The Brief Digital Accelerator Treatment for Gambling (BDAT)

CLINICIAN GUIDE AND RESOURCE WORKBOOK

James D. Broussard, Ph.D., and Daniel DeBrule, Ph.D.

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SC MIRECC: South Central Mental Illness Research, Education and Clinical Center

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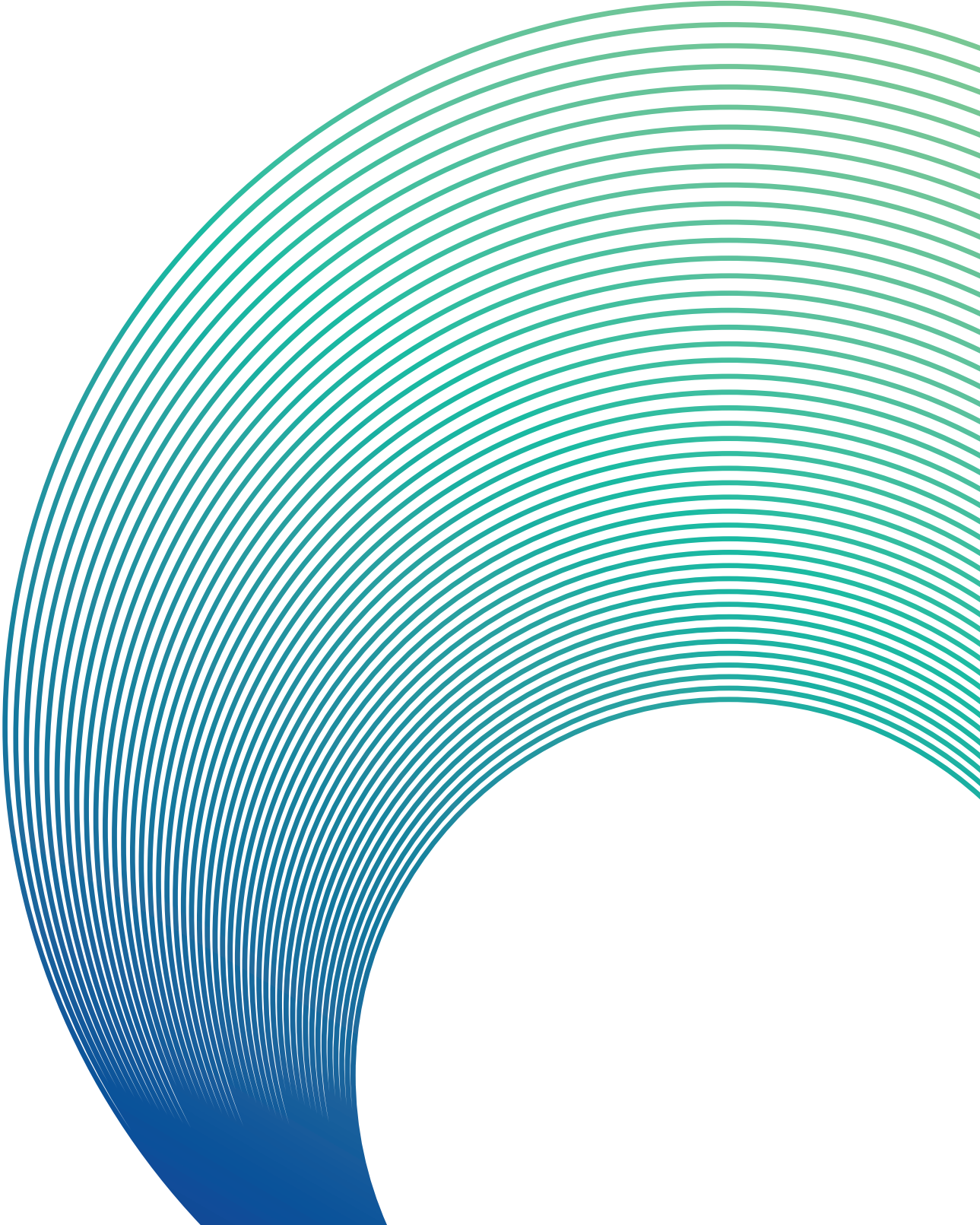
For questions about the BDAT, please contact
Dr. Broussard at ✉ BDATforgambling@gmail.com

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Introduction and Overview

This guide contains three sections to help prepare you to administer a brief debiasing intervention for problem gambling, which involves a digital gambling accelerator program, to be used with ACTIVE gamblers. The name of this intervention is the Brief Digital Accelerator Treatment for Gambling (BDAT).

Necessary Clinician Experience

Approaches that underlie this brief treatment come from several theoretical modalities and approaches (e.g., cognitive therapy, experiential learning theory, cognitive debiasing, motivational interviewing). In the following overview, we will briefly summarize some key elements of each of these approaches. However, we would like to emphasize that a comprehensive understanding of these different theories and treatment approaches is NOT necessary to provide the intervention. These are only for reference and to provide clinicians with the context in which the intervention is intended to be administered. Any clinician that is qualified to provide psychoeducation on topics including addictive behaviors and mental health issues should be able to implement this intervention in brief structured meetings.

Guide Organization

This guide is organized into three sections that describe the BDAT process in detail. The intervention itself is designed to be administered in a single session or can be broken up over several sessions. While this section provides background on the approach, the BDAT session overview presented in Section II describes the three steps required to complete the initial information gathering and brief assessment, debiasing exercises, and goal setting activities. Each section and subsection begins with a list of goals and objectives. Afterward, an overview is provided, which includes potential topics and exercises as well as text descriptions and examples for how to address the different topics with the client. Within the text descriptions of the topic, you will also find italicized sections which include specific statements or questions which can be included in your discussion. However, these are intended only to be a guide and not to be read verbatim, though reading the questions directly might be useful when first learning the approach.

Section III describes how to go about administering booster sessions following the initial BDAT session. Some discussions in the manual will refer to a form or handout in the appendices included at the end of this guide. There is also an appendix for Frequently Asked Questions and a setup and troubleshooting guide for those that would like to run the digital gambling accelerator offline on a PC.

Approach

The BDAT is a brief treatment for <u>ACTIVE</u> problem gamblers which targets biased beliefs about games of chance. The BDAT is consistent with cognitive therapy in that it focuses on correcting maladaptive cognitions to reduce harmful compensatory behaviors and negative emotions. However, instead of challenging beliefs or attempting to use verbal persuasion, the BDAT seeks to modify beliefs through experiential learning. This is accomplished through the use of a digital game-based debiasing intervention. Furthermore, the structure of this intervention follows recommendations proposed for experiential learning through the use of mobile health technologies (Broussard & Teng, 2019). The BDAT approach also incorporates a style and skills consistent with brief Motivational Interviewing (MI). These stylistic elements and skills are used to help initiate a positive working relationship with the client and to support them in making informed decisions about their gambling.

While the BDAT can be administered in a straightforward and didactic manner, clinicians should note that many problem gamblers are reticent to discuss their problems with others and may be wary in considering information or approaches that run counter to their existing beliefs. For this reason, the use of basic MI skills helps to alleviate potential discord which might exist between the client and clinician at the beginning of treatment. Therefore, the BDAT approach provides a framework for addressing potentially biased beliefs through experiential debiasing exercises, all within the context of an MI-consistent therapeutic relationship.

For the clinician, detailed knowledge of MI is not required to use the BDAT approach, but it is recommended that clinicians obtain some basic knowledge of MI-consistent communication and skills before implementing the BDAT. MI is an approach that helps clinicians establish a context for treatment based on certain key principles, known as the spirit of MI. The first component of the spirit of MI is

partnership between the clinician and the client, where the clinician attempts to see the world from the client's perspective. The spirit of MI is also based on acceptance of the client and their goals for their behavior. Where some approaches encourage abstinence as the only way to recover, MI recommends meeting the client where they are at and being open to their choices about their gambling.

MI also involves having compassion for the client and keeping their best interests in mind. This component of the spirit of MI means sharing information (with the client's permission) that the clinician feels is necessary to promote their wellbeing. The final component of the spirit of MI is one of evocation. This is accomplished through having directive conversations with the client concerning their gambling, reasons for change, and other pertinent information about their gambling (including the information provided by the digital gambling accelerator). Thus, the BDAT approach is very similar to other brief MI interventions (e.g., feedback report) which provide objective information to clients to assist them in making decisions about change. Though the clinician provides the structure and topics of discussion, the client is free to make decisions about the meaning of this information and to decide whether or not to act on what they have learned. For more on the MI approach, review Miller and Rollnick's (2012) seminal work, "Motivational Interviewing: Helping People Change."

Research Outcomes

Research involving active problem gamblers from the community indicates that the BDAT approach can help reduce gamblers' beliefs about the chances of winning for their preferred game of chance (e.g., scratch-off tickets). There is also evidence that this approach can lower gamblers' urges to gamble while increasing their readiness to change their gambling behavior. For example, problem gamblers that completed one session using the BDAT approach gambled on fewer days and spend less money on gambling for at least one month following the intervention. For more information on research which supports the use of the BDAT, read the following:

Broussard, J.D., & Wulfert, E. (2019). Debiasing of gambling beliefs and behavior using a digital gambling accelerator. Psychology of Addictive Behaviors, 33(3), 337-348. doi:10.1037/adb0000463

Broussard, J., & Wulfert, E. (2019). Debiasing strategies for problem gambling: Using decision science to inform clinical interventions. Current Addiction Reports, 6(3), 175-182. doi:10.1007/s40429-019-00263-1

Broussard, J., & Teng, E. (2019). Models for enhancing the development of experiential learning approaches in mobile health technologies. Professional Psychology: Research and Practice, 50(3), 195-203. doi:10.1037/pro0000234

Broussard, J., & Wulfert, E. (2017). Can an accelerated gambling simulation reduce persistence on a gambling task? International Journal of Mental Health and Addiction, 15(1), 143-153. doi:10.1007/s11469-015-9620-8

Other Treatment Approaches

It is important to note that the BDAT is a brief treatment for clients that are currently gambling and display signs of problem gambling. Thus, the BDAT is intended to be administered in brief, structured sessions which yield short-term benefits. Additionally, as the BDAT has been shown to increase active problem gamblers' readiness to change, it is possible that it might be used as a preparatory treatment to increase engagement prior to longer-term treatments (e.g., CBT for Gambling Disorder, MI).

