Checkmate: Exploring Backward Induction Among Chess Players
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Web Appendix

Appendix A: Instructions — Centipede Game

Thank you for participating in this experiment in decision-making behavior. You will be paid for your participation in cash, immediately at the end of the experiment. What you earn depends partly on your decisions and partly on the decisions of the player with whom you will play in a game. A research foundation has contributed the money for this study.

It is critically important that you strictly follow the rules of this experiment. If you disobey the rules, we will have to ask you to leave the experiment.

In case you have any questions after reading these instructions, please let the supervisor know and he or she will answer them.

Description of the task

You will be participating in a simple game. The game will be played only once. It requires 2 players. One will be called the WHITE player and the other the BLACK player, which will take turns in sequence. You will either play as the WHITE player or as the BLACK player.

When it is his turn to play, a player has to choose between two decisions:

STOP or CONTINUE

As soon as any player chooses STOP, the game ends.

If a player chooses to CONTINUE, then the other player will be faced with the same choice:

STOP or CONTINUE.

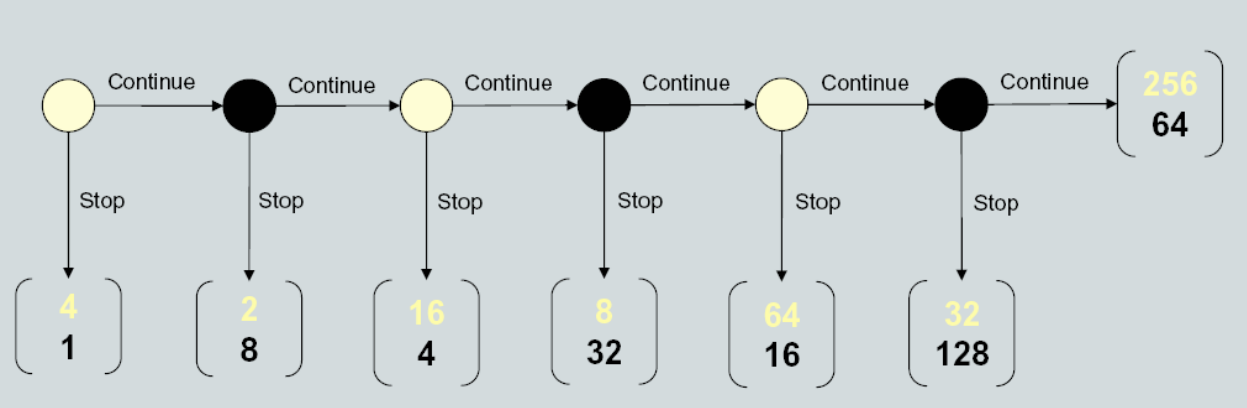
If he is the last player in the sequence, the game will end no matter what decision he makes.

The WHITE player will begin, that is, he must make the first decision. Each player will have a maximum of three decisions to make. As indicated above, the game will end as soon as one player chooses to STOP.

Below is a pictorial representation of the game. The color of the circles (WHITE or BLACK) identifies which player makes a decision, either STOP or CONTINUE, given that the game has progressed to that circle. The arrows pointing right and down represent the two decisions. The terminal brackets contain the payoff information. The game will end at one of these seven terminal brackets.

All the payoffs are in dollars. As you may see, the top number in each bracket is in WHITE color; it identifies the payoff for the WHITE player. The bottom number is in BLACK color, and identifies the payoff for the BLACK player.

The game will start with the WHITE player at the farthest left decision node.



Please take some time now to study the game and its possible payoffs.

(Note: Next are the instructions given to the WHITE player. The instructions given to the BLACK player are the same except for the words in brackets.)

Players

You have been selected to play as the WHITE [BLACK] player, so you [the WHITE Player] will begin the game at the farthest left decision node.

The BLACK [WHITE] player is right now in a separate room in this building. He has read the same instructions you are reading under the supervision of an experimenter. He has been notified that he will play as a BLACK [WHITE] player, and that you are right now in a different room. You will not know his identity, nor will he know your identity. You will be in touch exclusively through Instant Message communication using this computer, which will be operated by the experimenter under your supervision. Any other form of communication during the entire experiment is strictly forbidden.

Procedure

To make your decision, please do the following:

1. [The WHITE player will] Circle the action you [he] would like to take in the figure that is enclosed in the last page of these instructions, that is [he will] circle either the word STOP or the word CONTINUE.

2. Then, the experimenter will send an Instant Message (IM) to the BLACK player [you] using this computer indicating to him what your choice is. You may check that the experimenter does send him your choice.

3. The BLACK player [you] will then send you an IM with the word "OK" confirming that he has [you have] received your IM.

