BCLC'S VOLUNTARY SELF-EXCLUSION PROGRAM FROM THE PERSPECTIVES AND EXPERIENCES OF PROGRAM PARTICIPANTS

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Introduction

Gambling is a common pastime for British Columbians, with 73% of adults in 2014 reporting past-year gambling (R.A. Malatest & Associates Ltd, 2014). Unfortunately, for approximately 3% of this population, gambling becomes more than just a pastime and problem symptoms can begin to emerge, such as difficulties in limiting the amount or time spent on gambling (Gainsbury, 2014). One avenue of support for gamblers developing problematic relationships with gaming is the self-exclusion program operated by the British Columbia Lottery Corporation (BCLC). The *Voluntary Self-Exclusion* program assists those who desire to take a "time-out" from gambling by providing opportunities to self-exclude from British Columbian casinos and bingo halls, as well as the online PlayNow site, for periods ranging from six months to three years. The program is free of cost and provides opportunities to connect those who desire additional supports with free problem gambling counselling. Upon entering into a self-exclusion agreement with BCLC, the gambler agrees not to attempt to enter any casinos, bingo halls, or horse racing facilities where slots are present for the agreed upon period of time. In turn, BCLC agrees to remove the gamblers name and address from their mailing list, remove their Encore Rewards Card, prevent them from gambling at the official PlayNow.com site, and attempt to detect and prevent them from entering gaming floors in British Columbia.

Although not explicitly designed for those considered moderate or high-risk problem gamblers, the majority of gamblers accessing this program are likely to meet these conditions (Hayer & Meyer, 2011; Ladouceur, Jacques, Giroux, Ferland, & Leblond, 2000; Ladouceur, Sylvain, & Gosselin, 2007). A previous study by Verlik (2008) with 300 self-excluded participants in seven Canadian provinces reported that two-thirds (68 per cent) of those who self-exclude were at high-risk for problem gambling and nearly another one-fifth (17 per cent) were at moderate risk. The 2014 gambling prevalence study identified a decrease in the number of British Columbians considered to meet the threshold for either moderate or high-risk problem gambling from 4.6% of the province in 2008 (approximately 159,000 British Columbians) to 3.3% in 2014 (approximately 125,000). In 2014, another 7.9% of the surveyed population met the low-risk level of problem gambling (R.A. Malatest & Associates Ltd, 2014). These prevalence statistics suggest that there is a large number of people in British Columbia that could potentially benefit from enrolling in BCLC's self-exclusion program.

The main objective of this current study is to review BCLC's Voluntary Self-Exclusion (VSE) program from the perspectives of participants. In any evaluation of this type of program, it is important to collect data on program utilization rates, the percent of participants who refrained from attempting to re-enter gaming facilities during their exclusion, and the effects of the program on overall gambling behavior (Williams, West, & Simpson, 2007). In this particular study, the research questions included these critical issues, but also collected data on the demographic characteristics of VSE program enrollees and how VSE participants differed from a random sample of non-VSE gamblers, changes in gambling activities and gambling problem symptoms over the course of exclusion, attempts to violate the VSE agreement while enrolled in the program, and the proportion of participants who partook in some form of gambling counselling. Participants also provided feedback on potential methods to strengthen the program. While some may consider the

effect on overall gambling behavior as an indicator of program success (e.g. Williams, West, & Simpson, 2012), it is important to qualify that the VSE program is not designed to prevent all forms of gambling activity. Rather, it is designed to reduce gambling in organized gaming centres (casinos, bingo halls, community gaming centres with slot machines) and on the official PlayNow.com site, but is not intended to effect other forms of gambling, including the purchase of lotto tickets or playing Keno, gambling on unregulated gaming sites, or informal gaming activities, such as participating in house games.

This report provides the summary findings from the point of enrollment in the VSE to one year post-enrollment. Some in-depth qualitative feedback from program violators on motivations for violations are also included. The report also provides comparative statistics between the VSE sample and a sample of non-VSE gamblers. Based on these three sources of information, this report concludes with a number of recommendations to strengthen the utility and effectiveness of the VSE program. Of note, this is the second longitudinal review of BCLCs Voluntary Self-Exclusion program to be conducted, with the first being conducted between 2007 and 2010 (Cohen, McCormick, & Corrado, 2011).

Methodology

The methodology for this project involved recruiting participants of British Columbia's VSE program as they were enrolling in the program. During the enrollment process, security staff provided the participant with a summary of the project and asked if they would be interested in participating in a study evaluating key aspects of the VSE program. If they were interested, the participant signed a consent form that the security staff then mailed directly to the researchers at the University of the Fraser Valley. A package with information about the study was also provided to those who enrolled in the program, but did not wish to sign up for the study at that time. This allowed potential participants to consider at a later date whether they wished to participate in the study and mail their own signed consent form via the self-addressed stamped envelope included in the VSE program package to the University of the Fraser Valley.

Once consent forms were received at the University, they were entered into a secure database where each participant was assigned a unique code number that remained with them for the duration of the study. Participants were contacted within a few days of the researchers receiving the consent form via the preferred manner indicated by the participant (telephone and/or email) with an invitation to set up their first telephone interview with a trained university researcher. All interviews were conducted within one month of the participant's enrollment in the program; any consent forms received beyond this date or interviews that could not be scheduled prior to this date resulted in the participant being removed from the study.

The first round of interviews (Time 1) took approximately 45 minutes to complete and mainly consisted of collecting background information from the participant, such as their demographic information, previous experiences with gambling, and previous experiences in self-exclusion programs. Following the conclusion of the interview, the interviewer recorded the participants name and mailing address on a separate piece of paper that they used to mail out a VISA card as an honorarium. Attempts were made to contact each participants again for a Time 2 and Time 3

interview. Each interview was conducted approximately six months apart, with the Time 2 and Time 3 interviews focusing on the participant's behaviour experiences since exclusion. Participants were compensated with a $50 gift card for each of the Time 1 and Time 2 interviews, and a $100 gift card following the Time 3 interview.