The BDAT should not be considered as a replacement for longer-term evidence-based treatments. For those diagnosed with gambling disorder, other evidence-based treatments for problem gambling will likely be necessary. Cognitive elements of the BDAT might be useful in reinforcing gambling-related principles and alternative beliefs covered in cognitive restructuring sessions. However, the BDAT has not been tested for use in conjunction with cognitive or cognitive behavioral therapy for gambling disorder.
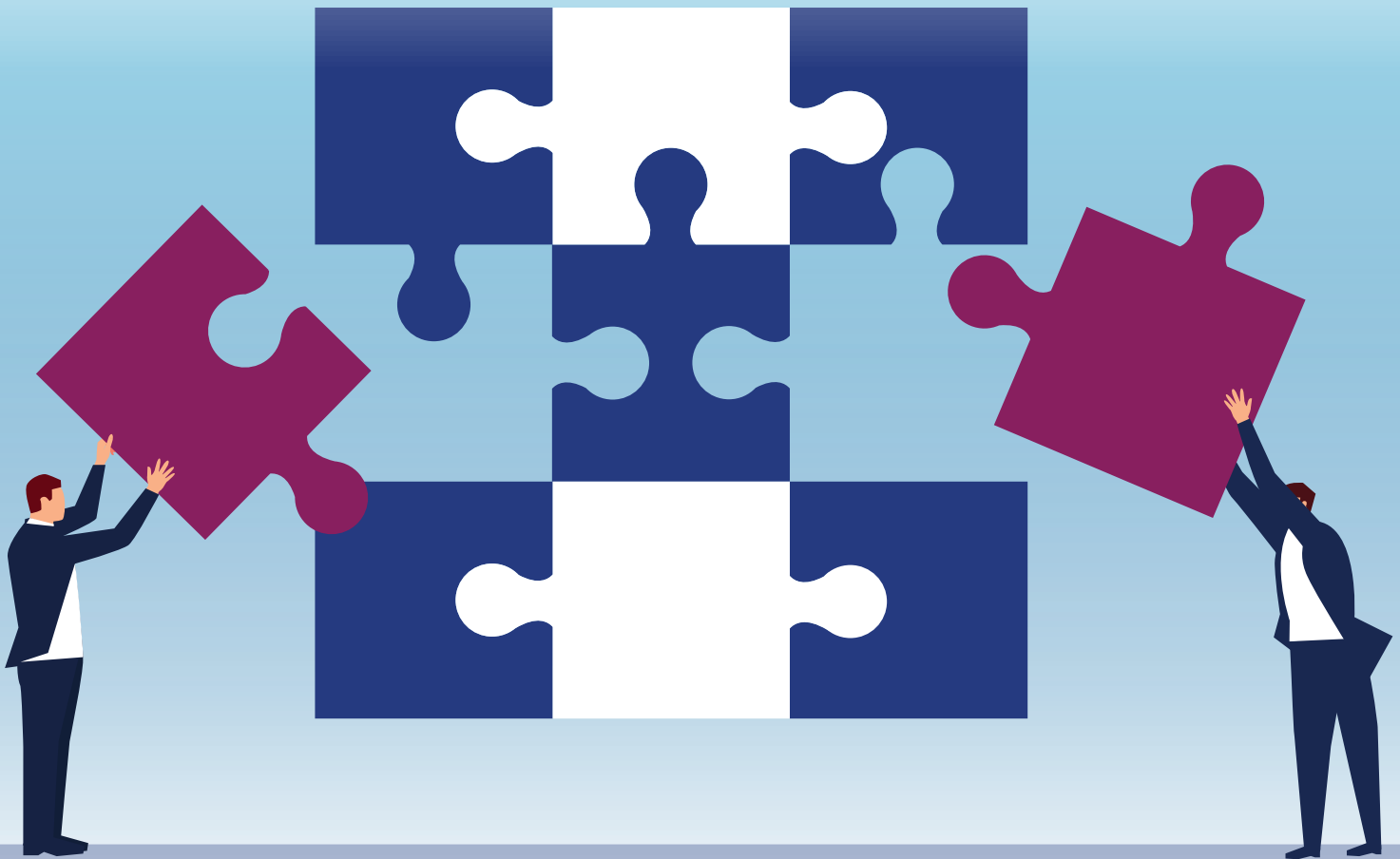
SECTION II
BDAT Session Overview
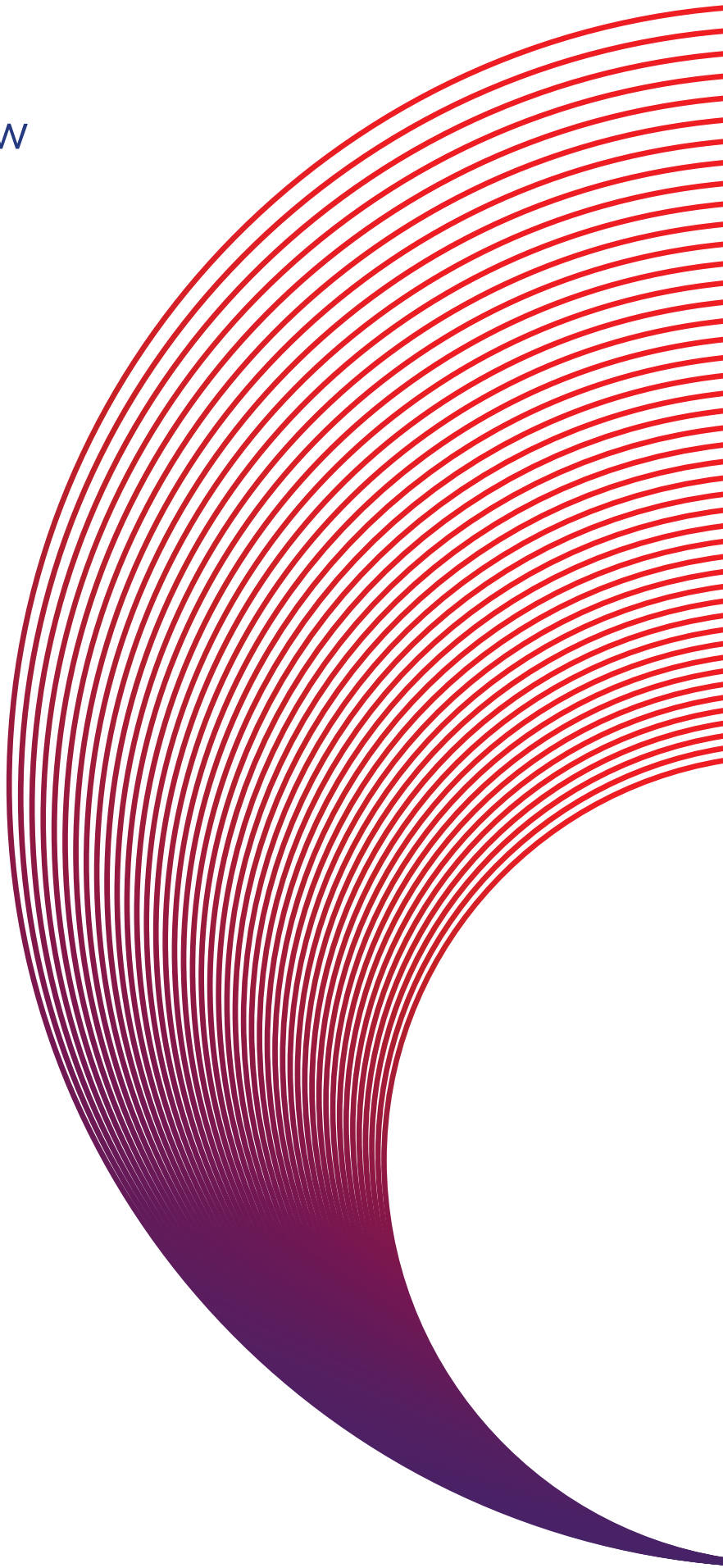
STEP 1

Conduct Information Gathering and Brief Assessment

Goals and objectives:

- Engage in introductions and rapport building.
- Collect relevant information.

A. Introduce the purpose of the session and engage in reflective listening:

Welcome the client and make them comfortable. Next, in your own words explain the purpose of this approach. Here is an example:

The approach we will be using is designed as a brief exploration of your gambling consistent with a "check-up," meaning that I will be asking you some simple questions about your gambling. We may also do a few exercises on the computer to learn more about gambling, which are meant to aid you in your decision-making. All the topics we will discuss are based on information we've collected from academics, professionals, and the gambling industry itself and are intended to help you understand some concepts that can be unclear to most people without specialized training and knowledge. To do so, we will be exposing you to several simulated gambling exercises including realistic images of scratch-off tickets and other gambling cues so that you can learn more about these concepts. Simulated gambling and viewing gambling-related images have the potential to make some people uncomfortable. The potential benefits of this treatment include having more knowledge about gambling and improved decision-making. Is this something you would like to participate in?

❗ IMPORTANT

Before proceeding, obtain informed consent from the client. Ensure that the client is comfortable with the approach as described and the potential of being exposed to simulated gambling and gambling cues on a computer. If the client indicates that they do not want to be exposed to any gambling but would still like to participate, you can proceed with information gathering and brief assessment in Step 1 and then go directly to Step 3 (i.e., discussion and goal setting). In this case, you can forgo completion of the Post-session Rating Form. Otherwise, if the client is NOT willing to participate, thank them for their time and offer to provide them with referral to other services, if appropriate. You can also provide them with a copy of the Additional Resources List in Appendix B.

Consistent with the theme of rapport building, you may choose to ask some general open-ended questions to get to know the client better before completing the Initial Gambling Information Form. At this stage, asking open-ended questions and being an active listener is key. Examples include:

- Where are you originally from?
- What do you do for a living?
- What are you hoping to get out of this session?

It may be worth finding out why the client expressed interest in the BDAT specifically. Throughout this step, continue to engage in reflective listening. Show interest in what the client is saying. Also, try to get a general sense of their readiness to change, if present. However, do not confront or challenge the client about their gambling at any point in the BDAT process. Be genuine and show empathy for where the client is at concerning their personal decisions about gambling. Displaying acceptance and having compassion for the client is critical.

B. Complete the Initial Gambling Information Form:

Ask the client if they are willing to provide you with some more specific information about their gambling. Complete the Initial Gambling Information Form contained in Appendix A. While asking open-ended questions, record their answers in the space provided. It is especially important to write down any change talk that the client reports. Change talk is any statement that expresses desire, ability, reasons, need, or commitment to changing their gambling behavior. However, if the client doesn't demonstrate any change talk, this is okay.

The Initial Gambling Intake Form should only be completed the first time the client participates in the BDAT process. However, if a significant amount of time has passed (e.g., a month or longer) between the initial session and additional booster sessions, this form may be updated or readministered.

C. Administer the Signs of Problem Gambling:

Complete the Signs of Problem Gambling with the client. When finished, add up the number of items they responded "Yes" to and write their total score at the top of the page. This information should not be used for formal screening or diagnostic purposes, but higher scores on this worksheet will typically indicate worse problems with gambling. Use this information to better understand where the client is at with their gambling and whether formal screening or assessment might be recommended to the client.

❶ IMPORTANT

Question 20 on the Signs of Problem Gambling worksheet pertains to suicidal thoughts in the past year. If endorsed, clinicians should take appropriate steps to assess current and past suicide risk in accordance with local policies and procedures as well as the boundaries of their clinical expertise. In such cases, it is important to review this item with the client before the session ends as both acute and chronic suicide risk factors can be a threat to the client's safety and may require immediate attention.

D. Complete the Pre-session Rating Form:

Complete the Pre-session Rating Form with the client. This form should be completed prior to every BDAT session (including additional booster sessions if the client chooses to engage in any). Provide the client with the Answer Options handout in Appendix B to assist them in responding to the questions. Additionally, do not challenge the client in terms of their ratings. Their initial ratings of the chances of winning and readiness are just a starting point. You will use this information to aid the client in making informed decisions about their gambling in the current session as well as any future sessions.

STEP 2

Conduct Debiasing Exercises using the Digital Gambling Accelerator

Goals and objectives:

- Introduce the digital gambling accelerator and vendor interface.
- Complete the tutorial exercise by playing through 40 tickets.
- Explain each of the graphical and numerical outputs.
- Engage in one or more of the recommended debiasing exercises.

A. Introduce the Digital Gambling Accelerator:

Gamblers tend to believe that gambling is an easy way to make money. However, many different aspects of games of chance make it difficult to understand the long-term payouts involved in gambling. We use a digital scratch-off ticket game to teach people about these concepts experientially. This means that you don't have to know all the names of these concepts (though it helps). Instead, this approach allows clients to learn about these concepts through experience using a digital game that mimics an actual game of chance. In the current manual, we use a digital scratch-off ticket vending machine. Though some clients might argue that their form of gambling is different (or better) than gambling on scratch-off tickets, we use this game to teach about odds and long-term payouts for several reasons.