4. When it is your turn to play:

- if you choose to STOP, the game will end;

- if you choose to CONTINUE, then it is his turn [unless you are at the very last node].

He will then have to make his decision, and you will have to wait until he communicates this decision to you through an IM.

5. When you receive his decision, send him back an IM reply with the word "OK" to indicate that you have received his decision. Circle his decision in the figure, that is, circle the word STOP or CONTINUE. If he has decided to STOP, the game will be over. But if he has decided to CONTINUE, it is then your turn to make a decision (unless, of course, he was in his last decision node).[1] Then proceed as you did before.

Summary: Summing up, the game follows the following basic sequence. The WHITE player begins and makes his decision. If he chooses to STOP then the game is over. If he chooses to CONTINUE, then the BLACK player will make his choice. Again, if he then chooses to STOP the game is over. But if he chooses to CONTINUE, then it is the WHITE player's turn to move. These sequential choices continue until the trial ends, that is until either you stop it or he stops it, or until the final node (the farthest right one) is reached.

Final Step of the Procedure: As soon as the game ends, you must sign your name in the figure where you have circled your choices and the choices of the BLACK [WHITE] player, give it to the supervisor, and he will then pay you both your payoffs in cash.

Do you have any questions?

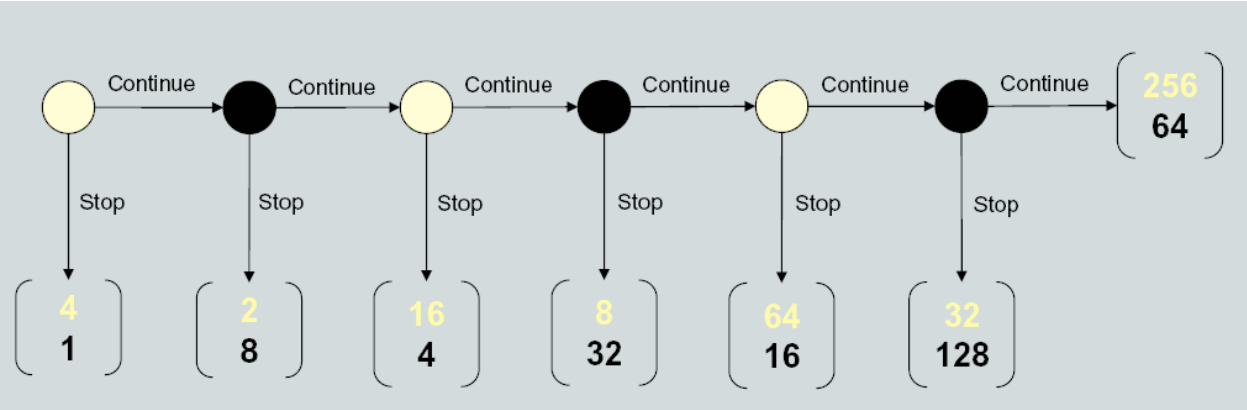
Please indicate to the supervisor that you have completed reading the instructions, and that you have no more questions about how to proceed. The supervisor will then start the experiment in just a few minutes.

Remember, you are the WHITE player so you will begin the game. [Remember, you are the BLACK player so the WHITE player will begin the game. Therefore, you must wait until you get an IM with the first decision he makes. Send him an IM with the word "OK" after you receive it. If he chooses to stop, the game is over; if he chooses to continue, then make your choice by proceeding as indicated in the instructions.]

[1] Sentence in parenthesis omitted for the BLACK player.

Player ID: _____

In the figure below circle YOUR CHOICES and the CHOICES OF THE BLACK [WHITE] PLAYER:



Appendix B: Instructions — Race to 100 (1-9)

Thank you for participating in this experiment in decision-making behavior. You will be paid for your participation in private and in cash, immediately at the end of the experiment. What you earn depends partly on your decisions and partly on the decisions of the player with whom you will play in a game. A research foundation has contributed the money for this study.

It is critically important that you strictly follow the rules of this experiment. If you disobey the rules, we will have to ask you to leave the experiment.

In case you have any questions after reading these instructions, please let the supervisor know and he or she will answer them.

Description of the task: You will be participating in a simple game. The game will be played only once. It requires 2 players. One will be called the WHITE player and the other the BLACK player, which will take turns in sequence. You will either play as the WHITE player or as the BLACK player.

The WHITE player will begin. He will choose a number from 1-9 inclusive. The BLACK player then chooses a number from 1-9 inclusive, which is added to the first number. The WHITE player then chooses a number from 1-9 inclusive, which is added to the existing sum. The game continues until one player chooses a number from 1-9 inclusive that adds up to a sum exactly equal to 100. This player is the winner. He will receive $10.

