

Winning Confidence and Betting Behavior as a
Function of Outcome Incentive Strength and
Delayed Outcome Gratification

An Honors Thesis

By

Emily C. Lampert

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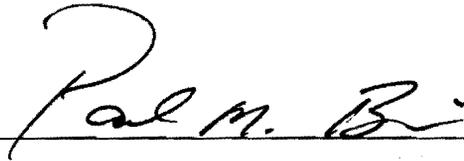
An Honors Thesis (HONRS 499)

By

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Thesis Advisor

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Abstract

A laboratory experiment was conducted in order to test the hypotheses that outcome incentive strength and payoff timing influence winning confidence and betting behavior in randomly-determined events. Specifically, subjects' confidence perceptions were predicted to increase as a direct function of outcome value, and wagering behavior expected to decrease as a direct function of outcome value, but only when winning the game results in immediate payoff. In the experiment, subjects competed against the experimenter for either a high or low-value outcome in a purely chance-based game. Using analyses of variance, marginally significant results were found for both subjects' appraisals of confidence and their betting behavior.

Acknowledgements

I want to express my forever thanks to Dr. Paul Biner. He has played many roles in my life in the last three years including advisor, mentor, and professor. He has guided me through academically; especially through this thesis process, helping me conduct, as well as write up the research for this report. He has also been instrumental in life decisions I have made involving graduate school, the internship process, and career paths. His encouragement and support has helped me survive a lot of hard work and difficult decisions. He has gone above and beyond what is required and I greatly appreciate all that he has done for me. Thanks Dr. B!

I also want to thank Danielle Rain who was my research partner for this study. She was critical in helping me organize and conduct this experiment. Thanks for all your hard work Danielle!

Winning Confidence and Betting Behavior as a Function of Outcome Incentive Strength and Delayed Outcome Gratification

Many people, while playing purely chance-based games, often exhibit behaviors implying that they think they can control the outcomes of the game. For example, some gamblers believe that how they pull the handle on the slot machine affects their chances of winning and some lottery ticket purchasers have a “system” for picking their numbers. Numerous studies conducted over the last several decades do indeed show, under certain conditions, that people overestimate the amount of control they have over randomly-determined situations or events (Fiske & Taylor, 1984; Nisbett & Ross, 1980; Taylor & Brown, 1988).

Langer and colleagues developed the idea of the “illusion of control” (Langer, 1975; Langer & Roth, 1975) – the tendency to be overconfident in one’s ability to attain randomly-based outcomes. The illusion occurs when factors typically found in skill-determined tasks or events (e.g., competition) are introduced into situations that are purely chance-based. In these cases, individuals may adopt skill orientations (i.e., they tend to believe that some skill is involved in performing the event), and begin to believe that they have more control over their success in attaining an outcome. Several researchers have supported Langer’s theory by showing that aspects of skill-related situations such as choice, task familiarity, stimulus familiarity, competition, and active involvement can induce the illusion of control when they are introduced into purely chance-based tasks (Bouts & Van Avermaet, 1992; Burger, 1986; Dunn & Wilson, 1990; Dykstra & Dollinger, 1990; Fleming & Darley, 1990; Gilovich & Douglas, 1986; Griffiths, 1990; Langer, 1975, Experiments 1-5; Langer & Roth, 1975).

Data from three investigations have implicated an additional factor inducing the illusion of control. This additional determinant is an individual's need for the chance-based outcome (Biner, Angle, Park, Mellinger, & Barber, 1995, Studies 1 and 2; Biner & Hua, 1995). The results of these studies show that one's confidence in winning a randomly-determined outcome is a positive function of a person's need for that outcome. In a study conducted by Biner and Hua (1995), food-deprived (high-need) and food-satiated (low-need) subjects were given the opportunity to win a hamburger in a purely chance-based card-drawing task. Also, some subjects were given relatively good odds of winning (high instrumentality) whereas others were given poor odds (low instrumentality). The results of this experiment showed that, overall, subjects in the high-need condition believed they had a better chance of winning the hamburger than subjects in the low-need condition. That is, regardless of the odds, subjects' need positively affected their beliefs that they would win the incentive. Importantly, Biner and colleagues were able to replicate and extend this finding in a similar study which also involved a card-drawing game and a food incentive outcome (Biner et al., 1995, Study 1). In this experiment, high-need subjects not only reported more confidence in attaining a random-based positive incentive, but also a strong belief that more skill was involved in the card-drawing game, relative to low-need subjects.