- ✓ First, lottery games are the most prevalent and easy to access form of gambling. This means that lots of people have at least some experience with them and many play them regularly.

- ✓ Second, the odds of winning on scratch-off tickets are easy to identify. Many gambling establishments and game manufacturers closely guard information about their games, making it difficult to accurately replicate them. However, the odds for scratch-off tickets are reported online by state lotteries. We used these reported odds to program the ten tickets which are contained in the current digital gambling accelerator.

- ✓ Third, scratch-off tickets are a simpler form of gambling, without lots of added betting options and rules.

Using a simple game of chance for these exercises helps clients to learn about the principles of the independence of events, the law of large numbers, and the house advantage. Indeed, it is important to know that these principles apply to ALL games of chance (e.g., blackjack, slot machines, craps, horse racing), no matter what. So using a simple game like scratch-off lottery tickets makes it easier to talk about the broader principles of all games of chance without getting stuck in the details of a particular game. However, research suggests that debiasing strategies should closely approximate the methods that were involved in the initial development of the biased beliefs. Therefore, this approach will likely be most effective for actual scratch-off ticket gamblers. For these reasons, future iterations of the BDAT will likely involve additional digital gambling accelerators to include other forms of gambling. Introduce the digital gambling accelerator by saying the following:

> *Now I'd like to share with you some information about gambling. However, rather than explaining it, I'm going to ask you to complete some exercises on the computer which will show you the long-term outcomes of gambling* [open the digital gambling accelerator to the home screen]. *What you are looking at on the screen is a digital scratch-off vending machine. It is an exact working replica of a real scratch-off vending machine sometimes seen in convenience stores and grocery stores, except that you can play and observe the results of the scratch-off tickets one at a time or at an accelerated pace (i.e., twenty tickets at a time). You can also observe a list of the outcomes for the tickets you play, wins and losses, as well as a line graph which tracks the overall amount won and lost over all tickets played. Before we begin the exercises, let's go through a tutorial to learn how the program works.*

While introducing the digital scratch-off ticket vending machine, you should not present all of the displays and features in too great a detail. Simply demonstrate the main features of the accelerator program according to your own understanding, and continue to explain and provide clarification concerning the different features as you go through the exercises. Once the exercises begin, most clients will be able to grasp the basic principles of the game and the different displays without having an in-depth understanding of the program. However, prepare yourself to provide additional explainations as needed.

B. Show how to use the vendor interface to play the accelerator:

Below is an image of the vendor interface.

1. There are ten digital scratch-off tickets to choose from, and you can change the ticket you are playing at any time. The digital scratch-off tickets come in different denominations from $1 up to $30. Move the mouse pointer over any one of the ten ticket icons and left-click to select that ticket. When selected, the ticket number and cost will be displayed in the "Ticket Selected" box.

2. To enter digital play money into the program, move the mouse pointer over the "Insert $20" or "Insert $100" icons and left-click to insert that amount of play money into the program. When clicked, that amount will be added to the "Money Inserted" box. You can click multiple times on either button to insert a large amount of play money. The program limit is $300,000 in play money.

3. To play tickets, move the mouse pointer over the "Play 1" or "Play 20" buttons and left-click. You must have enough play money inserted to afford the purchase, so make sure to insert play money to cover the total cost.

4. When you are done with an exercise, left-click the "Start Over" button to reset the vendor interface. The tickets stored in the program will be set back to their original state and in the same order. However, if you want to replace all the tickets and play through a different random sequence, left-click "Replace All Tickets" and begin playing again. The program limit is 10,000 tickets.

Below is an image of the "Tickets Prizes and Odds" sheet.

Prize Value		Odds
$1.00	1 in:	9
$2.00	1 in:	19
$5.00	1 in:	35
$10.00	1 in:	125
$25.00	1 in:	226
$40.00	1 in:	824
$100.00	1 in:	3296
$500.00	1 in:	49440

Overall Odds of Winning: 1 in 4.85

Ticket Prizes and Odds | Simulator | Tracking | ⊕

5. There is a tab at the bottom of the screen which says "Ticket Prizes and Odds." If you left-click on this tab, you can observe a detailed odds table for each ticket. Again, though the images provided are not of real scratch-off tickets, the odds have been obtained off of real scratch-off tickets from different state lotteries to make them as realistic as possible.

6. You can use the mouse wheel or the scroll bar to scroll down and observe each of the ticket images and odds tables.

7. When you are done, left-click the "Simulator" tab to return to the vendor interface.

Tutorial Exercise #1:

ⓘ INSTRUCTIONS: Go to the "Tickets Prizes and Odds" sheet and scroll down to find a $5 ticket that you would like to play. Go back to the vendor interface and select that $5 scratch-off ticket. Insert an extra $100 worth of play money and then play 5 tickets by clicking the "Play 1" button five times. Next, play 20 tickets by clicking the "Play 20" button once. Afterward, go over each of the graphical and numerical outputs as discussed in the next description.

C. Explain the graphical and numerical outputs:

There are several graphical and numerical outputs included next to or below the vendor interface. To make referencing of the different outputs referred to in this guide easier, we associate each output with a specific icon. Whenever an output is referred to in this guide, the corresponding icon will also be displayed. The Digital Gambling Accelerator Legend included in Appendix B can be used to facilitate discussions about these different outputs with the client. The first of these different outputs is the Total Cash Box (icon 🧩) which helps clients to see the overall outcome of the game.

If the number is positive (+), it means overall you've won digital play money playing scratch-offs. If you quit now, you would be ahead.

OR

If the number is negative (-), it means overall you've lost digital play money playing scratch-offs. If you quit now, you would be down.

In summary, total cash is the total amount of play money won or lost since you started playing. This is based on the sum of all winnings minus the cost of all tickets.

Now look at the display labeled Total Cash Tracker (icon ➤) which is located below the vendor interface. The blue line on the graph is called the "Total Cash Line." The Total Cash Line travels from left to right on the screen. It tracks your total cash across each of the tickets you play. When the Total Cash Tracker or Total Cash Line is referred to you will see the ➤ icon.
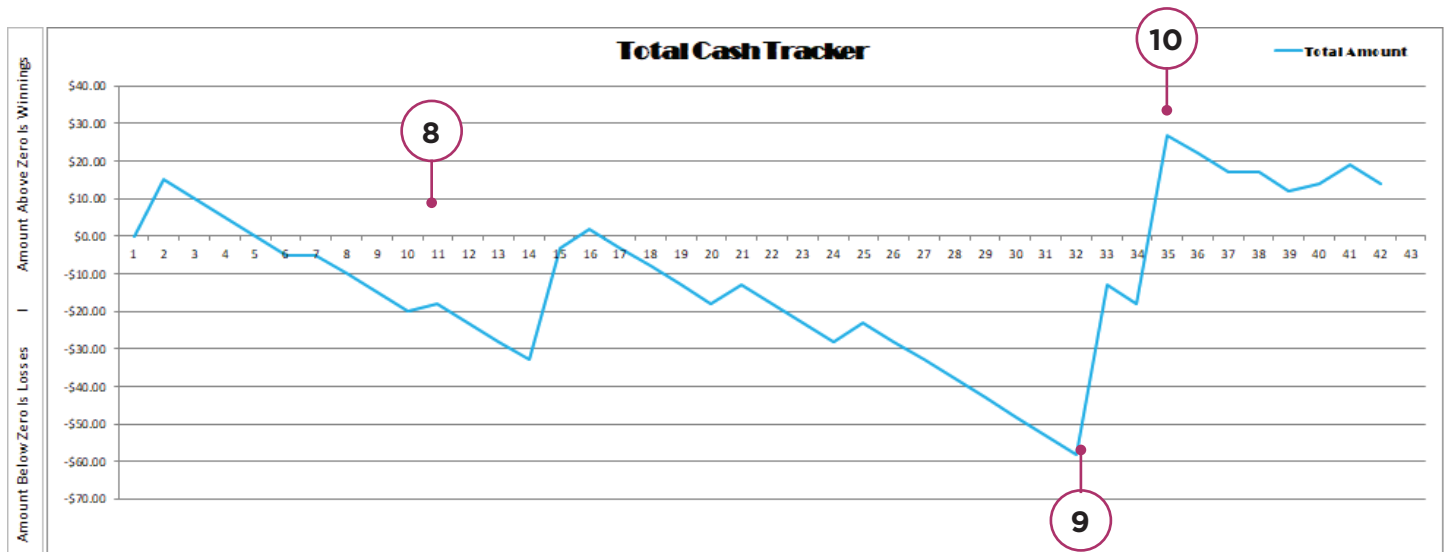
8. The numbered line that moves horizontally through the middle of the graph is the "Ticket Number Line." It displays the number of each ticket you play, starting with one and counting up through each of the tickets up to the total number you've played.

9. If the Total Cash Line goes below the Ticket Number Line, overall, you've lost play money on the tickets. If you follow any of the horizontal lines to the left of the graph, you will see how much has been lost at that point. For example, at the point indicated by the arrow (ticket number 32), $60 has been lost overall.

10. If the Total Cash Line goes above the Ticket Number Line, overall you've won play money on the tickets. For example, at the point indicated by the arrow (ticket number 35), $25 has been won overall.

The Overview Chart (🔍 icon) is located at the bottom right of the screen. This chart shows your overall progress in detail. When the Overview Chart or any of the columns in it is referred to you will see the 🔍 icon. The Overview Chart contains the same information displayed by the Total Cash Tracker but allows you to scroll down to observe each outcome in detail.

Overview Chart

⑪ ꞏts ꞏ Prize		Total Cash	Time
1	20	$15.00	0:00:09
2	0	$10.00	0:00:17
3	0	$5.00	0:00:26
4	0	$0.00	0:00:35
5	0	-$5.00	0:00:43
6	5	-$5.00	0:00:52
7	0	-$10.00	0:01:00
8	0	-$15.00	0:01:09
9	0	-$20.00	0:01:18
10	7	-$18.00	0:01:26
11	0	-$23.00 ⑫	0:01:35
12	0	-$28.00	0:01:44
13	0	-$33.00	0:01:52
14	35	-$3.00	0:02:01
15	10	$2.00	0:02:10
16	0	-$3.00	0:02:18
17	0	-$8.00	0:02:27
18	0	-$13.00	0:02:36
19	0	-$18.00	0:02:44
20	10	-$13.00	0:02:53
21	0	-$18.00	0:03:01
22	0	-$23.00	0:03:10
23	0	-$28.00	0:03:19
24	10	-$23.00	0:03:27 ⑬
25	0	-$28.00	0:03:36
26	0	-$33.00	0:03:45
27	0	-$38.00	0:03:53
28	0	-$43.00	0:04:02
29	0	-$48.00	0:04:11
30	0	-$53.00	0:04:19
31	0	-$58.00	0:04:28
32	50	-$13.00	0:04:36
33	0	-$18.00	0:04:45
34	50	$27.00	0:04:54
35	0	$22.00	0:05:02
36	0	$17.00	0:05:11
37	5	$17.00	0:05:20
38	0	$12.00	0:05:28
39	7	$14.00	0:05:37
40	10	$19.00	0:05:46

11. The "Prize Column" shows you the outcome of each ticket you've played. Wins are displayed in white with the prize amount and losses are displayed in red with a zero. Try comparing the losses in red to the number of wins in white.

12. When you are ahead (meaning you've won play money overall) the amounts in the Total Cash Column are displayed in white. When you are down, meaning you lost play money overall, the amounts in the Total Cash Column are displayed in red. Compare how often you are ahead to how often you are down.