(Note: Next are the instructions given to the WHITE player. The instructions given to the BLACK player are the same except for the words in brackets.)

Players: You have been selected to play as the WHITE [BLACK] player, so you [the WHITE Player] will begin the game.

The BLACK [WHITE] player is right now in a separate room in this building. He has read the same instructions you are reading under the supervision of an experimenter. He has been notified that he will play as a BLACK [WHITE] player, and that you are right now in a different room. You will not know his identity, nor will he know your identity. You will be in touch exclusively through Instant Message communication using a computer, which will be operated by the experimenter under your supervision. Any other form of communication during the entire experiment is strictly forbidden.

Procedure: To make your decision, please do the following:

1. Circle [The WHITE Player will circle] the number that you [he] would like to choose in the figure that is enclosed in the last page of these instructions, that is [he will] circle the number from 1-9 inclusive that you [he] would like to choose for the current round.

2. Then, the experimenter will send an Instant Message to the BLACK player [you] using a computer, indicating to him [you] what your [his] choice is. You may check that the experimenter does send him your choice.

3. The BLACK player [You] will then send you [your opponent] an Instant Message with the word “OK” and the current sum, confirming that he has [you have] received your [his] Instant Message.

4. When it is your turn to play you will choose a number from 1-9 inclusive, then it is his turn (unless you reach 100). He will then have to choose a number from 1-9 inclusive, and you will have to wait until he communicates this decision to you through an Instant Message. You may check that the experimenter does send him your choice.

5. When you receive his decision, send him back an Instant Message reply with the word “OK” and the current sum to indicate that you have received his decision. Circle his decision in the figure for the current round; that is, circle the number he chooses. Then proceed as you did before.

6. The game ends when one player chooses a number from 1-9 inclusive that adds to a sum that exactly equals 100. That player is the winner.

Do you have any questions?

Please indicate to the supervisor that you have completed reading the instructions, and that you have no more questions about how to proceed. The supervisor will then start the experiment in just a few minutes.

Remember, you are the WHITE player so you will begin the game. [Remember, you are the BLACK player so the WHITE player will begin the game. Therefore, you must wait until you get an Instant Message with the first number he chooses. Send him an Instant Message with the word “OK” and the current sum after you receive it. Then make your choice by proceeding as indicated in the instructions.]

In the figure below, circle YOUR CHOICES and the CHOICES OF THE BLACK [WHITE] PLAYER and fill in the SUM at the END OF THE ROUND (after the number is chosen).

Round	Player	Number Choice									Sum
1	White	1	2	3	4	5	6	7	8	9	
2	Black	1	2	3	4	5	6	7	8	9	
3	White	1	2	3	4	5	6	7	8	9	
4	Black	1	2	3	4	5	6	7	8	9	
5	White	1	2	3	4	5	6	7	8	9	
6	Black	1	2	3	4	5	6	7	8	9	
7	White	1	2	3	4	5	6	7	8	9	
8	Black	1	2	3	4	5	6	7	8	9	
9	White	1	2	3	4	5	6	7	8	9	
10	Black	1	2	3	4	5	6	7	8	9	
11	White	1	2	3	4	5	6	7	8	9	
12	Black	1	2	3	4	5	6	7	8	9	
13	White	1	2	3	4	5	6	7	8	9	
14	Black	1	2	3	4	5	6	7	8	9	
15	White	1	2	3	4	5	6	7	8	9	
16	Black	1	2	3	4	5	6	7	8	9	
17	White	1	2	3	4	5	6	7	8	9	
18	Black	1	2	3	4	5	6	7	8	9	
19	White	1	2	3	4	5	6	7	8	9	
20	Black	1	2	3	4	5	6	7	8	9	
21	White	1	2	3	4	5	6	7	8	9	
22	Black	1	2	3	4	5	6	7	8	9	
23	White	1	2	3	4	5	6	7	8	9	
24	Black	1	2	3	4	5	6	7	8	9	