Although the results of Study 1 of Biner et al. (1995) provided insight into the need state/illusion of control relationship, a second study was conducted in order to (a) replicate the findings of Study 1 using a different operational definition of need and (b) test the notion that skill perceptions mediate the relationship between need and confidence in winning. This study was also conducted in order to test their theorizing in the field. The researchers here

asked state lottery players to rate their confidence in winning the lottery as well as the degree of skill they thought was involved in playing the game (i.e., picking six numbers between 1 and 44). Since the incentive was money, outcome need was operationally defined in terms of subjects' personal income. That is, individuals with lower incomes were presumed to have a higher need to win the lottery than those with higher incomes. The results were consistent with previous data in that subjects in high need (low-income) had more confidence that they would win something in the lottery and that more skill was involved in playing the game, than low need (high-income) subjects. Moreover, when skill ratings were controlled for in the analyses, need (income) had no effect on ratings of winning confidence. Therefore, it appears that the need for a purely chance-based outcome inflates perceptions of the degree of skill involved in attaining that outcome, and these enhanced skill perceptions, in turn, induce the illusion of control (i.e., inflated winning confidence perceptions).

Two more recent investigations have focused on the effects of (a) aversive outcomes and (b) the failure to attain chance-based outcomes. In the first of these studies, Biner, Goforth, and Vold (2004) examined the effects of the need to avoid a randomly-determined unpleasant outcome. To do this, subjects were given the opportunity to avoid having their hand and forearm submersed in a tub of either 39-degree ice-cold water (high-need) or 68-degree cold tap water (low-need) for five minutes by randomly drawing a specified card from a deck of ten playing cards. Subjects were given a 15-second trial version of the water submersion outcome, and subsequently asked to rate their perceptions of the unpleasantness of the aversive outcome, their confidence in winning the game, and the degree of skill involved in playing the game. The results of this study paralleled the data from studies employing

appetitive randomly-determined positive outcomes. That is, the results supported the notion that the need to avoid an aversive outcome has a direct, positive impact on illusory control.

In the second study, Biner, Raines, & Czyszczon (2004) examined the effects of outcome value on illusory control before and after a failure-to-win experience. Subjects in this experiment were given two opportunities (i.e., rounds) to win either \$1.00 (low outcome value) or \$10.00 (high outcome value) by randomly drawing a specified card from a deck of ten playing cards. Subjects were asked to rate the attractiveness of the monetary incentive and their level of confidence in winning (pre-failure condition) prior to the first round. The first round then commenced and subjects blindly selected a card. After losing this round, they were again asked to rate their confidence in winning the second round (post-failure condition) of the game. The second round, identical to the first, then commenced. Again, the results of this study were consistent with the previous relevant studies in that outcome value had a positive impact on subjects' confidence in winning a purely chance-based card-drawing game. Moreover, the results suggest that the failure to attain a high-value outcome actually leads to enhanced perceptions of winning confidence for the second round.

More recently, Thompson and colleagues (2002) advanced a cognitive (as opposed to motivational) explanation for the illusion of control. This explanation can be used to understand how motives regarding control affect subjects' control judgments. They identified several factors (i.e., mood, need, and skill-related factors) that may affect the induction of the illusion of control. They subsequently proposed an explanation for these effects: that people use a control heuristic to judge their influence over obtaining an outcome. The control heuristic involves assessing the desire to obtain the outcome and the degree of connection

between one's action and the outcome. The degree of connection can be a temporal, shared meaning, or predictive association. Importantly, for the present study, this means that the impact of outcome value on illusory control should be moderated by the strength of the temporal connection between the action and receiving the outcome incentive.