13. The "Time Column" gives an estimate of how long it would take to scratch off that many tickets playing as fast as you could (~9 seconds per ticket).

The final display is called the Last Bet Tracker (icon ↻). This display shows you the outcome of the last ticket (if using the "Play 1" button) or the last 20 tickets (if using the "Play 20" button). When the Last Bet Tracker is referred to you will see the ↻ icon.

Play 1 Option:

If you play one ticket using the "Play 1" ticket option, the Last Bet Tracker gives the outcome of that ticket. For this example, the ticket was a loss, so 1 (the number of tickets played) is displayed under losing tickets. It also displays the amount won or lost with a + for winning and a – for losses. In this example, the ticket cost $5 and was a loss, so the amount was -$5.

Play 20 Option:

If you play twenty tickets using the "Play 20" option, the Last Bet Tracker gives the outcomes for that batch of tickets. In this example, out of the 20 tickets played, 4 were winners and the other 16 were losses. It also displays the amount won or lost overall. In this example, the twenty tickets cost $100 and the total winnings were only $27, so this came out to -$73. Not a good outcome at all!

D. Complete debiasing exercises:

The digital gambling accelerator contains 10,000 digital scratch-off tickets with odds that are identical to real scratch-off tickets obtained from different US lotteries. Ten thousand scratch-off tickets are the equivalent of about 100 full rolls of tickets (more or less). The average person can scratch off a ticket in about 9 seconds (without a detailed examination of the outcome). If a person were to play 10,000 real scratch-off tickets as fast as possible without breaks, it would take around 25 hours of continuous play to scratch off all 10,000 tickets! Fortunately, our digital gambling accelerator allows clients to play scratch-off tickets at an accelerated rate while tracking the outcomes automatically. There are several different exercises clients can play through to learn more about gambling. Complete as many exercises as possible with the client within the time remaining. You do not have to complete every exercise, and in most cases will not be able to in the allotted time. Also, you or your client can come up with your own ideas to test using the Digital Gambling Accelerator. Have the client keep track of outcomes and other information learned while playing using the client handout entitled "Digital Gambling Accelerator Exercises" in Appendix B. Plan the session so that approximately 15 minutes remains after all exercises are completed. This time is needed to complete the Post-session Rating Form as well as additional discussion and planning.

Exercise #1:

ⓘ INSTRUCTIONS: Begin with a simple simulation of the short-term outcomes. Follow the steps below to complete this exercise

Step 1. Enter play money into the vendor interface consistent with your daily or monthly average amount spent on gambling.

Step 2. Play through the number of tickets you can afford for that amount of money using the "Play 1" button only. For instance, if you insert $100 in play money and play $5 tickets, you should play 20 tickets and no more.

Step 3. When complete, observe and discuss the outcomes on each of the displays.

Follow-up Discussion: This exercise is a demonstration of the short-term outcomes involved in gambling. For most games of chance, you can only do a single bet at a time, which slows the overall speed of gambling. This also makes it hard to track the amount of money you spend in the long run. Additionally, while it is possible to win many different prize amounts on any one gamble, losses are limited to the initial bet (in this exercise, between one and thirty dollars at a time, depending on the ticket played). Observing the Total Cash Box ♟ can help to identify how you are doing overall. Still, in the short run, it is possible to win, lose, or break even. However, as you will see in other exercises, the long-run chances of winning are very different.

★ Extra-credit: Select "Start Over" and "Replace All Tickets," then enter your starting amount of play money and repeat the exercise. Complete this process three more times, writing down whether you won, lost, or broke even on each try.

Exercise #2:

ⓘ INSTRUCTIONS: Play through the equivalent of several months or one year of your normal spending on gambling using the accelerated play feature only. Follow the steps below to complete this exercise.

Step 1. Enter play money into the vendor interface consistent with your monthly average amount spent on gambling.

Step 2. Play using the "Play 20" button only. Add more play money when necessary. Select different tickets at any time, if desired. Keep in mind that selecting tickets with much lower AND much higher costs during the same game will affect how the Total Cash Line ➤ is displayed.

Step 3. Examine the Last Bet Tracker after every set of 20 tickets.

Step 4. When complete, observe and discuss the outcomes on each of the displays.

Follow-up Discussion: Did you observe the Last Bet Tracker ⟳ after every set of 20 tickets? How did you do on each sequence of 20? Do you notice any trends on any of the graphs or tables? When people focus only on the last few bets, it's easy to lose track of how you're doing overall. However, all those small losses add up. That's why it helps to use the "Play 20" option and to examine the Last Bet Tracker ⟳ after every play. When you consider losses in blocks of 20 at a time, you can better understand how wins and money won compare to losses and money spent. Looking at the Prize Column on the Overview Chart 🔍, you will notice that you had many more losses than wins, including long streaks of losses. In fact, while playing scratch-off tickets, losses always occur more often than wins. Looking at the Total Cash Column 🔍, you will almost always find that you spend more time down, or "in the red," than up. Practically every gambler spends all of their time in the red, but often they don't realize this because nobody is tracking their overall wins and losses. In a single gambling session, you might win, but if you continue to gamble you are guaranteed to lose. The gambling industry knows this, which is why they make these games so accessible and offer so many incentives to gamble.

★ Extra Credit: Repeat the exercise as many times as you would like to learn more about the long-term odds of gambling. You may choose to select "Start Over" and then "Replace All Tickets" or just keep playing from where you are at, up to the maximum of 10,000 tickets.

Exercise #3:

ℹ **INSTRUCTIONS:** Play through 100 scratch-off tickets, using the accelerated play feature only, followed by an estimation of the time required to get a big win. This will require a stopwatch or other time-keeping device. Follow the steps below to complete this exercise.

Step 1. Enter enough play money into the vendor interface to afford 100 scratch-off tickets of your choice.

Step 2. Start the stopwatch or begin tracking the time and play through 100 tickets using the "Play 20" button only (i.e., five plays).

Step 3. When finished, write down the time it took to simulate the 100 tickets (in seconds or minutes).

Step 4. Using the Ticket Prizes and Odds tab, use this information to calculate how long you would have to play on the accelerator, on average, before getting the largest prize for that ticket. To do so, simply divide the odds of the prize by 100 and then multiply this number by the time you recorded.

Follow-up Discussion: It is useful to consider that even when playing at an extremely fast pace on the digital gambling accelerator, it would often take more than a day of non-stop play to have a reasonable chance at observing the largest prize on a ticket. For a game of chance with a jackpot of $1,000,000 and odds of 1 in 1,500,000 plays (typical odds for a jackpot) a person placing 10 bets a day would need to play, on average, for 150,000 days or 411 years before hitting the jackpot! With this in mind, consider how likely it would be to see a jackpot in real life play. Though, in reality, the chances of a jackpot are the same on every try, the odds tell us approximately how often a person can expect a jackpot in the long run, and it is often a very, very long time.

★ **Extra Credit:** Work out how long it would take, on average, based on your own frequency of gambling, to hit the largest prize for two of the tickets displayed in the Ticket Prizes and Odds tab.

Exercise #4:

ℹ INSTRUCTIONS: Play through as many tickets as possible up to the program limit. Keep in mind that this exercise could take up to 40 minutes of continuous play to complete the task. Follow the steps below to complete this exercise.

Step 1. Enter a significant amount of play money into the vendor interface.

Step 2. Play using the "Play 20" button only. Add more play money when necessary. Select different tickets at any time, if desired. Keep in mind that selecting tickets with much lower AND much higher costs during the same game will affect how the Total Cash Line is displayed.

Step 3. Observe the Total Cash Tracker ➤ while playing.

Step 4. When complete, observe and discuss the outcomes on each of the displays.

Follow-up Discussion: In the long run, which at a minimum involves many thousands of outcomes for most games of chance, you can begin to see several patterns. The most noticeable is that the "trend" in the Total Cash Line is always negative or downward. Every once in a while, there might be a sudden increase following a large prize, but the negative sloping line immediately resumes its downward trend. This is known as the "House Advantage" or in some games the "Hold Percentage." This is built into the odds of every game of chance, and every game of chance includes some house advantage. The result is a negative return-to-player percentage. Money put into the game generates both wins and losses, but in the long run, less money is paid out than what goes in. All of these terms mean one thing and one thing only, which can be seen while playing the digital gambling accelerator. If you track wins and losses on a graph, over time, the line goes down. The better the odds, the less steep the line (proportional to the cost of the bets). The worse the odds, the steeper the line. But the downward trend is always present!

★ Extra Credit: Games that cost more per bet typically have slightly better odds. Play through exactly two thousand outcomes with one of the lower-cost tickets. Afterward, take a picture of the graph or use the print screen button and paste a copy of the image in a separate file. Next, play through exactly two thousand outcomes with one of the higher cost tickets and do another picture or image capture. Now compare the two images. Do you see a difference? If you had to trace a line through the middle of each of these sequences, the line for the higher denomination tickets is likely less steep. However, it is still negative.

E. Potential Outcomes and Discussions:

The following outcomes and behaviors may or may not come up during the exercises. However, we mention them as potential areas of exploration and discussion with the client. You should familiarize yourself with these possible outcomes or observations to be able to respond to them if they occur.

Large Wins

Because the digital gambling accelerator generates outcomes randomly, just like real scratch-off tickets, it is possible, though unlikely, that the client will have a large win. When this happens, there can be a concern that this might encourage the client to believe that such wins are common. The importance of the digital gambling accelerator is in displaying long-term outcomes, and so if a large win occurs in the short run, this outcome can be followed by many additional simulations, which show the following to be true:

1. Big wins, while possible, are extremely rare.
2. If you keep playing, eventually, you lose all your winnings back.

Indeed, big wins are so rare that they typically do not occur in sessions with clients. In the authors' experience, not a single large jackpot win has occurred within a session! Keep in mind that the chances of significant wins such as these are often in the millions.

★ **Extra Credit:** Review the odds of big wins on the Ticket Prizes and Odds tab. Compare the odds of the largest prizes between the different tickets.

Streaks of Wins or Losses

Similar to real gambling, the randomness of tickets sometimes results in long strings of wins or losses. Especially early in simulation training, clients will suggest that this "means" something about the game or how they are playing, either good or bad. The digital gambling accelerator accentuates this by color-coding wins and losses so that long sequences of similar outcomes share the same color. The important thing to do when a client is making such observations is to keep playing. Once the outcomes of several thousand tickets are simulated, it is easy to see that so-called streaks are just another random occurrence that happens periodically and that no meaning can be attached to this random event. You might even ask the client what they would be thinking in real life during such a run. Typical responses include "I'm on a roll," "my strategy is working," "I need

to change tickets," or "my luck is off." However, these statements are all a result of erroneous beliefs about gambling (e.g., the illusion of control, the gambler's fallacy, superstitious beliefs). The truth is that these sequences are just a random occurrence which people assign special meaning to. Once the Total Cash Column sinks below zero, meaning you have lost money, the numbers turn red and rarely change after that. Streaks are meaningless. In the long run, the return to the player is always negative.

★ **Extra Credit:** Compare streaks observed in the Prizes Column to the pattern observed in the Total Cash Column 🔍 . Which one of these runs of similar outcomes is more stable? Which is more important?

Frequently Changing Tickets

Some clients will repeatedly change between tickets, either from one ticket of the same denomination to the other or between different denominations. Often this is done following a streak of losses or several batches of mostly losing tickets. While the Total Cash Tracker will make the point that such efforts are futile in the long run, it is important to note if a client is doing this and to have a discussion about what they think is happening when they change to a different ticket (similar to moving to a different slot machine or moving to a different table in the casino). If you compare the odds of the different games, they are usually fairly similar and the house advantage guarantees that the odds are always against the player. Therefore, changing from one game to another because of a streak of losses assumes that the streak has something to do with that particular game. If the odds are similar between games then runs of one outcome or another are completely random and occur no matter what game you are playing.