Round	Player	Number Choice									Sum
25	White	1	2	3	4	5	6	7	8	9	
26	Black	1	2	3	4	5	6	7	8	9	
27	White	1	2	3	4	5	6	7	8	9	
28	Black	1	2	3	4	5	6	7	8	9	
29	White	1	2	3	4	5	6	7	8	9	
30	Black	1	2	3	4	5	6	7	8	9	
31	White	1	2	3	4	5	6	7	8	9	
32	Black	1	2	3	4	5	6	7	8	9	
33	White	1	2	3	4	5	6	7	8	9	
34	Black	1	2	3	4	5	6	7	8	9	
35	White	1	2	3	4	5	6	7	8	9	
36	Black	1	2	3	4	5	6	7	8	9	
37	White	1	2	3	4	5	6	7	8	9	
38	Black	1	2	3	4	5	6	7	8	9	
39	White	1	2	3	4	5	6	7	8	9	
40	Black	1	2	3	4	5	6	7	8	9	
41	White	1	2	3	4	5	6	7	8	9	
42	Black	1	2	3	4	5	6	7	8	9	
43	White	1	2	3	4	5	6	7	8	9	
44	Black	1	2	3	4	5	6	7	8	9	
45	White	1	2	3	4	5	6	7	8	9	
46	Black	1	2	3	4	5	6	7	8	9	
47	White	1	2	3	4	5	6	7	8	9	
48	Black	1	2	3	4	5	6	7	8	9	
49	White	1	2	3	4	5	6	7	8	9	

Round	Player	Number Choice									Sum
50	Black	1	2	3	4	5	6	7	8	9	
51	White	1	2	3	4	5	6	7	8	9	
52	Black	1	2	3	4	5	6	7	8	9	
53	White	1	2	3	4	5	6	7	8	9	
54	Black	1	2	3	4	5	6	7	8	9	
55	White	1	2	3	4	5	6	7	8	9	
56	Black	1	2	3	4	5	6	7	8	9	
57	White	1	2	3	4	5	6	7	8	9	
58	Black	1	2	3	4	5	6	7	8	9	
59	White	1	2	3	4	5	6	7	8	9	
60	Black	1	2	3	4	5	6	7	8	9	
61	White	1	2	3	4	5	6	7	8	9	
62	Black	1	2	3	4	5	6	7	8	9	
63	White	1	2	3	4	5	6	7	8	9	
64	Black	1	2	3	4	5	6	7	8	9	
65	White	1	2	3	4	5	6	7	8	9	
66	Black	1	2	3	4	5	6	7	8	9	
67	White	1	2	3	4	5	6	7	8	9	
68	Black	1	2	3	4	5	6	7	8	9	
69	White	1	2	3	4	5	6	7	8	9	
70	Black	1	2	3	4	5	6	7	8	9	
71	White	1	2	3	4	5	6	7	8	9	
72	Black	1	2	3	4	5	6	7	8	9	
73	White	1	2	3	4	5	6	7	8	9	
74	Black	1	2	3	4	5	6	7	8	9	

Round	Player	Number Choice									Sum
75	White	1	2	3	4	5	6	7	8	9	
76	Black	1	2	3	4	5	6	7	8	9	
77	White	1	2	3	4	5	6	7	8	9	
78	Black	1	2	3	4	5	6	7	8	9	
79	White	1	2	3	4	5	6	7	8	9	
80	Black	1	2	3	4	5	6	7	8	9	
81	White	1	2	3	4	5	6	7	8	9	
82	Black	1	2	3	4	5	6	7	8	9	
83	White	1	2	3	4	5	6	7	8	9	
84	Black	1	2	3	4	5	6	7	8	9	
85	White	1	2	3	4	5	6	7	8	9	
86	Black	1	2	3	4	5	6	7	8	9	
87	White	1	2	3	4	5	6	7	8	9	
88	Black	1	2	3	4	5	6	7	8	9	
89	White	1	2	3	4	5	6	7	8	9	
90	Black	1	2	3	4	5	6	7	8	9	
91	White	1	2	3	4	5	6	7	8	9	
92	Black	1	2	3	4	5	6	7	8	9	
93	White	1	2	3	4	5	6	7	8	9	
94	Black	1	2	3	4	5	6	7	8	9	
95	White	1	2	3	4	5	6	7	8	9	
96	Black	1	2	3	4	5	6	7	8	9	
97	White	1	2	3	4	5	6	7	8	9	
98	Black	1	2	3	4	5	6	7	8	9	
99	White	1	2	3	4	5	6	7	8	9	
100	Black	1	2	3	4	5	6	7	8	9	

Appendix C: Instructions — Race to 100 (1-10)

Thank you for participating in this experiment in decision-making behavior. You will be paid for your participation in private and in cash, immediately at the end of the experiment. What you earn depends partly on your decisions and partly on the decisions of the player with whom you will play in a game. A research foundation has contributed the money for this study.

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In case you have any questions after reading these instructions, please let the supervisor know and he or she will answer them.

Description of the task

You will be participating in a simple game. The game will be played only once. It requires 2 players. One will be called the WHITE player and the other the BLACK player, which will take turns in sequence. You will either play as the WHITE player or as the BLACK player.