Method

The present experiment was designed to test the effects of outcome value and temporal contiguity on confidence-in-winning perceptions and wagering behavior in a gambling-like experimental situation. Employing a 2 x 2 between-subjects factorial design, subjects were given the opportunity to receive a cash incentive by winning a wagering-based card game against the experimenter. The cash incentive for winning for some of the subjects was 50 cents whereas for the others it was \$5.00. Temporal contiguity was operationalized in terms of the timing of the payoff for winning. As such, some subjects were led to believe that they would receive the money immediately upon winning whereas the others believed that they would have to wait until the next day to receive the money upon winning. This study was designed to test the interactive effects of outcome value (low vs. high) and payoff timing (immediate vs. delayed) on illusory control (as measured by winning confidence and wagering behavior). Specifically, the impact of outcome value on illusory control should be moderated by the strength of the temporal connection between the action (i.e., betting) and receiving the outcome incentive. That is, confidence perceptions are expected to *increase* as a direct function of outcome value, and wagering behavior is expected to *decrease* as a direct function of outcome value, but only when winning results in immediate payoff.

Subjects

Forty-eight female and 28 male undergraduates enrolled in Introductory Psychology courses at a large Midwestern university participated in the study as subjects. Participation in psychological experiments was one of several options from which these students could choose to fulfill course requirements.

Procedure

Subjects were greeted by a female experimenter and led to a small room. They were told to have a seat at a standard-size card table and begin reading the experimental materials on the table. After explaining that she would be back “in a few minutes,” the experimenter left the room. On the table at which subjects were seated was a full deck of standard playing cards, two stacks of five clay poker chips, a container of additional poker chips, and an experimental booklet (see Appendix A). The first page of the booklet consisted of a standard informed consent statement. Subjects were instructed to read the statement and sign it if choosing to participate in the study. The second page outlined instructions regarding the experimental procedure, and the last page consisted of a brief questionnaire. In addition, for half of the subjects, a small manila envelope containing a cash outcome was prominently placed on the table.

After subjects signed the informed consent agreeing to take part in the experiment, the next page in the booklet outlined the procedural instructions. Subjects read that they would be playing a wagering-based card game against the experimenter when she returned. The game would consist of playing two rounds of a “high-card wins” game similar to the card game of “War.” Subjects learned that the two stacks of five chips was theirs to bet, one stack for each

round, and that they could wager none, some, or all of the five chips in a given round. Subjects were further instructed that bets would be placed before any cards were dealt. Also, it was explained that the game was “a little different than traditional card games of this type” in that neither the subject nor the experimenter would be able to look at the dealt cards until the two rounds of betting and dealing were completed. This was done to ensure that subjects’ potential feelings of success and/or failure would not affect their betting behavior.

It was further explained that the person receiving the high card (with aces being high) in a round would win the entirety of his/her wagered amount for that round, and that the person receiving the low card in a round would lose the entirety of the amount wagered for that round. In the case of a tie, where the subject and the experimenter are dealt cards of the same value, the wagered amount would be returned. Importantly, subjects then learned that if, across the two rounds, the total number of chips they had acquired exceeded ten (the number of chips they started with [5 chips x 2 rounds]), they would win a cash prize. However, if the total number of chips they had acquired was equal to or less than ten, they would receive nothing. *Outcome value* was manipulated by telling subjects that if they won the wagering game, they would receive either 50 cents (*low-outcome-value condition*) or \$5.00 (*high-outcome-value condition*).

Finally, *payoff timing* was manipulated by explaining to subjects *when* they would receive the cash outcome if winning the wagering game. For subjects randomly assigned to the *immediate-payoff condition*, the instructions read:

Also, you should be aware that university regulations now allow us to disburse money directly to research participants. Therefore, *should you win*, you will receive the

monetary prize immediately. It is enclosed in the envelope on the table. Please inspect the contents of the envelope now, but please do not remove the money.