★ **Extra Credit:** To test whether changing tickets makes a difference, write down on what ticket numbers the client changes tickets. After playing a thousand tickets or more, review these switches and observe whether the changes made any difference in the twenty or forty outcomes following the switch. You can also set up an experiment with the client and intentionally switch tickets after certain events (e.g., streaks, every 100 tickets, after larger wins) to see if anything changes. Keep in mind that a good experiment should involve a large number of switches (10 or more sequences) and recording of multiple outcomes after each switch. The questions to ask is whether switching tickets can stop or start a streak for subsequent tickets.

STEP 3

Engage in Discussion and Goal Setting

Goals and objectives:

- Collect follow-up information.
- Develop goals and identify coping strategies.
- Review additional resources.

A. Complete the Post-session Rating Form:

Complete the Post-session Rating Form with the client. This form should be completed at the end of every session. Provide the client with the Answer Options handout in Appendix B to assist them in responding to the questions. While scores will often change from pre to post, this may not be the case for every client.

❗ IMPORTANT

Though it has not been observed to date in current applications of the BDAT, it is possible that there could be an increase in urge to gamble, increase in beliefs about the chances of winning, or a decrease in readiness to change following the debiasing exercises. Should such changes be observed, it is important to ask the client about the change and, if necessary, review information that was covered during the session. One explanation of such changes, which has occurred, is that the client simply misunderstood the questions or the rating scale. If so, readminister the question. Another explanation is that they misunderstood one or more aspects of the exercises that were completed. If this has occurred, attempt to clarify any misunderstandings the client might have and continue to assist them to make an informed decision about their gambling.

B. Provide a summary statement and ask the client if they would like to make changes to their gambling:

Provide the client with a concise summary statement concerning what they shared with you during the session. Include any instances of change talk (for review, see pg. 12, Section B) and reiterate what was learned during the debiasing exercises. Afterward, ask open-ended questions to find out what, if anything, they would like to do differently concerning their gambling

Key Statements/Questions:

- When we began the session, you reported gambling about _____ number of days a month and spending, on average _____ a month on gambling.

- While playing the digital gambling accelerator, you said that you noticed

  _____

- Looking at all of these factors together, what do you think this says about your gambling?

- With all this in mind, what, if anything, would you like to do differently about your gambling?

✅ Reinforce any change talk (e.g., self-motivational statements; See Section I for a description) and provide encouragement to the client that they can make good decisions about their behavior.

Assure the client that you will assist them to set goals that will work for them. However, do not pressure the client to set a goal if they are not ready. Assist them with setting a goal only if it is clear that the client is motivated to some degree to change and ready to commit to a goal concerning their gambling (e.g., manage consequences, reduce gambling, quit gambling). If they are not yet ready to set a goal or make changes, skip the My SMART Goals handout and review the Additional Resources List with the client. You can also invite them to continue learning more about gambling using the BDAT approach in additional booster sessions.

## C. Complete the My SMART Goals handout with those that indicate they would like to make a change:

Now assist the client to complete the My SMART Goals handout (Appendix B). The first step is to have the client select a specific change to make. This might include reducing the negative consequences (e.g., reduced time at the casino, spending less money), reducing gambling, or quitting altogether. The goal should also be measurable. For instance, if cutting back on gambling is the goal, setting a financial limit can be a good way to measure success. The goal should also be achievable and realistic. Some clients might have the goal to keep their gambling to a minimum, but lack the necessary coping strategies and support to be successful in achieving their goal. It is important to assist the client to develop a goal which they are reasonably assured they can achieve within a realistic timeframe. Finally, it is important to set a start date for working towards the goal as well as an end date at which time the client would like to have accomplished their goal (i.e., having achieved the measured target outlined in their plan). Use the My SMART Goals handout to assist the client in developing a plan and then consider how any additional resources might help them be successful.

D. Discuss Additional Resources:

There are many potential resources to help clients that specify a need for additional information or services. Review the Additional Resources List in Appendix B and identify any that might be of interest to the client. Attempt to assist them in accessing these resources among others not on the list, if available. You might also consider whether additional BDAT sessions could be useful. See Section III of this guide for details. Depending on the client's level of readiness and the severity of their gambling problems (as indicated by the Signs of Problem Gambling worksheet), referral for formal assessment and treatment for gambling disorder may be warranted. If this is the case, ask the client's permission to give them some feedback. If they agree, share your concern with them and indicate that such additional services might be beneficial. However, clinicians should respect the client's decision if they do not wish to pursue additional services for their gambling.

SECTION III
Booster Sessions
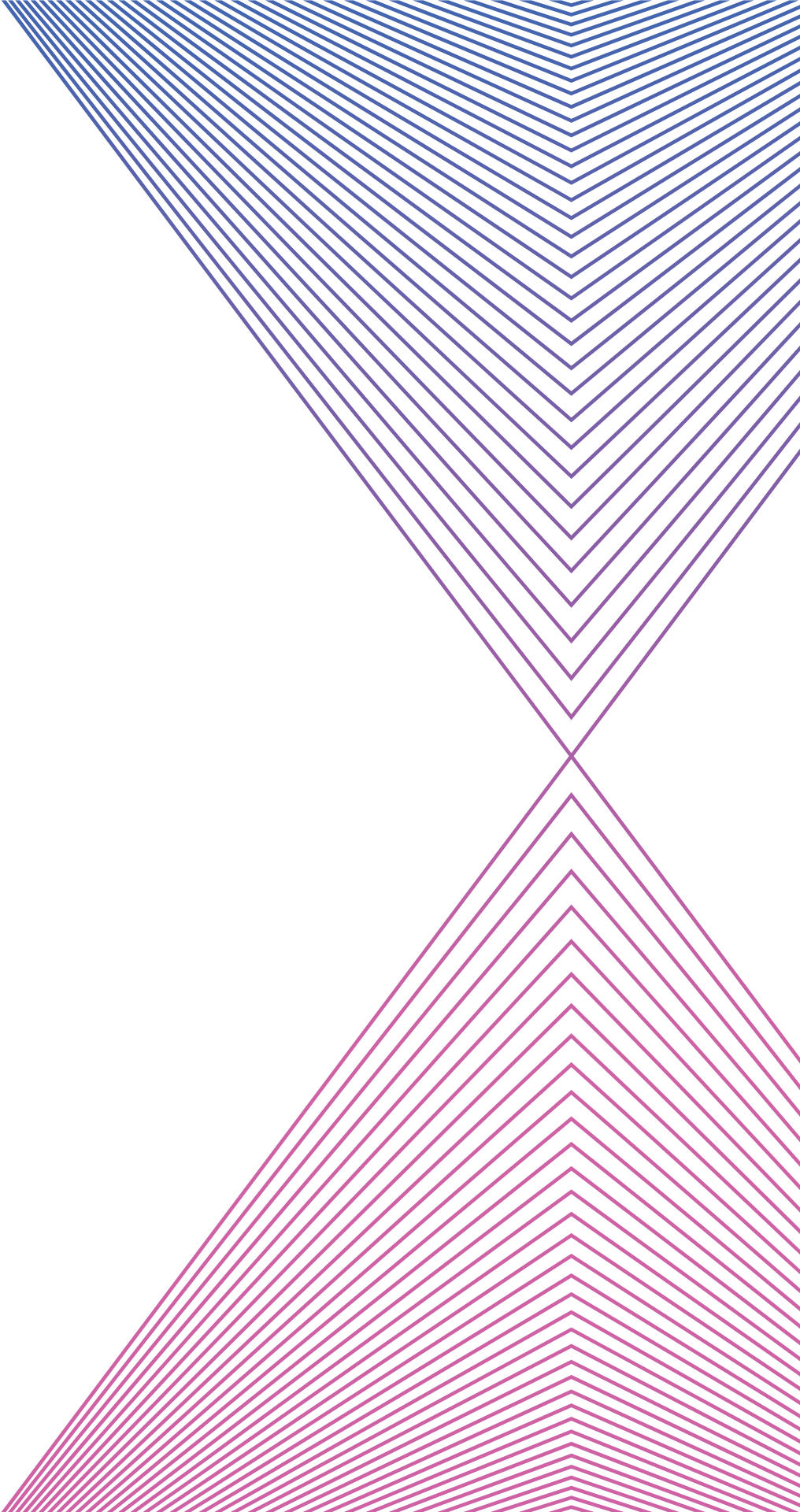
Booster Sessions

For many clients, the benefit of the BDAT will be to open up a dialog about gambling and to reinforce corrective information that can aid in healthy decision-making. Also, additional time may be required to complete all of the debiasing exercises, if desired by the client. Furthermore, it may be useful to revisit this information and the exercises periodically. For this reason, additional booster sessions to explore and reinforce the information presented can be useful. The structure of these sessions may follow the initial BDAT session closely, selecting one or more of the exercises to be added or repeated. This would involve ongoing demonstrations of the debiasing exercises to reinforce an accurate understanding of the chances of winning. Repeating the Information Gathering and Brief Assessment step provides an ongoing record of change in mood, beliefs, urge, and readiness. Finally, reviewing and making modifications to the My SMART Goals handout could help the client stay on top of their goals and problem-solve to increase their chances of success. The frequency of booster sessions should be determined along with the client based on their schedule. It is recommended that sessions be more frequent in the beginning (e.g., weekly, biweekly) and then become less frequent later on (e.g., monthly, quarterly).

