid high-variance strategies in poker? How might the short-term experience of downswings conflict with the long-term mathematical benefits discussed in the text?

IV. Glossary of Key Terms

* **Bankroll:** The total amount of money a poker player has available to play with.
* **Big Blinds (BBs):** A unit of measurement in poker, equal to the size of the big blind. Used to express stack sizes, bet sizes, and win rates (e.g., BBs/hour).
* **Bluff:** A bet or raise made with a weak hand in an attempt to make opponents fold stronger hands.
* **Crusher:** A term for a highly skilled and consistently profitable poker player.
* **Downswing:** A period of sustained losses or negative results in poker, typically measured in big blinds or monetary value.
* **Expected Value (EV):** The average amount of money a player can expect to win or lose from a particular decision over the long run, if that decision were repeated many times. A positive EV (+EV) means the decision is profitable over time.
* **Extrapolation:** A statistical technique used to estimate values beyond a known range by extending a trend or pattern observed in existing data.
* **High Variance Spot:** A poker decision where the potential outcomes are widely spread, involving significant risk for a potentially small but positive expected value. These spots lead to larger session-to-session swings.
* **Marginal Spot:** Similar to a high variance spot; a close decision where the long-term expected value is positive but the immediate outcome is uncertain and potentially costly if incorrect.
* **Plus EV (+EV):** See Expected Value.
* **Range:** The set of all possible hands a player could hold in a given situation.
* **Risk of Ruin:** The probability that a player will lose their entire bankroll.
* **Showdown Value:** The likelihood that a player's hand will win the pot if all players check down to the river and expose their cards.
* **Standard Deviation:** A statistical measure that quantifies the amount of variation or dispersion of a set of data values. In poker, it measures the volatility or "swinginess" of a player's results per unit of time or hands.
* **Three-bet (3-bet):** The first re-raise before the flop (after an initial raise).
* **Value Bet:** A bet made with a strong hand, expecting to be called by a worse hand.
* **Variance:** In poker, the short-term fluctuations in results that deviate from a player's long-term expected value. Often used interchangeably with standard deviation, though technically variance is the square of standard deviation.
* **VPIP (Voluntarily Put Money In Pot):** A poker statistic that indicates how often a player voluntarily puts money into the pot (e.g., by limping, raising, or calling). Expressed as a percentage.
* **Weighted Standard Deviation:** A variation of standard deviation calculation used when data points have different "weights" or importance, such as sessions of varying lengths in poker data.