For subjects in this condition, the manila envelope previously placed on the table by the experimenter contained either 50 cents (i.e., two U.S. quarters) or \$5.00 (i.e., a single U.S. five-dollar bill). To ensure that the experimenter was blind to this manipulation, a “bubble-type” manila envelope was used to prevent tactile identification of the envelope’s contents.

For subjects randomly assigned to the *delayed-payoff condition*, the section read as follows:

Also, you should be aware that university regulations prevent us from disbursing money directly to research participants. Therefore, *should you win*, you must wait until tomorrow to receive the monetary prize (we will tell you where and when you can pick it up once the procedure is completed).

For these subjects, manila envelopes were not employed.

Upon continuing on to the next page of the experimental booklet, subjects found a brief questionnaire. Specifically, subjects were asked to answer three questions by circling numbers on nine-point Likert-type scales. The first question read, “For you personally, how attractive is the money offered for winning the wagering game?” (where 1 = “not at all attractive” and 9 = “extremely attractive”). The second question read, “How confident are you that you will win the game and get the cash reward?” (where 1 = “not at all confident” and 9 = “extremely confident”). The third question read, “To what extent do you consider yourself a lucky person?” (where 1 = “not at all lucky” and 9 = “extremely lucky”). After completing the questionnaire, subjects waited for the experimenter to return.

After five minutes, the experimenter returned to the room where the game was to ostensibly start. She seated herself at the card table in an empty chair across from the subject. The experimenter first asked the subject if they understood the procedure. If they responded

to the affirmative, the game began. If not, subjects' questions were answered to their satisfaction, and then the game began. The experimenter opened the deck of cards and allowed the subjects to inspect them if they wished. The experimenter then shuffled the cards three times and requested that the subject "cut" the deck. Subjects were then told that the game would begin and that they should "push forward" the number of chips they wanted to bet for the first round. Once the bet was "made," the experimenter dealt a card, face-down, to the subject and then to herself. The game continued in the same manner for the second round. The cards remained face-down until the two rounds were completed. Finally, all cards were then turned over and the wagered amounts for each round were awarded or subtracted.

At this point the experiment was ended, and all subjects were paid the amount promised for winning regardless of the number of chips that they had acquired or their payoff timing condition. Subjects were debriefed and any questions regarding the experiment's procedure or its theoretical nature were answered by the experimenter. Before leaving, the experimenter emphasized to the subjects the importance of keeping the study's nature confidential especially when interacting with other students currently enrolled in Introductory Psychology courses. Subjects were then thanked and dismissed.

Results

Manipulation Check

A two-way between-subjects analysis of variance (outcome value [low vs. high] x payoff timing [immediate vs. delay]) performed on subjects' ratings of attractiveness of the outcome incentive indicated that outcome value was successfully manipulated. That is,

subjects given the opportunity to win \$5.00 thought the outcome was far more attractive than subjects given the opportunity to win 50 cents, regardless of the timing of potential payoff, $F(1, 72) = 26.89, p < .001$. Mean ratings of outcome attractiveness are displayed in Table 1.

Insert Table 1 about here

Appraisals of Confidence

Subjects' ratings of confidence in winning the card game also were analyzed employing a two-way between-subjects analysis of variance. This analysis of subjects' ratings of winning confidence produced a marginally significant main effect for the outcome value manipulation ($F(1, 72) = 1.79, p < .2$) such that winning confidence decreased as a function of outcome value. That is, subjects given the chance to win \$5.00 reported being less confident than those given the chance to win 50 cents (see Table 1). No other effects were found.

Wagering Behavior

Comparable analyses of variance were performed on the raw number of chips subjects wagered in Round 1, Round 2, and across the two rounds (Total). In partial support of my hypotheses, a marginally significant main effect was found for the outcome value manipulation on the Round 1 wagering measure, $F(1, 72) = 2.73, p < .1$. As the condition means displayed in Table 1 show, subjects in the high value condition (\$5.00) were more conservative in their wagering (i.e., they bet fewer chips) in Round 1 than subjects in the low

value condition (50 cents). Main and interaction effects for the Round 2 and Total measures failed to reach acceptable levels of statistical significance.

