Gambling has been a form of entertainment for years and comes in a variety of forms. One form of gambling that has become a norm in many societies is the lottery. Research has suggested that a lottery player is more likely to misperceive the randomness than people who do not play the lottery (Rogers & Webley, 2001). Lottery players are aware of the odds of success, but they have a tendency to ignore them (Rogers & Webley). They are also prey to gambler’s fallacy, which is the tendency to believe that the successful completion of a prior event will positively affect the next event; thus, leading an inaccurate statistical interpretation (Riniolo & Schmidt, 1999; Rogers & Webley).

Another aspect that affects a person’s interpretation of a gambling situation is their belief in good luck. It has been demonstrated that people who considered themselves lucky were more confident of their success as opposed to the people who were classified as not lucky; however, there was no difference when actual play was investigated (Watt & Nagtegaal, 2000). Consequently, a person’s belief in good luck may not be as significant in games that involve rational strategies.

Blackjack, a game that involves rational strategies, has various methods that enhance a player’s probability of winning. For example, the strategy known as Basic requires the integration of the player’s and dealer’s totals in order to determine if one should hit or stay (Chau, Phillips, & Von Baggo, 2000). Even though this strategy offered a more realistic chance of winning, blackjack players had a tendency of returning to a personalized strategy (Chau, Phillips, & Von Baggo). Players also had a tendency to follow a general decision-making process that did not fully utilize long-term probabilities. These processes involved the use of past events and short-term odds to dictate how much a player would bet. A blackjack player would increase the size of a bet if they won the previous hand and decrease the size of a bet after losing a hand (Chau & Phillips, 1995). This is based on the player’s feelings of being on a good or bad streak (Chau & Phillips).

The previous section has highlighted empirical providing an investigation of strategies used in games ranging from the lottery to blackjack. While No Limit Texas Hold’em has gained in popularity in the past couple of decades, empirical studies investigating successful strategies have been lacking. In order to understand the strategies, one needs to understand

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**Skill or Luck:**
The Statistical Interpretation of “No Limit Texas Hold’em” Players

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The present study investigated differences in statistical knowledge. Thirty male “No Limit Texas Hold’em” players were asked if they viewed this game as one of skill or luck. Participants read 10 mock situations in which they had to choose the percentage that best resembled their chance of beating their opponent. The results showed that the players who classified “No Limit Texas Hold’em” as a game of skill correctly interpreted more statistical questions, and the participants who classified it as luck were more likely to incorrectly view their hand as winning 50% of the time. Consistent with predictions, the skill players exhibited more statistical knowledge and the luck players were more likely to view the situations as a coin flip.
the structure of the game, which is explained in further detail in the following section.

In No Limit Texas Hold’em, the second person from the dealer’s left must post a big blind, which is the minimum bet, before the cards are dealt. The person to the immediate left of the dealer posts a small blind that is half of the minimum bet. Thus, if the minimum bet is $50, then the small blind equals $25 and the big blind equals $50. The dealer and blinds rotate clockwise around the table. After the blinds are posted, two cards are dealt facedown to each player; these are considered pocket cards. After a round of betting, the dealer discards the top card and displays the next three cards face up on the table; this is known as the flop. The flop is followed by another round of betting. The next two steps, the turn and river, are identical. The top card of the deck is discarded and the next card is placed faced up on the table. Another round of betting follows. The five cards on the table are used in conjunction with a player’s pocket cards to make the best five-card hand possible. In all there are a total of four rounds of betting, any of which a player can opt to bet all of their chips. Because a player has the ability to move all-in, multiple strategies can be used.

The purpose of this study was to investigate the differences between No Limit Texas Hold’em players—those who think it is a game of skill and those who think it is luck. It was hypothesized that a player who classified No Limit Texas Hold’em as a game of skill would correctly answer more statistical questions than those who classified it as luck. Furthermore, the “luck” players were expected to incorrectly choose 50% as their chances of winning more often than the “skill” players.

Method

Participants
Thirty male volunteers were asked to participate in a survey before they played in a No Limit Texas Hold’em tournament. The age of the participants ranged from 21 to 55 with the average age being 31.9. Eleven of the thirty participants were United States Postal Service (USPS) employees.

Materials and Procedure
A statistical survey regarding No Limit Texas Hold’em was constructed and consisted of fourteen questions. The first ten questions consisted of mock situations in which the participant had to state the probability that their hand would beat an opponent (see Figure 1). All ten of the mock situations gave a pre-flop, heads up scenario, meaning that the participants were exposed to four cards in every question (e.g., their hold cards and their opponent’s hold cards). The statistics for the mock hands were obtained from Card Player (2006) and cross checked with the World Poker Tour Enterprises, Inc.’s (2006) statistics. The participants were asked to pick the percentage that best resembled their chance of winning the hand before the flop. Four options were provided; one option was at or near 50% (chance), while the other options ranged as low as 20%–43% and as high as 57%–70%. The correct answers for 2 of the 10 scenarios were close to 50%; 43% and 57%.