The WHITE player will begin. He will choose a number from 1-10 inclusive. The BLACK player then chooses a number from 1-10 inclusive, which is added to the first number. The WHITE player then chooses a number from 1-10 inclusive, which is added to the existing sum. The game continues until one player chooses a number from 1-10 inclusive that adds up to a sum exactly equal to 100. This player is the winner. He will receive $10.

(Note: Next are the instructions given to the WHITE player. The instructions given to the BLACK player are the same except for the words in brackets.)

Players

You have been selected to play as the WHITE [BLACK] player, so you [the WHITE Player] will begin the game.

The BLACK [WHITE] player is right now in a separate room in this building. He has read the same instructions you are reading under the supervision of an experimenter. He has been notified that he will play as a BLACK [WHITE] player, and that you are right now in a different room. You will not know his identity, nor will he know your identity. You will be in touch exclusively through Instant Message communication using a computer, which will be operated by the experimenter under your supervision. Any other form of communication during the entire experiment is strictly forbidden.

Procedure

To make your decision, please do the following:

1. Circle [The WHITE Player will circle] the number that you [he] would like to choose in the figure that is enclosed in the last page of these instructions, that is [he will] circle the number from 1-10 inclusive that you [he] would like to choose for the current round.

2. Then, the experimenter will send an Instant Message to the BLACK player [you] using a computer, indicating to him [you] what your [his] choice is. You may check that the experimenter does send him your choice.

3. The BLACK player [you] will then send you [your opponent] an Instant Message with the word "OK" and the current sum, confirming that he has [you have] received your [his] Instant Message.

4. When it is your turn to play you will choose a number from 1-10 inclusive, then it is his turn (unless you reach 100). He will then have to choose a number from 1-10 inclusive, and you will have to wait until he communicates this decision to you through an Instant Message. You may check that the experimenter does send him your choice.

5. When you receive his decision, send him back an Instant Message reply with the word "OK" and the current sum to indicate that you have received his decision. Circle his decision in the figure for the current round; that is, circle the number he chooses. Then proceed as you did before.

6. The game ends when one player chooses a number from 1-10 inclusive that adds to a sum that exactly equals 100. That player is the winner.

Do you have any questions?

Please indicate to the supervisor that you have completed reading the instructions, and that you have no more questions about how to proceed. The supervisor will then start the experiment in just a few minutes.

Remember, you are the WHITE player so you will begin the game. [Remember, you are the BLACK player so the WHITE player will begin the game. Therefore, you must wait until you get an Instant Message with the first number he chooses. Send him an Instant Message with the word "OK" and the current sum after you receive it. Then make your choice by proceeding as indicated in the instructions.]

In the figure below, circle YOUR CHOICES and the CHOICES OF THE BLACK [WHITE] PLAYER and fill in the SUM at the END OF THE ROUND (after the number is chosen).

Round	Player	Number Choice										Sum
1	White	1	2	3	4	5	6	7	8	9	10	
2	Black	1	2	3	4	5	6	7	8	9	10	
3	White	1	2	3	4	5	6	7	8	9	10	
4	Black	1	2	3	4	5	6	7	8	9	10	
5	White	1	2	3	4	5	6	7	8	9	10	
6	Black	1	2	3	4	5	6	7	8	9	10	
7	White	1	2	3	4	5	6	7	8	9	10	
8	Black	1	2	3	4	5	6	7	8	9	10	
9	White	1	2	3	4	5	6	7	8	9	10	
10	Black	1	2	3	4	5	6	7	8	9	10	
11	White	1	2	3	4	5	6	7	8	9	10	
12	Black	1	2	3	4	5	6	7	8	9	10	
13	White	1	2	3	4	5	6	7	8	9	10	
14	Black	1	2	3	4	5	6	7	8	9	10	
15	White	1	2	3	4	5	6	7	8	9	10	
16	Black	1	2	3	4	5	6	7	8	9	10	
17	White	1	2	3	4	5	6	7	8	9	10	
18	Black	1	2	3	4	5	6	7	8	9	10	
19	White	1	2	3	4	5	6	7	8	9	10	
20	Black	1	2	3	4	5	6	7	8	9	10	
21	White	1	2	3	4	5	6	7	8	9	10	
22	Black	1	2	3	4	5	6	7	8	9	10	
23	White	1	2	3	4	5	6	7	8	9	10	
24	Black	1	2	3	4	5	6	7	8	9	10	