APPENDICES
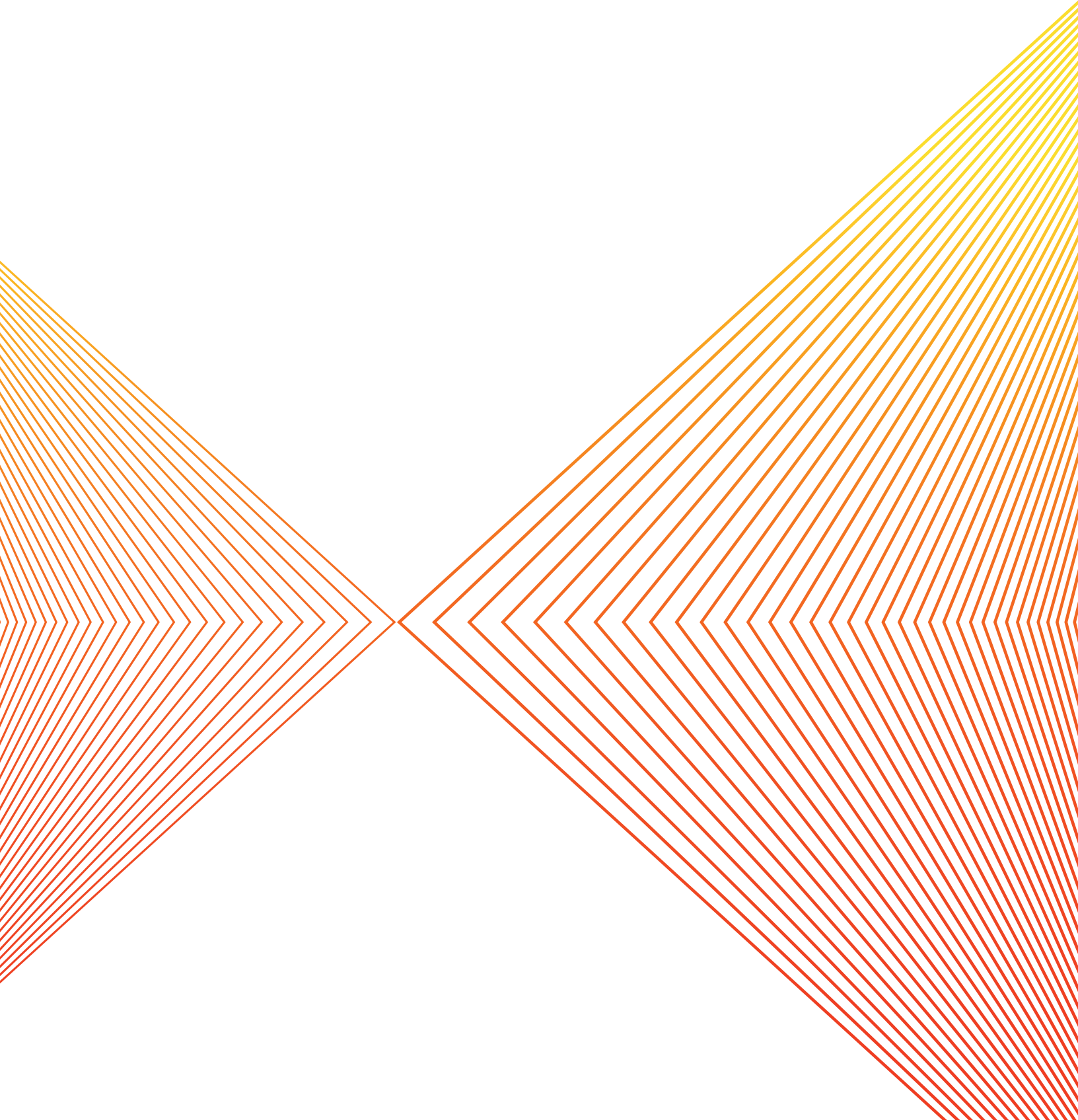
Appendix A

PROVIDER FORMS

Initial Gambling Information Form

PROVIDER: Administer this form during the first session. Afterward, you may readminister the form on an as-needed basis to track changes in gambling.

1. Which types of gambling have you done in the past year? Which do you prefer the most (i.e., which do you do most frequently)? (Check all that apply):

Types of Gambling	Past Year?	Preferred?
Scratch-off tickets or other lottery games		
Slot machines, poker machines, or other electronic gaming machines (EGMs)		
Cards (e.g., poker, blackjack, Pai Gow)		
Other casino gambling (e.g., roulette, prize wheel)		
Internet gambling		
Sports events		
Dice games		
Horse racing or dog racing		
Bingo (for money)		

2. If you had to estimate, how many **days** did you **gamble** on over the **past month**? _____

3. How much money do you normally **spend** on **gambling** each month? (Multiply monthly average by twelve for yearly average):
   Average amount spent on gambling: _____ per month _____ per year

4. How long have you been gambling?   _____
   At what age did you start gambling?   _____

5. What concerns, if any, do you have about your gambling? _____

_____

_____

Additional Details: _____

_____

_____

_____

Signs of Problem Gambling

DIRECTIONS: Administer the following 20 questions that pertain to the past year of gambling. Sum the number of "Yes" responses to obtain a total score.

1. In the past year, have you ever lost time from work or school due to gambling?   ☐ Y   ☐ N

2. In the past year, has gambling made your home life unhappy?   ☐ Y   ☐ N

3. In the past year, has your gambling affected your reputation?   ☐ Y   ☐ N

4. In the past year, have you felt sorry after gambling?   ☐ Y   ☐ N

5. In the past year, have you gambled to get money with which to pay debts or otherwise solve financial difficulties?   ☐ Y   ☐ N

6. In the past year, has gambling caused you to lose motivation?   ☐ Y   ☐ N

7. After losing did you feel you must return as soon as possible and win back your losses?   ☐ Y   ☐ N

8. After a win did you have a strong urge to return and win more?   ☐ Y   ☐ N

9. In the past year, did you ever gamble until all your money was gone?   ☐ Y   ☐ N

10. In the past year, have you borrowed money to finance your gambling?   ☐ Y   ☐ N

11. In the past year, have you sold anything to get money for gambling?   ☐ Y   ☐ N

12. Did you try not to use "gambling money" for normal bills?   ☐ Y   ☐ N

13. In the past year, has gambling made you not take good care of yourself and your family?   ☐ Y   ☐ N

14. In the past year, did you gamble longer than you had planned?   ☐ Y   ☐ N

15. In the past year, have you gambled to "get away" from your problems?   ☐ Y   ☐ N

16. In the past year, have you done or thought about doing something illegal to get money for gambling?   ☐ Y   ☐ N

17. In the past year, has gambling caused you to have sleep problems?   ☐ Y   ☐ N

18. In the past year, have you wanted to gamble after you got some bad news or got mad or had a fight with someone?   ☐ Y   ☐ N

19. In the past year, have you wanted to gamble after you got some good news?   ☐ Y   ☐ N

20. In the past year, have you thought about hurting or killing yourself because of gambling?   ☐ Y   ☐ N
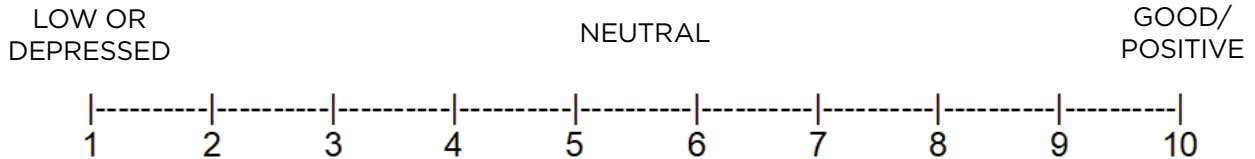
❶ IMPORTANT: If client answers "Yes," to ensure client safety follow local policies and procedures for suicide risk assessment and/or immediately consult with a suicide prevention coordinator or other qualified medical or mental health professional.

NOTE: Questions adapted from "The 20 Questions of Gamblers Anonymous" retrieved from Gamblers Anonymous at http://www.gamblersanonymous.org/ga/content/20-questions.
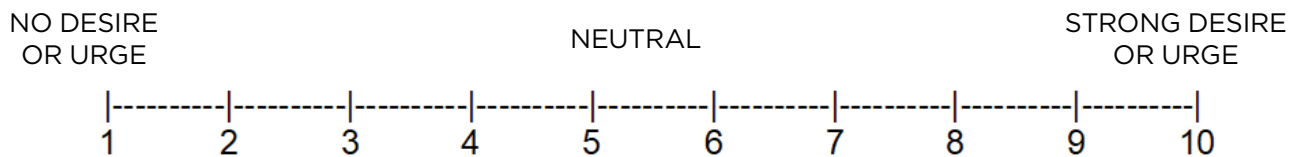
Pre-session Rating Form

PROVIDER: Administer this form at the beginning of every BDAT session.
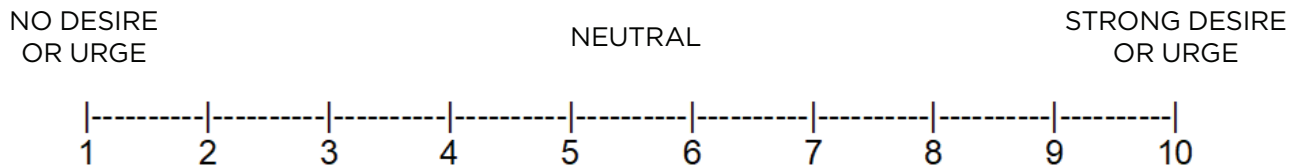
1. On how many **days** did you **gamble** over the past week? _____

2. In the past week, how much **money** did you **spend** on gambling? _____

3. On a scale from 1 - 10, what was your **overall mood** this past week? (1 being very low or depressed and 10 being very good or positive):
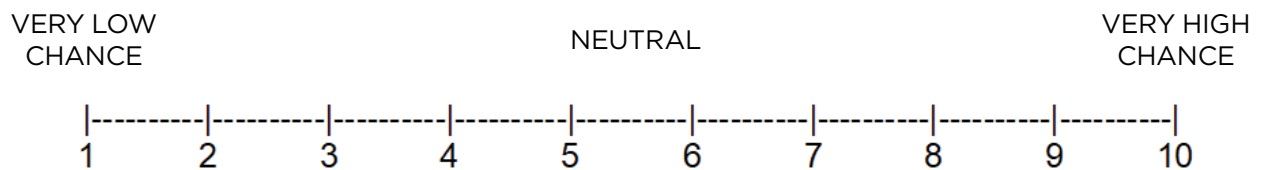
LOW OR DEPRESSED	NEUTRAL	GOOD/ POSITIVE

|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
1   2   3   4   5   6   7   8   9   10

4. On a scale from 1 - 10, how strong was your **desire or urge** to gamble during the **past week**? (1 being no desire or urge and 10 strong desire or urge):

NO DESIRE OR URGE	NEUTRAL	STRONG DESIRE OR URGE

|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
1   2   3   4   5   6   7   8   9   10

5. On a scale from 1 - 10, how strong is your **desire or urge** to gamble **right now**? (1 being no desire or urge and 10 strong desire or urge):

NO DESIRE OR URGE	NEUTRAL	STRONG DESIRE OR URGE

|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
1   2   3   4   5   6   7   8   9   10

6. On a scale from 1 - 10, what are the **chances of winning** while playing your preferred method of **gambling** (e.g., scratch-off lottery tickets, slot machines)?

VERY LOW CHANCE	NEUTRAL	VERY HIGH CHANCE

|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
1   2   3   4   5   6   7   8   9   10

7. On a scale from 1 - 10, how ready are you to **make changes** to your **gambling** behavior (e.g., reducing time, cutting back, or quitting)? (1 being not at all ready to make a change and 10 being ready and willing to make a change):
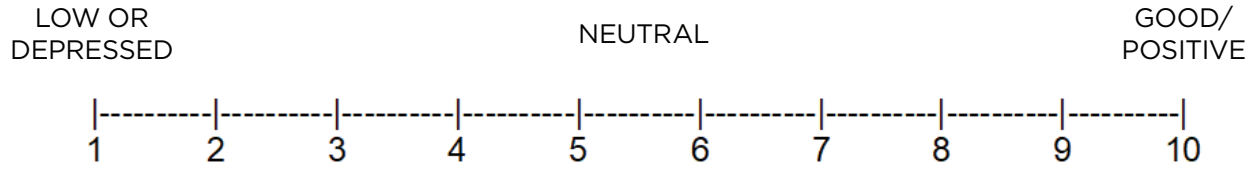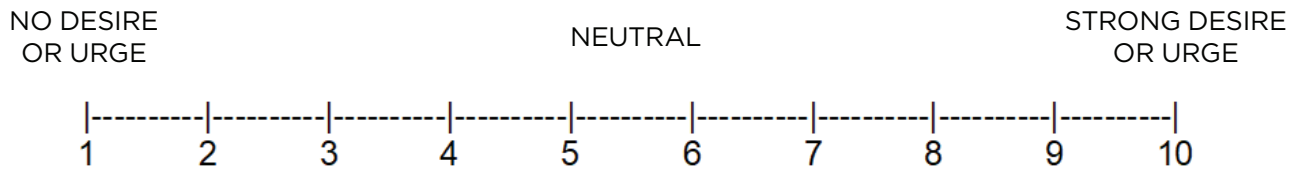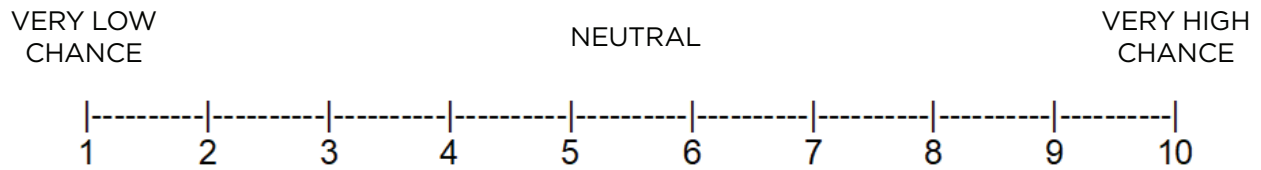
NOT AT ALL READY	UNSURE	READY AND WILLING

|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
1   2   3   4   5   6   7   8   9   10

Post-session Rating Form

PROVIDER: Administer this form after Step 2 of every BDAT session.