Discussion

The results of the present study provide additional supporting evidence for the notion that need state influences the illusion of control. An enhanced need for situational control has been purported to be the underlying mechanism responsible for the impact of highly-valued outcomes on illusory control. For this experiment, confidence perceptions were expected to *increase* as a direct function of outcome value, and wagering behavior is expected to *decrease* as a direct function of outcome value, but only when winning results in immediate payoff.

The wagering data here would indicate that the need for control manifests itself in more conservative wagering behavior. Subjects in the high-value condition bet less than those in the low-value condition. However, my hypotheses were only partially supported in that the findings for the confidence ratings were the reverse of what was expected. Subjects' confidence perceptions ended up *decreasing* as a direct function of outcome value. Specifically, when subjects were given the opportunity to win \$5.00, they were less confident that they would win the game than if given the opportunity to win 50 cents. There are several possible reasons for this effect. First, the second question on the questionnaire that subjects were asked to complete before the game presented an unintended "dual" inquiry. That is, it asked: "How confident are you that you will win the game and get the cash reward?" The wording of the question could have confused at least some subjects because, in essence, *two* questions were asked: "How confident are you that you will win the game?" *and* "How

confident are you that you will get the cash?" This leaves the measure open to discrepant interpretations by subjects. A second potential reason for the effect is that subjects, particularly in the \$5.00 condition, simply may not have believed that they would actually receive the money even if they did win the game. Of course, given this, ratings of confidence would be lower among those given the opportunity to win \$5.00.

Another interesting finding of this study was that the payoff timing (delay vs. immediate) manipulation, proposed by Thompson and colleagues (2002) to be a determinant of illusory control, did not yield any significant findings on the measures studied here. Subjects in the immediate payoff condition were no more confident in winning the game, nor did they bet less, than those in the delay payoff condition. One possible explanation for this effect, or lack thereof, is that the payoff timing manipulation was just not strong enough to produce the predicted main effects.

This study could be improved in several ways. First, the second question on my questionnaire should be broken down into two separate questions (i.e., "How confident are you that you will win the game?" and "How confident are you that if you do win the game, you will receive the cash reward?"). This would prevent potential confusion as well as variable interpretations by subjects. Second, the timing manipulation should probably be strengthened in future studies in order to discover the variable's true impact on subjects' perceptions of confidence. Operationally, the delay between action and consequence could be made longer (i.e., subjects could be led to believe that they would have to wait for a week before they could pick up the cash incentive instead of a day). Finally, future authors could expand on previous research by asking subjects about skill (i.e., "How much skill do you feel

is involved in playing the card game?”). Previous research has shown that high-need subjects not only report more confidence in winning a chance-based outcome, but that there is more skill involved in winning the game. Including such a measure would certainly expand the implications of this research. It is important to make these adjustments in hopes of providing more support for the previous research on the illusion of control.

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Table 1

Mean Ratings of Outcome Attractiveness, Winning Confidence, and Wagering Behavior (Number of Chips Bet in Round 1, Round 2, and Total) by Condition

Condition	N	Outcome Attractiveness	Winning Confidence	Round 1	Round 2	Total
Immediate						
Low Outcome Value (50 cents)	19	3.42 (2.22)	4.89 (1.85)	2.47 (1.61)	2.05 (1.39)	4.53 (2.65)
High Outcome Value (\$5.00)	19	6.42 (1.92)	3.89 (1.66)	1.84 (0.69)	2.11 (0.99)	3.95 (1.51)
Delay						
Low Outcome Value (50 cents)	21	3.71 (1.98)	4.14 (1.93)	2.38 (1.16)	2.29 (1.01)	4.67 (1.85)
High Outcome Value (\$5.00)	17	5.76 (2.36)	4.06 (1.52)	2.06 (1.39)	2.29 (1.53)	4.35 (2.52)

Note: Mean values are based on 1-9 point scales where higher values indicate greater perceived outcome attractiveness and winning confidence. Round 1 and Round 2 means are based on the number of chips subjects wagered out of a possible five chips. Standard deviations for each variable are in parenthesis.