Round	Player	Number Choice										Sum
25	White	1	2	3	4	5	6	7	8	9	10	
26	Black	1	2	3	4	5	6	7	8	9	10	
27	White	1	2	3	4	5	6	7	8	9	10	
28	Black	1	2	3	4	5	6	7	8	9	10	
29	White	1	2	3	4	5	6	7	8	9	10	
30	Black	1	2	3	4	5	6	7	8	9	10	
31	White	1	2	3	4	5	6	7	8	9	10	
32	Black	1	2	3	4	5	6	7	8	9	10	
33	White	1	2	3	4	5	6	7	8	9	10	
34	Black	1	2	3	4	5	6	7	8	9	10	
35	White	1	2	3	4	5	6	7	8	9	10	
36	Black	1	2	3	4	5	6	7	8	9	10	
37	White	1	2	3	4	5	6	7	8	9	10	
38	Black	1	2	3	4	5	6	7	8	9	10	
39	White	1	2	3	4	5	6	7	8	9	10	
40	Black	1	2	3	4	5	6	7	8	9	10	
41	White	1	2	3	4	5	6	7	8	9	10	
42	Black	1	2	3	4	5	6	7	8	9	10	
43	White	1	2	3	4	5	6	7	8	9	10	
44	Black	1	2	3	4	5	6	7	8	9	10	
45	White	1	2	3	4	5	6	7	8	9	10	
46	Black	1	2	3	4	5	6	7	8	9	10	
47	White	1	2	3	4	5	6	7	8	9	10	
48	Black	1	2	3	4	5	6	7	8	9	10	
49	White	1	2	3	4	5	6	7	8	9	10	

Round	Player	Number Choice										Sum
50	Black	1	2	3	4	5	6	7	8	9	10	
51	White	1	2	3	4	5	6	7	8	9	10	
52	Black	1	2	3	4	5	6	7	8	9	10	
53	White	1	2	3	4	5	6	7	8	9	10	
54	Black	1	2	3	4	5	6	7	8	9	10	
55	White	1	2	3	4	5	6	7	8	9	10	
56	Black	1	2	3	4	5	6	7	8	9	10	
57	White	1	2	3	4	5	6	7	8	9	10	
58	Black	1	2	3	4	5	6	7	8	9	10	
59	White	1	2	3	4	5	6	7	8	9	10	
60	Black	1	2	3	4	5	6	7	8	9	10	
61	White	1	2	3	4	5	6	7	8	9	10	
62	Black	1	2	3	4	5	6	7	8	9	10	
63	White	1	2	3	4	5	6	7	8	9	10	
64	Black	1	2	3	4	5	6	7	8	9	10	
65	White	1	2	3	4	5	6	7	8	9	10	
66	Black	1	2	3	4	5	6	7	8	9	10	
67	White	1	2	3	4	5	6	7	8	9	10	
68	Black	1	2	3	4	5	6	7	8	9	10	
69	White	1	2	3	4	5	6	7	8	9	10	
70	Black	1	2	3	4	5	6	7	8	9	10	
71	White	1	2	3	4	5	6	7	8	9	10	
72	Black	1	2	3	4	5	6	7	8	9	10	
73	White	1	2	3	4	5	6	7	8	9	10	
74	Black	1	2	3	4	5	6	7	8	9	10	
75	White	1	2	3	4	5	6	7	8	9	10	

Round	Player	Number Choice										Sum
76	Black	1	2	3	4	5	6	7	8	9	10	
77	White	1	2	3	4	5	6	7	8	9	10	
78	Black	1	2	3	4	5	6	7	8	9	10	
79	White	1	2	3	4	5	6	7	8	9	10	
80	Black	1	2	3	4	5	6	7	8	9	10	
81	White	1	2	3	4	5	6	7	8	9	10	
82	Black	1	2	3	4	5	6	7	8	9	10	
83	White	1	2	3	4	5	6	7	8	9	10	
84	Black	1	2	3	4	5	6	7	8	9	10	
85	White	1	2	3	4	5	6	7	8	9	10	
86	Black	1	2	3	4	5	6	7	8	9	10	
87	White	1	2	3	4	5	6	7	8	9	10	
88	Black	1	2	3	4	5	6	7	8	9	10	
89	White	1	2	3	4	5	6	7	8	9	10	
90	Black	1	2	3	4	5	6	7	8	9	10	
91	White	1	2	3	4	5	6	7	8	9	10	
92	Black	1	2	3	4	5	6	7	8	9	10	
93	White	1	2	3	4	5	6	7	8	9	10	
94	Black	1	2	3	4	5	6	7	8	9	10	
95	White	1	2	3	4	5	6	7	8	9	10	
96	Black	1	2	3	4	5	6	7	8	9	10	
97	White	1	2	3	4	5	6	7	8	9	10	
98	Black	1	2	3	4	5	6	7	8	9	10	
99	White	1	2	3	4	5	6	7	8	9	10	
100	Black	1	2	3	4	5	6	7	8	9	10	

Appendix D: Cue Cards — Centipede Game

(Note: Next are the instructions the experimenters read aloud to the WHITE player. The instructions read aloud to the BLACK player are the same except for the words in brackets. Instructions for the experimenters are in italics.)