The participants were then asked three demographic questions: gender, age, and if they were a USPS employee. It was known in advance that the facilities of interest had a high turnout of USPS employees, so that question was added. The final question asked participants to gauge whether luck or skill was more influential when playing No Limit Texas Hold’em. The answer to the final question determined each participant’s group classification. The participants signed an informed consent form before completing the questionnaire, which took approximately 10 min. The participants were then debriefed once the questionnaire was collected.

In an attempt to control nuisance variables, the participants were recruited from facilities hosting No Limit Texas Hold’em tournaments, all materials were

FIGURE 1

Two mock situations.

Mock Situation 1:
Your Hand

Opponent’s Hand

What are your chances of winning before the flop?

a) 30%
b) 40%
c) 50%
d) 70%

Mock Situation 2:
Your Hand

Opponent’s Hand

What are your chances of winning before the flop?

a) 40%
b) 50%
c) 60%
d) 70%
administered and collected before the tournament, and all participants surveyed were men. Recruiting participants from a facility hosting a *No Limit Texas Hold’em* tournament reduced the chance of surveying nonplayers. All materials were administered and collected before the tournament rather than after the tournament for a couple of reasons. First, players may be emotional after elimination from a tournament thus biasing the results. Also, the order in which a person is eliminated could be a reflection of his knowledge base and view of *No Limit Texas Hold’em*. In an attempt to control gender differences only men were surveyed because the facilities visited had more male players.

**Results**

An independent *t* test was conducted on the type of player (skill or luck) in terms of the number of statistical questions correctly answered out of 10 and the number of times the wrong answer chosen was 50%. In both instances, homogeneity of variance was assumed. There were fifteen participants in each group (skill and luck). There was a significant difference between the type of player and how many questions they correctly answered, *t*(28) = 3.86, *p* < .01, two-tailed. An inspection of the means in Figure 2 shows that the participants who classified themselves as skill players (*M* = 6.73, *SD* = 1.83) had a higher number correct than the luck players (*M* = 4.27, *SD* = 1.67) with regards to correctly interpreting statistical questions. There was also a significant difference between the type of player and the amount of times 50% was chosen, *t*(28) = −2.291, *p* < .05, two-tailed. As shown in Figure 2, the luck players (*M* = 2, *SD* = 1.41) would incorrectly choose 50% more often than the skill players (*M* = 1, *SD* = .93). The USPS employees did not significantly differ from the other participants in terms of group classification, *t*(28) = 1.12, *p* > .05, two-tailed; the number correct, *t*(28) = −.98, *p* > .05; and choosing 50%, *t*(28) = .73, *p* > .05. It was also observed that the tournament with a $20 buy-in had more luck players (*n* = 8) than skill players (*n* = 4), as opposed to the $60 tournament (*n* = 7 and *n* = 11, respectively).

**Discussion**

This study examined if a player’s view of *No Limit Texas Hold’em* influenced his statistical interpretation. As expected, it was found that the players who viewed the game as one of skill identified the correct percentage more often than the luck players. The study also revealed that the luck players were more likely than the skill players to incorrectly choose 50% as their chance of winning. Gambler’s fallacy may be more prevalent in the luck players and may explain their inability to correctly solve the statistical questions. Future research studies should investigate if the luck players fall prey to gambler’s fallacy more often than the skill players.

This research also found that skill players were more likely to play the higher stake tournaments than the luck players, which is interesting to note considering that previous research has demonstrated that people who view themselves as lucky are more confident of their success (Watt & Nagtegaal, 2000). Future studies should investigate if the people who view themselves as lucky are more likely to play games that entail more luck (e.g., lottery). Also, this study found no significant difference in USPS employees and non-employees in terms of their statistical knowledge and their view on *No Limit Texas Hold’em*. 

![Figure 2](image1.png)

**FIGURE 2**

Mean ratings for the number correct out of ten based on playing style.

![Figure 3](image2.png)

**FIGURE 3**

Mean ratings for incorrectly choosing 50% based on playing style.
Future studies should investigate if personality characteristics (e.g., locus of control, self-efficacy) play a role in how players perceive the game. Another variable that influences a player’s view is the type and amount of exposure they have had (e.g., how much time have they spent playing, reading, or watching tournaments on television). Future studies should also investigate if the skill players win more tournaments and utilize the statistics of the game more often than the luck players. Previous research has found that blackjack players were more likely to return to a personalized strategy and vary their bet size based on a “good” or “bad” streak (Chau & Phillips, 1995; Chau, Phillips, & Von Baggo, 2000). Thus, research undertaken in the future should investigate if there is a difference between the skill and luck players with regards to being on a good or bad streak.

This study is very limited considering the complex nature of “No Limit Texas Hold’em,” which always involves a certain amount of skill and luck. Another limitation is that the only situations investigated in this research were pre-flop, heads up situations. This research is restricted in the sense that all of the participants were men from the same geographic region. Counterbalancing was not used and the participants were forced to choose between skill and luck. Thus, future research studies should use fill-in the blank when asking statistical questions and a continuum so participants are not forced to choose skill or luck. This study involved and is directed at players who are not at the professionals. Due to the lack of research of in this area, this research was conducted as an initial investigation and potentially lays the groundwork for future research projects.

Reference