1. On a scale from 1–10, how strong is your **desire or urge** to gamble **right now**? (1 being no desire or urge and 10 strong desire or urge):

| NO DESIRE OR URGE | | | | NEUTRAL | | | | STRONG DESIRE OR URGE |

```
|---------|---------|---------|---------|---------|---------|---------|---------|---------|
1         2         3         4         5         6         7         8         9        10
```

2. On a scale from 1 - 10, what are the **chances of winning** while playing your preferred method of **gambling** (e.g., scratch-off lottery tickets, slot machines)?

| VERY LOW CHANCE | | | | NEUTRAL | | | | VERY HIGH CHANCE |

```
|---------|---------|---------|---------|---------|---------|---------|---------|---------|
1         2         3         4         5         6         7         8         9        10
```

3. On a scale from 1–10, how ready are you to **make changes** to your **gambling** behavior (e.g., reducing time, cutting back, or quitting)? (1 being not at all ready to make a change and 10 being ready and willing to make a change):

| NOT AT ALL READY | | | | UNSURE | | | | READY AND WILLING |

```
|---------|---------|---------|---------|---------|---------|---------|---------|---------|
1         2         3         4         5         6         7         8         9        10
```

4. What, if anything, have you learned about your gambling or gambling in general during this session? (Record client's response below):

_____

_____

_____

_____

_____

_____

Appendix B

CLIENT HANDOUTS

Answer Options

A.

LOW OR
DEPRESSED   NEUTRAL   GOOD/
                                                                 POSITIVE

|---------|---------|---------|---------|---------|---------|---------|---------|---------|
1   2   3   4   5   6   7   8   9   10

B.

NO DESIRE
OR URGE   NEUTRAL   STRONG DESIRE
                                                               OR URGE

|---------|---------|---------|---------|---------|---------|---------|---------|---------|
1   2   3   4   5   6   7   8   9   10

C.

VERY LOW
CHANCE   NEUTRAL   VERY HIGH
                                                               CHANCE

|---------|---------|---------|---------|---------|---------|---------|---------|---------|
1   2   3   4   5   6   7   8   9   10

D.

NOT AT ALL
READY   UNSURE   READY AND
                                                              WILLING

|---------|---------|---------|---------|---------|---------|---------|---------|---------|
1   2   3   4   5   6   7   8   9   10
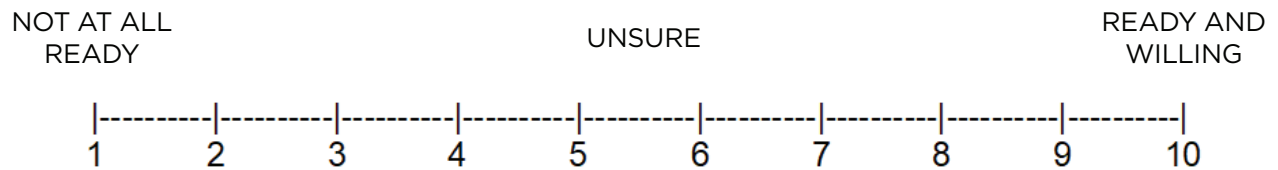
Digital Gambling Accelerator Exercises

DIRECTIONS: Complete one or more of the exercises using the digital gambling accelerator and write your findings below:

Exercise 1:

_____

_____

_____

_____
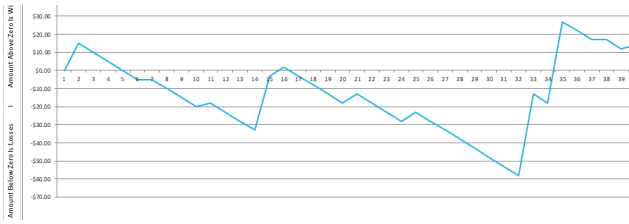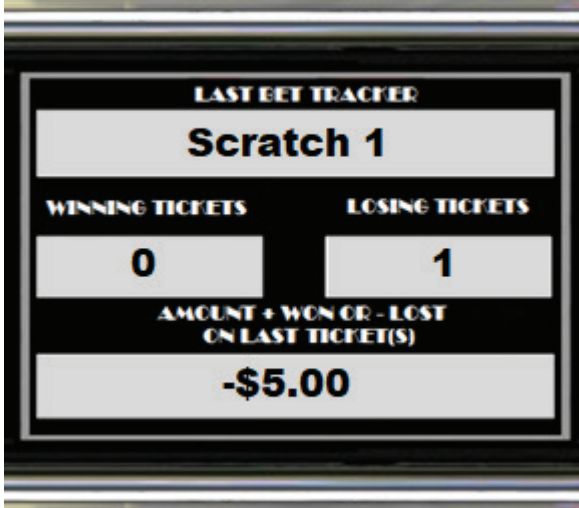
Exercise 2:

_____

_____

_____

_____

Exercise 3:

_____

_____

_____

_____

Exercise 4:

_____

_____

_____

_____

Additional Findings:

_____

_____

_____

_____

_____

_____

Digital Gambling Accelerator Legend

Name and Icon	Image
Total Cash Box	TOTAL CASH **-$14.00**
Total Cash Tracker	
Overview Chart	
Last Bet Tracker	

Overview Chart

Tickets	Prize	Total Cash	Time
1	20	$15.00	0:00:09
2	0	$10.00	0:00:17
3	0	$5.00	0:00:26
4	0	$0.00	0:00:35
5	0	-$5.00	0:00:43
6	5	-$5.00	0:00:52
7	0	-$10.00	0:01:00
8	0	-$15.00	0:01:09
9	0	-$20.00	0:01:18
10	7	-$18.00	0:01:26
11	0	-$23.00	0:01:35
12	0	-$28.00	0:01:44
13	0	-$33.00	0:01:52
14	35	-$3.00	0:02:01
15	10	$2.00	0:02:10
16	0	-$3.00	0:02:18
17	0	-$8.00	0:02:27
18	0	-$13.00	0:02:36
19	0	-$18.00	0:02:44
20	10	-$13.00	0:02:53
21	0	-$18.00	0:03:01
22	0	-$23.00	0:03:10
23	0	-$28.00	0:03:19
24	10	-$23.00	0:03:27

Last Bet Tracker

Scratch 1

WINNING TICKETS	LOSING TICKETS
0	1

AMOUNT + WON OR - LOST ON LAST TICKET(S)

-$5.00

My SMART Goals

SPECIFIC ▶ What specific changes would you like to make concerning your gambling?_____
_____
_____

MEASURABLE ▶ How will you know if you have achieved the changes you are setting out to make?_____
_____
_____

ACHIEVABLE ▶ Are the changes you would like to make within your power to make? Are you likely to be successful?_____
_____
_____

REALISTIC ▶ How realistic is are the changes you would like to make (given the timeline you have set out to achieve)?_____
_____
_____

TIMELY ▶ When would you like to begin making the changes? At what point would you like to have achieved the changes completely?_____
_____
_____

Client Handout

Additional Resources List

- If you are a Veteran in crisis—or you're concerned about one—free, confidential support is available 24/7. Call the Veterans Crisis Line at ☎ 1-800-273-8255 and Press 1.

- Ask a VHA provider or other mental health professional about resources for problem gambling. These may include screening, diagnostic assessment, education, treatment, and/or referral to other programs.

- Download a copy of the free gambling education workbook titled "The Safest Bet: A Veteran and Providers Guide to Understanding Problem Gambling" (Broussard & Deavers, 2019) from the South Central MIRECC website or ask your clinician for a printed copy, if available. https://www.mirecc.va.gov/visn16/

- Contact the National Council for Problem Gambling (NCPG) for additional resources and referrals: www.ncpgambling.org

- Examine the GA website to locate meetings, find important readings on topics related to problem gambling, or to chat with another person in recovery for gambling issues: www.gamblersanonymous.org

- For a list of local GA meetings, please visit: http://www.gamblersanonymous.org/ga/

- The Canadian Centre for Addiction and Mental Health has many excellent self-help tools, including ways to monitor your gambling and urges: www.problemgambling.ca

Appendix C

DEBIASING EXERCISES
FREQUENTLY ASKED QUESTIONS

Brief Digital Accelerator Treatment for Gambling Debiasing Exercises Frequently Asked Questions

by James D. Broussard, Ph.D.

What follows are some of the most frequently asked questions that clients have while completing the debiasing exercises on the digital gambling accelerator. The questions are arranged in order from most to least common. Though they will not come up with every client, we recommend reviewing the list to be prepared. Also, this is not an exhaustive list. Therefore, if a client asks a question about the exercises that is not included in the list and that you cannot answer yourself, be honest! Games of chance and the principles which underlie them can be VERY complicated and these concepts can also be difficult to explain accurately. In such situations, tell the client that you are happy to answer their question and that you will have to consult with colleagues to do so. Feel free to contact the authors of the BDAT for help. If a question is being asked frequently, we will add the question and a response to the FAQ during future updates.

❷ QUESTION 1: Isn't this just rigged to make me think I can't win?

The information and odds presented in the digital gambling accelerator are taken from the real odds displayed for similar denomination scratch-off tickets from state lottery websites. A random number generator, which is how game manufacturers produce these tickets, is used to generate the outcomes of each ticket. Additionally, the digital gambling accelerator has an internal feature that ensures the overall odds of long sequences of tickets approximate the real odds. All of these steps ensure that the experience you are receiving is as accurate as possible. However, if you or your clinician identify any flaws in the information that you receive, we ask that you contact us so that we can make the necessary changes to correct the error. If this happens, we will release an updated version of the program.

Additionally, it can be helpful to know that it is considered unethical for researchers and clinicians to intentionally mislead clients or to knowingly provide misleading information to the public. Keep in mind that while

researchers and clinicians are bound by professional ethics, standards of scientific research, and processes such as peer review, there are no such standards or policies in place for most game manufacturers and gambling establishments. These organizations often closely guard their proprietary information and sometimes intentionally mislead the public into believing things about their games which are not accurate, especially relating to the chances of winning.

❓ QUESTION 2: How can I learn about my form of gambling (e.g., blackjack, slot machines) by playing through thousands of these digital scratch-off tickets?

As discussed at the beginning of Step 2, some clients will say that the game of chance they normally play is better or that they have more control over the outcomes compared to scratch-off tickets. This relates to the illusion of control. All the added betting options and rules contained in other games of chance are present to make you THINK you can beat the house. The truth is that every single game of chance is created so that there is a house advantage. Some games of chance indeed have LESS of a house advantage than others. It is also true that some games have rules that can be optimized so that the house advantage is less. The best example is blackjack. Gamblers can maximize their odds by playing according to some very specific rules which vary based on the specifics of the game of blackjack (e.g., number of decks, dealer hits or stands on soft 17, surrender rules). Indeed, there are 6,912 possible rule combinations in the game of blackjack (The Wizard of Odds, 2019). The player rules are based on the probabilities of drawing certain cards under these differing conditions, and the player rules are very rigid for optimal play. For every possible hand, the player rules tell you whether to hit, stand, double down, split, or surrender. Using optimal player rules for one of the common blackjack variants, a gambler can reduce the house advantage to precisely 0.43096% (The Wizard of Odds, 2019). However, even with all this work to optimize play, the odds are still against you. The chances of winning are 49.6% for the player and 50.4% for the house. The point of all this is that there is no such thing as a "winning strategy" in any game of chance. There are only approaches which allow you to lose less quickly.