Start here if centipede game is first.

Thank you for participating in this experiment in decision-making behavior. You will be paid for your participation privately in cash, immediately at the end of the experiment.

You will be participating a game that requires 2 players who will take turns in sequence. The other player is in another room receiving these instructions. You will not know each other's identity. You will communicate your decisions by Instant Message on this computer, which the experimenter will operate.

Start here if centipede game is second.

You will now participate in another game with the same player.

You will be the WHITE [BLACK] player and the other player will be the BLACK [WHITE] player. When it is your turn to move, you will choose between two decisions: STOP or CONTINUE. If a player chooses STOP, the game ends. If a player chooses CONTINUE, then it is the other player's turn to move. Each player will have at most THREE moves. The WHITE player moves first.

Point to the decision sheet.

The diagram indicates the payoffs for each possible decision. The payoffs for the WHITE player are in white. The payoffs for the BLACK player are in black.

If you [the WHITE player chooses to] STOP the game on your [his] first move, you [the WHITE player] will receive $4 and the BLACK player [you] will receive $1. If you choose [he chooses] to CONTINUE, it will be the BLACK players [your] turn to move and he [you] will choose whether to STOP or to CONTINUE. If he chooses [you choose] to STOP, you [the WHITE PLAYER] will receive $2 and the BLACK player [you] will receive $8. If he chooses [you choose] to CONTINUE, it will be your [the WHITE player's] move and you [he] will choose whether to STOP or CONTINUE. The game will continue until one player chooses STOP or the game reaches the final node. If the game reaches the final node, you [the WHITE player] will receive $256 and the BLACK player [you] will receive $64.

When it is your turn, you will circle either STOP or CONTINUE on your decision sheet. I will then send an Instant Message to the other player with your decision. The other player will then reply with his decision. You will then circle the other player's decision on your decision sheet. You will continue this procedure until the game ends.

You will have two minutes to think about the game and 20 seconds for each move during the game. Please let me know when you are ready to begin.

Do you have any questions?

Appendix E: Cue Cards — First Race to 100 (1-9)

(Note: Next are the instructions the experimenters read aloud to the WHITE player. The instructions read aloud to the BLACK player are the same except for the words in brackets. Instructions for the experimenters are in italics.)

Start here if race to 100 game is first.

Thank you for participating in this experiment in decision-making behavior. You will be paid for your participation privately in cash, immediately at the end of the experiment.

You will be participating in a game that requires 2 players who will take turns in sequence. The other player is in another room receiving these instructions. You will not know each other's identity. You will communicate your decisions by Instant Message on this computer, which the experimenter will operate.

Start here if race to 100 game is second.

You will now participate in another game with the same player.

You will be the WHITE [BLACK] player and the other player will be the BLACK [WHITE] player. The WHITE player moves first.

The WHITE player will choose a number from 1-9. The BLACK player will then choose a number from 1-9, which will be added to the first number. The WHITE player will then choose a number from 1-9, which will be added to the existing sum.

For example, if you choose _____ and then the BLACK player chooses ____, the existing sum would be _____. If you then choose _____, the sum would become ____.[2]

The game continues until one player chooses a number that adds up to exactly 100. This player is the winner. He will receive $10.

Point to the decision sheet.

When it is your turn, you will circle the number you have chosen and fill in the current sum on your decision sheet. I will then send an Instant Message to the other player with your decision and the current sum. The other player will then reply with his decision. You will then circle the other player's decision and fill in the current sum on your decision sheet. You will continue this procedure until the game ends.

You will have two minutes to think about the game and 20 seconds for each move during the game. Please let me know when you are ready to begin.

Do you have any questions?

2 The experimenters inserted into each blank a number that they read from a list pre-generated random numbers.

Appendix F: Cue Cards — First Race to 100 (1-10)

(Note: Next are the instructions the experimenters read aloud to the WHITE player. The instructions read aloud to the BLACK player are the same except for the words in brackets. Instructions for the experimenters are in italics.)

Start here if race to 100 game is first.

Thank you for participating in this experiment in decision-making behavior. You will be paid for your participation privately in cash, immediately at the end of the experiment.

You will be participating a game that requires 2 players who will take turns in sequence. The other player is in another room receiving these instructions. You will not know each other's identity. You will communicate your decisions by Instant Message on this computer, which the experimenter will operate.