Appendix A

Informed Consent Statement

During the procedure of this experiment, you will be playing a wagering-based card game. If you succeed, you will receive a cash prize. In addition, you will also be asked to answer a couple of questions about your current perceptions. For your participation in this study, you will receive one hour of experimental credit to be applied to your Psychology 100 course requirements.

Please be aware that your name will not be associated in any way with your responses and all data collected will be kept strictly confidential. Also, you should be aware that you are free to withdraw from the study at any time without prejudice. While there should be no ill effects from participating in this study, several benefits can be expected. First and foremost among these is that you will learn first-hand what psychological research entails. Second, you may gain some interesting insights into your own personal behavior. Please feel free to ask questions of the experimenter now or at any time during the procedure.

For information regarding subject participation, the following persons may be contacted: Ms. Sandra Smith, Coordinator of Research Compliance, Office of Academic Research and Sponsored Programs, BSU, Muncie, IN 47306, (765) 285-1600, or Dr. Bryan Byers, Chairperson of the Institutional Review Board, Department of Criminal Justice and Criminology, BSU, Muncie, IN 47306, (765) 285-1530.

I, _____, agree to participate in the present study. I have read this description of the study and give my consent to participate. I understand that I will receive a copy of this consent form to keep.

Participant's Signature

Date

Investigators:
Dr. Paul M. Biner, Primary Investigator
Emily Lampert and Danielle Rain, Research Coordinators
Department of Psychological Science - NQ 104
Ball State University
Muncie, IN 47306
(765) 285-1703

**ONCE YOU HAVE READ AND SIGNED THIS STATEMENT
PLEASE CONTINUE TO THE NEXT PAGE**

Description of Procedure

In this study, you will be playing a wagering-based card game against the experimenter. The game will consist of playing *two* rounds of a “high-card wins” game similar to the card game of “War.”

Specifically, when the experimenter returns, she will open a deck of standard playing cards, let you inspect them for as long as you would like, and then shuffle them thoroughly. You will then “cut” the cards and the first round will begin.

In *each* of the two rounds, you will be given a stack of *five* chips to bet with. You may wager none, some, or all of the five chips in a round. Specifically, you will place your bet, and then the experimenter will deal a card to you, and then to herself. If you receive the “high” card (with aces being high), you will win the amount you wagered. However, should you receive the “low” card, you will lose the amount wagered. In the case of a tie in any given round (where you and the experimenter are dealt cards of the same value), your wagered amount will simply be returned to you.

Importantly, this game will be a little different than traditional card games of this type in that neither you nor the experimenter will be able to look at the dealt cards until the two rounds of betting and dealing have been completed. Thus, all cards will remain face-down until the two rounds are completed. At this point, the cards will be turned over and the wagered amounts for each round will be awarded or subtracted.

IMPORTANT

If, *across the two rounds*, the total number of chips you have left *exceeds* 10 (the number of chips you started with [5 chips x 2 rounds]), you will win \$5.00. However, if the total number of chips you have left is equal to or less than 10, you will receive *nothing*.

Also, you should be aware that university regulations now allow us to disburse money directly to research participants. Therefore, *should you win*, you will receive the monetary prize immediately. It is enclosed in the envelope on the table. Please inspect the contents of the envelope now, but please do not remove the money.

To ensure that you understand this procedure completely, please take a moment to re-read the above procedure description.

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IMPORTANT

If, *across the two rounds*, the total number of chips you have left *exceeds* 10 (the number of chips you started with [5 chips x 2 rounds]), you will win 50 cents. However, if the total number of chips you have left is equal to or less than 10, you will receive *nothing*.

Also, you should be aware that university regulations now allow us to disburse money directly to research participants. Therefore, *should you win*, you will receive the monetary prize immediately. It is enclosed in the envelope on the table. Please inspect the contents of the envelope now, but please do not remove the money.