There is, in fact, an optimal rule for the digital gambling accelerator which will maximize your odds. Play only the more expensive scratch-off tickets! These tickets have slightly better odds as you can see on the Ticket Prizes and Odds sheet. However, all this strategy does is generate a Total Cash Line that is less steep than for lower denomination tickets. You lose money more slowly over time, but you still lose! The concepts of the house advantage, independence of events, and the law of large numbers apply to ALL games of chance. Rather than focusing on the specifics of a particular game of chance, it is more important to focus on the odds of these games and the fact that you cannot ever beat the house in the long run!

❓ QUESTION 3: I know I spend a lot of money on gambling, but if I hit the jackpot I will win all my money back and come out ahead. Shouldn't I just keep on playing until it happens?

Exercise #3 and Exercise #4 try to address this question, but some clients still may not truly grasp the full extent of the odds of most jackpots. You would need to spend many times more than the jackpot prize to have a reasonable chance, on average, at getting a jackpot at all. You can calculate this value easily by multiplying the odds of the jackpot by the cost of the ticket. Afterward, divide this "average cost" value by the amount of the jackpot. For the $30 scratch-off ticket used by the digital gambling accelerator, the prize is $10 million and the odds of this outcome are 1 in 3,312,480. This means, on average, you would have to purchase around 3,300,000 tickets before getting a jackpot. The cost of 3,300,000 tickets at $30 apiece is $99 million. Thus, to have a reasonable chance of winning a $10 million prize on a $30 scratch-off ticket, you would have to spend $100 million, a factor of 10 times the amount of the prize. By the time you played even a tenth of the average number of tickets necessary to receive a jackpot, you would already be so far in the hole that the jackpot wouldn't even make a difference.

The reason so many clients struggle with this concept is that numbers like 3 million, to most people, are completely abstract. We hear about things in the millions and billions all the time, but most people can't grasp what these numbers actually represent. One million dollars doesn't sound like all that much

when you see it on TV or hear about it being part of a giveaway. We think we know what one million dollars means. However, if you were to collect one million one-dollar bills and then counted them out one at a time at one second per bill, it would take you 12 days of non-stop counting to finish! Thus, most people cannot truly grasp just how much "stuff" is represented by one million of anything. This is why odds of 1 in 1,000,000 seem possible to many. It is equivalent to saying the odds are 1 in a whole bunch. Even simulating a million tickets on the digital gambling accelerator would take approximately 66 hours of accelerated play! What this shows is that most people, even over years of gambling, cannot match these enormous frequencies of bets necessary to have anywhere close to the average number needed for a jackpot. And this doesn't factor in the chances that a jackpot will not occur at all in that time. However, the take-home point is that the investment necessary to receive a jackpot prize is much greater than the prize itself, even factoring in all the smaller prizes that are won along the way.

❓ QUESTION 4: What about the person that rarely gambles who walks into a casino, plays for a few minutes, and wins the jackpot? Doesn't that disprove this whole exercise?

The question relies on the availability bias. The fact that someone wins the jackpot makes it seem like it is more likely that you yourself can win the jackpot. Let us put this into perspective. If 33,000 people go to a casino for a few minutes and play a slot machine that has a jackpot with odds of 1 in 1,000,000, then, on average, one person will win the jackpot. So yes, one person can go and play for a few minutes and by sheer random chance walk away with a jackpot. However, for every one person that wins a jackpot in this manner, 32,999 walk away without any jackpot prize. We hear about, read about, and focus our attention on the jackpot winner, but nobody spends their time focusing on how many non-winners there are. It would be something if each of those that did not get a jackpot got their name in the newspaper instead. In fact, if a newspaper did print those names, with an average of 40 pages and 1000 words per page, it would require two full 40 page long newspapers to print all the names of those that did not get the jackpot! Also, these papers would need to be produced every three minutes to keep up.

❓ QUESTION 5: But I've had several big wins in the past! How could I have won so much if such wins are as rare as you say they are?

It is an empirical phenomenon that many problem gamblers have experienced a large win or jackpot early on in their gambling history. This is often what solidifies the belief that a person can win tons of money by gambling. This is once again a result of the availability bias. Big wins stand out in memory much more than small and frequent losses. Wins, especially big wins, stand out in memory because they are exciting and because they are rare. Our memories are said to be biased to events that are high in emotion and somewhat infrequent. As soon as an event becomes more frequent, it stands out less and is not as memorable. This is compared to the thousands of small and seemingly insignificant losses which are almost immediately dropped from memory. However, when all those "forgotten" losses are added up, they outweigh the wins, no matter how memorable the wins are. What is more important than having a big win or whether a client has won a jackpot is to compare the big wins to the overall losses that have occurred. If gamblers spent the time to track their wins and losses across each gambling session, they would see a pattern similar to what is observed on the Total Cash Tracker . The wins do not make up for the losses!

❓ QUESTION 6: But I bought a guide from a professional gambler online, and they won millions of dollars on gambling using a special strategy. Won't this help me win for sure?

The professional gambler who is a millionaire that sells you their winning strategy online is a millionaire from selling millions of gamblers their winning strategy online, gambling is just their hobby! We have come across some so-called "strategies" that can allow a person to overcome the house advantage. These "strategies" involve exploiting weaknesses in the design or implementation of games of chance, getting gaming officials to modify their rules, or identifying flaws in security measures which allow someone to "spot the winners." These strategies often require painstaking and sustained effort, large investments of money, specialty knowledge and skills, teams of trained collaborators, and sophisticated plans of execution. These methods have

nothing to do with gambling, they are more about finding systematic error or human error elements in systems which can then be manipulated. And for each team of people trying to beat the system, there are three teams of people paid specifically to ensure this doesn't happen. For the average gambler that plays the game "straight" so to speak, there is no such thing as a strategy which can overcome the house advantage. If you did discover such a strategy, it would be very obvious to those whose job it is to spot such things. They would know because of the simple observation that you would win in the long run. The operators of the game would then put you on the banned list and then change the rules or modify the game to make sure nobody else could use your strategy.

❓ QUESTION 7: What if you only play the tickets at the end of the roll like I do? Don't you have a better chance of winning?

Versions of this same question include a multitude of different strategies meant to increase the odds of winning. Examples include the following: I only play tickets at the beginning of the roll... I only play tickets in the middle of the roll... I only play tickets if there hasn't been a big win in several months... I only play tickets the day after payroll checks go out... I only play tickets on weekdays... I only play tickets on weekends... I only play tickets from the convenience store and not from the vending machine... I only play tickets from the vending machine and not from the convenience store...

These strategies are all part of the illusion of control. The rationale for how these different strategies can increase the chances of winning are usually based on a misunderstanding of the distributions of winning tickets. Winners aren't distributed evenly within rolls of tickets. The actual printing process is proprietary information, but some information on this process is available to the public. To the best of my knowledge, the odds of a ticket being a winner is randomly assigned to each individual ticket being printed using a complex computer algorithm. The computer doesn't track tickets by the roll or in any way change the algorithm based on how many tickets go through the printer. The algorithm stays the same for every ticket and the chances of that ticket being a winner are based on the odds which are programmed into the algorithm. The only exception is that the algorithm will not allow too many large

wins to be printed within a certain timeframe. If the process were completely random, it is possible that several jackpot tickets could go out during a single episode of production (of thousands or hundreds of thousands of tickets). This would cause problems for the lottery, so they remove this possibility. Keep in mind that this doesn't help the player, it actually lowers the odds! The algorithm doesn't ensure that a jackpot will occur in a particular episode of production; they just put a cap on the number that is possible. If you examine the Prize Column of the Overview Chart on the digital gambling accelerator, you will see evidence that wins are not equally distributed throughout the sequence of tickets in terms of 50, 100, or 150 ticket "rolls." Wins are randomly distributed across the entire sequence of tickets which will closely approximate the odds represented by lottery agency algorithms.

❓ QUESTION 8: I already know the odds of winning are terrible, and I gamble all the time anyway. How can this help me?

There is a phenomenon identified in the research literature which can give insight into this problem. The double-switching hypothesis suggests that some gamblers are able to report a sincere belief that the chances of winning are poor when they aren't experiencing an urge or are in a "cold" emotional state. However, when activated or emotionally aroused, their beliefs about gambling change. They will entertain the thought that the chances of winning are good. Otherwise, they ignore their more rationale beliefs and engage in gambling anyway. Once they are done, their emotional arousal subsides and they are once again left with their belief that the chances are terrible. The exercises on the digital gambling accelerator have been shown not only to reduce clients' beliefs about the chances of winning but also to reduce their urges to gamble. By reducing their urge, we hypothesize that individuals are more likely to maintain their belief that the chances of winning are poor which in turn reduces their gambling behavior.

Appendix D

DIGITAL GAMBLING ACCELERATOR
OFFLINE SETUP AND TROUBLESHOOTING

Setting up for the Digital Accelerator Program in Microsoft Excel

The gambling accelerator program is available as a web app for the South Central MIRECC website. If you are not able to access the internet regularly or cannot access the web app for the Digital Gambling Accelerator due to networking limitations, you may download a local copy of the digital gambling accelerator workbook which runs offline in Microsoft Excel. We recommend running the workbook on a version of Microsoft Excel (2010 or later) installed directly on the computer. Some cloud-based programs cannot run macros, which would prevent the workbook from working.

Installation Instructions:

1. Download the most current version of the digital gambling accelerator macro-enabled Excel spreadsheet.

2. Open the spreadsheet by double-clicking on the icon.

3. The program should automatically open in the currently installed version of Microsoft Excel running on your PC.

4. There may be one of several dialog boxes which open. Depending on which dialog boxes open and which version of Microsoft Excel you are running, different steps must be taken. See the following:

   A. If macros have been disabled and you are not able to change the macro security settings, it might be because an administrator in your organization has changed the default settings to prevent modifications. If this is the case, get in touch with a systems administrator to make changes to your security setting so you can use a macros-enabled spreadsheet.

   B. If you have administrative privileges, for more recent versions of Microsoft Excel, to change the macro security settings, select the Developer tab and in the Code group, then click Macro Security. In the Macro Settings category, under Macro Settings, click the option that you want. For earlier versions of Microsoft Excel (2010 or 2016), click Options and go to the Trust Center. From there, you can modify the security settings to allow macro-enabled workbooks to be opened.

5. Now you will need to adjust the size of the workbook. Go to View and uncheck headings and formula bar. Depending on the size of your monitor, you may

need to zoom in or out on the spreadsheet to be able to see all of the displays. When correctly adjusted, you should be able to see both the vendor interface and Total Cash Tracker from top to bottom. You can also enter full-screen mode to hide the Excel ribbons and command boxes at the top of the page. To do so in newer versions of Excel, select ribbon display options in the button group in the upper right corner of the page, and then select the auto-hide ribbon command. To exit full-screen mode, click the ellipsis in the upper right hand corner of the screen, go back to ribbon display options and select show tabs and commands. In earlier versions of Microsoft Excel, to enter full-screen mode, go to View and select Full Screen in the Workbook Views category. To exit full-screen mode, simply minimize the screen.