Start here if race to 100 game is second.

You will now participate in another game with the same player.

You will be the WHITE [BLACK] player and the other player will be the BLACK [WHITE] player. The WHITE player moves first.

The WHITE player will choose a number from 1-10. The BLACK player will then choose a number from 1-10, which will be added to the first number. The WHITE player will then choose a number from 1-10, which will be added to the existing sum.

For example, if you choose _____ and then the BLACK player chooses ____, the existing sum would be _____. If you then choose _____, the sum would become ____.[3]

The game continues until one player chooses a number that adds up to exactly 100. This player is the winner. He will receive $10.

Point to the decision sheet.

When it is your turn, you will circle the number you have chosen and fill in the current sum on your decision sheet. I will then send an Instant Message to the other player with your decision and the current sum. The other player will then reply with his decision. You will then circle the other player's decision and fill in the current sum on your decision sheet. You will continue this procedure until the game ends.

You will have two minutes to think about the game and 20 seconds for each move during the game. Please let me know when you are ready to begin.

Do you have any questions?

3 The experimenters inserted into each blank a number that they read from a list pre-generated random numbers.

Appendix G: Cue Cards — Second Race to 100 (1-9)

(Note: Next are the instructions the experimenters read aloud to the WHITE player for the second Race to 100 Game. The instructions read aloud to the BLACK player are the same except for the words in brackets.)

You will now play the Race to 100 Game again with the same partner.

You will remain as the WHITE [BLACK] player. The BLACK [WHITE] player will remain as the BLACK [WHITE] player.

The only change to the game is that each player will choose a number from 1-9 inclusive in each round.

The game continues until one player chooses a number from 1-9 inclusive that adds up to a sum exactly equal to 100. This player is the winner. He will receive $10.

You will have two minutes to think about the game and 20 seconds for each move during the game. Please let me know when you are ready to begin.

Do you have any questions?

Appendix H: Cue Cards — Second Race to 100 (1-10)

(Note: Next are the instructions the experimenters read aloud to the WHITE player for the second Race to 100 Game. The instructions read aloud to the BLACK player are the same except for the words in brackets.)

You will now play the Race to 100 Game again with the same partner.

You will remain as the WHITE [BLACK] player. The BLACK [WHITE] player will remain as the BLACK [WHITE] player.

The only change to the game is that each player will choose a number from 1-10 inclusive in each round.

The game continues until one player chooses a number from 1-10 inclusive that adds up to a sum exactly equal to 100. This player is the winner. He will receive $10.

You will have two minutes to think about the game and 20 seconds for each move during the game. Please let me know when you are ready to begin.

Do you have any questions?

Appendix I: Survey

These questions will be used for statistical purposes only. THIS INFORMATION WILL BE KEPT CONFIDENTIAL AND WILL BE DESTROYED ON COMPLETION OF THE STUDY.

1. What it your current USCF chess rating (if you have one)? _____

2. What is your current FIDE chess rating (if you have one)? _____

3. Do you hold any of the following titles (circle one)?

    A) Grandmaster

    B) International Master

    C) Federation Master

    D) Master

    E) Expert

    F) I don't hold any titles

4. How many years have you played chess? _____

5. Are you a professional chess player?_____

   If yes, do you make your living from playing chess (excluding teaching)? _____

6. How many hours do you study and play chess in a typical week? _____

7. Gender (Circle one): Male Female

8. Age _____ Date of Birth _____

9. What is the highest grade of education that you have completed? (Circle one)

    A) Less than high school

    B) High School

    C) 2-year college

    D) Other Post-High School

    E) 4-year College

    F) Graduate School Education

10. What is your approximate yearly income from all sources, before taxes? (Optional)

    A) Less than $50,000

    B) $50,001-$100,000

C) $100,001-$200,000

D) $200,001+

11. Have you played in any of the following tournaments? Circle all that apply.

XXII Open International Chess Tournament of Sestao (June 17-18, 2006)

X Open International Chess Tournament of Leon (June 24-25, 2006)

XXVI Open International Chess Tournament Villa de Benasque (July 6-15, 2006)

Rapid Chess Tournament of Cerler (July 10, 2006)

I did not play in any of the above tournaments

12. Before today, have you ever played the Centipede decision-making game in this experiment (the "STOP/CONTINUE" game; not the video game)? Yes No

If yes, did you play the Centipede game at any of the above tournaments? Yes No

13. Before today, have you ever played the Race to 100 decision-making game in this experiment (the "pick a number that adds to 100" game)? Yes No

If yes, did you play the Race to 100 game at any of the above tournaments? Yes No