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In *each* of the two rounds, you will be given a stack of *five* chips to bet with. You may wager none, some, or all of the five chips in a round. Specifically, you will place your bet, and then the experimenter will deal a card to you, and then to herself. If you receive the “high” card (with aces being high), you will win the amount you wagered. However, should you receive the “low” card, you will lose the amount wagered. In the case of a tie in any given round (where you and the experimenter are dealt cards of the same value), your wagered amount will simply be returned to you.

Importantly, this game will be a little different than traditional card games of this type in that neither you nor the experimenter will be able to look at the dealt cards until the two rounds of betting and dealing have been completed. Thus, all cards will remain face-down until the two rounds are completed. At this point, the cards will be turned over and the wagered amounts for each round will be awarded or subtracted.

IMPORTANT

If, *across the two rounds*, the total number of chips you have left *exceeds* 10 (the number of chips you started with [5 chips x 2 rounds]), you will win \$5.00. However, if the total number of chips you have left is equal to or less than 10, you will receive *nothing*.

Also, you should be aware that university regulations prevent us from disbursing money directly to research participants. Therefore, *should you win*, you must wait until tomorrow to receive the monetary prize (we will tell you where and when you can pick it up once the procedure is completed).

To ensure that you understand this procedure completely, please take a moment to re-read the above procedure description.

**PLEASE CONTINUE TO THE NEXT PAGE AND
COMPLETE THE BRIEF QUESTIONNAIRE.**

Description of Procedure

In this study, you will be playing a wagering-based card game against the experimenter. The game will consist of playing *two* rounds of a “high-card wins” game similar to the card game of “War.”

Specifically, when the experimenter returns, she will open a deck of standard playing cards, let you inspect them for as long as you would like, and then shuffle them thoroughly. You will then “cut” the cards and the first round will begin.

In *each* of the two rounds, you will be given a stack of *five* chips to bet with. You may wager none, some, or all of the five chips in a round. Specifically, you will place your bet, and then the experimenter will deal a card to you, and then to herself. If you receive the “high” card (with aces being high), you will win the amount you wagered. However, should you receive the “low” card, you will lose the amount wagered. In the case of a tie in any given round (where you and the experimenter are dealt cards of the same value), your wagered amount will simply be returned to you.

Importantly, this game will be a little different than traditional card games of this type in that neither you nor the experimenter will be able to look at the dealt cards until the two rounds of betting and dealing have been completed. Thus, all cards will remain face-down until the two rounds are completed. At this point, the cards will be turned over and the wagered amounts for each round will be awarded or subtracted.

IMPORTANT

If, *across the two rounds*, the total number of chips you have left *exceeds* 10 (the number of chips you started with [5 chips x 2 rounds]), you will win 50 cents. However, if the total number of chips you have left is equal to or less than 10, you will receive *nothing*.

Also, you should be aware that university regulations prevent us from disbursing money directly to research participants. Therefore, *should you win*, you must wait until tomorrow to receive the monetary prize (we will tell you where and when you can pick it up once the procedure is completed).

To ensure that you understand this procedure completely, please take a moment to re-read the above procedure description.

**PLEASE CONTINUE TO THE NEXT PAGE AND
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Wagering Study Questionnaire

For each of the following questions, please circle the number that best represents your perceptions at the moment.

1. For you personally, how attractive is the money offered for winning the wagering game?

Not at all											Extremely
Attractive	1	2	3	4	5	6	7	8	9		Attractive

2. How confident are you that you will win the game and get the cash reward?

Not at all											Extremely
Confident	1	2	3	4	5	6	7	8	9		Confident

3. To what extent do you consider yourself a lucky person?

Not at all											Extremely
Lucky	1	2	3	4	5	6	7	8	9		Lucky

**PLEASE WAIT. THE EXPERIMENTER WILL RETURN
MOMENTARILY TO BEGIN THE WAGERING GAME.**