Interview Study Sample

In an eight-month period from June 2013 to February 2014, a total of 472 consent forms were mailed to the researchers at the University of the Fraser Valley from casinos, commercial bingo halls, community gaming centres, or counsellors offices across the province. In total, 146 participants subsequently withdrew their consent when the research team attempted to contact them. For example, 80 participants were unreachable at the telephone number or email address provided, 37 had changed their mind about participating, 15 participants spoke to the research team and arranged for their initial interview but then were not available when the researcher called, and 14 consent forms were received beyond the one-month time limit to be enrollment in the study.

Overall, 326 participants completed the Time 1 interview. The vast majority also completed the Time 2 interview six months later (n = 269; 83%), as well as the Time 3 interview one year after their first contact with the research team (n= 235; 72%).

STUDY RECRUITMENT RATE

BCLC maintains monthly statistics on the total number of enrolled participants in the VSE program, as well as in the PlayNow exclusion option. When participants enroll in the PlayNow exclusion option, they are only excluded from online gaming; however, when participants enroll in the VSE program through the casino, community gaming centre, bingo hall, BCLC headquarters, or through a counsellor, their enrollment applies both to brick-and-mortar gaming facilities and the online PlayNow program. The data provided in this study was collected about people recruited through the brick-and-mortar facilities; therefore, all subsequent comparisons will exclude those who enrolled only in the PlayNow online option.

According to enrollment statistics provided by BCLC for the eight-month period of June 2013 and February 2014, on average, nearly 6,700 British Columbians were enrolled in the VSE program in each typical month. A typical month would see approximately 339 new British Columbian's enrolling in the VSE program, 270 of whom specifically enrolled through the casino option. Over this eight-month period, a total of 3,103 British Columbian's began a new enrollment in the VSE program, with the vast majority (2,513 program participants, or 81%) specifically enrolling through the casino.

When comparing project recruitment with overall program enrollment across this 8-month period, the current study initially recruited 15% of all program participants, and conducted at least one interview with approximately 11% of all program participants. When compared specifically to those enrolling through the casino, which is primarily where the current sample originated from, the study initially recruited 19% of all British Columbian's enrolling in British Columbia's VSE

program directly through the casino, and conducted at least one interview with 13% of casino-originated program participants. Demographic characteristics of VSE participants who did not enroll for this study were not available, thus the researchers were unable to determine whether there were any important characteristics differentiating those who enrolled in the study and those who declined participation.

PROGRAM UTILIZATION RATE

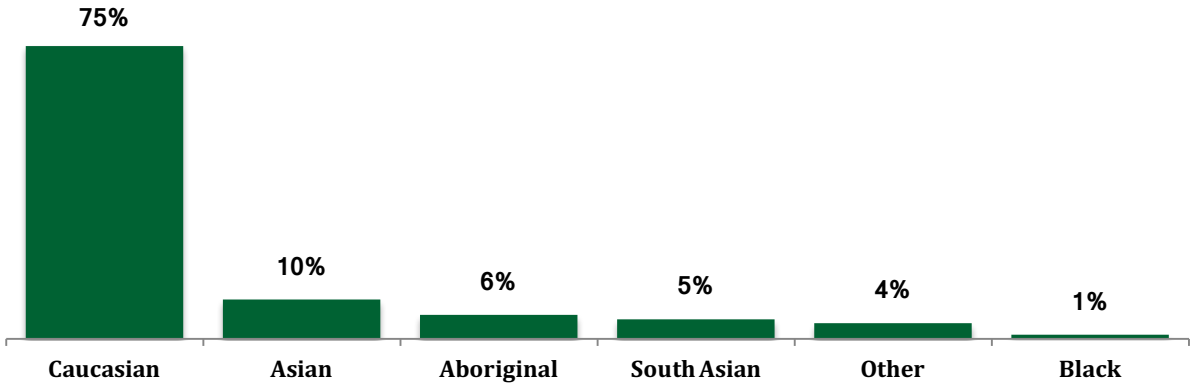
As observed from the 2014 BC Problem Gambling Prevalence Study (R.A. Malatest & Associates Ltd, 2014), 3.3% of the British Columbian population is at moderate or high-risk for problem gambling. This suggests that approximately 125,000 British Columbians could potentially benefit from enrolling in the VSE program. Given that an average of 6,700 individuals are enrolled in the VSE program in any given month, this suggests that the program enrolls approximately 5% of the moderately to high at-risk population. This is at the upper end of the program utilization rates, ranging from 0.6% to 7%, estimated by Williams et al. (2007) in their review of self-exclusion programs in seven Canadian provinces. However, it is important to consider that the self-exclusion program can also be helpful for those with lower levels of risky gambling symptoms, as enrollment in the program could prevent their symptoms from escalating to the moderate or higher level of risk. Thus, although it is likely that a large proportion of those utilizing the program will be experiencing moderate-risk or problem gambling, not all program participants are individuals in these categories. Despite the relatively low uptake rates, overall, the results of several other studies suggest that self-exclusion program enrollment is one of the more common ways for potential problem gamblers to seek support, as only a minority of those considered moderate to high-risk problem gamblers have previously sought some form of formal support (Cohen et al., 2011; Hing, Tolchard, Nuskey, Holdworth, & Tiyce, 2014; Verlik, 2008).

Time 1 Data

GENERAL PARTICIPANT DEMOGRAPHICS

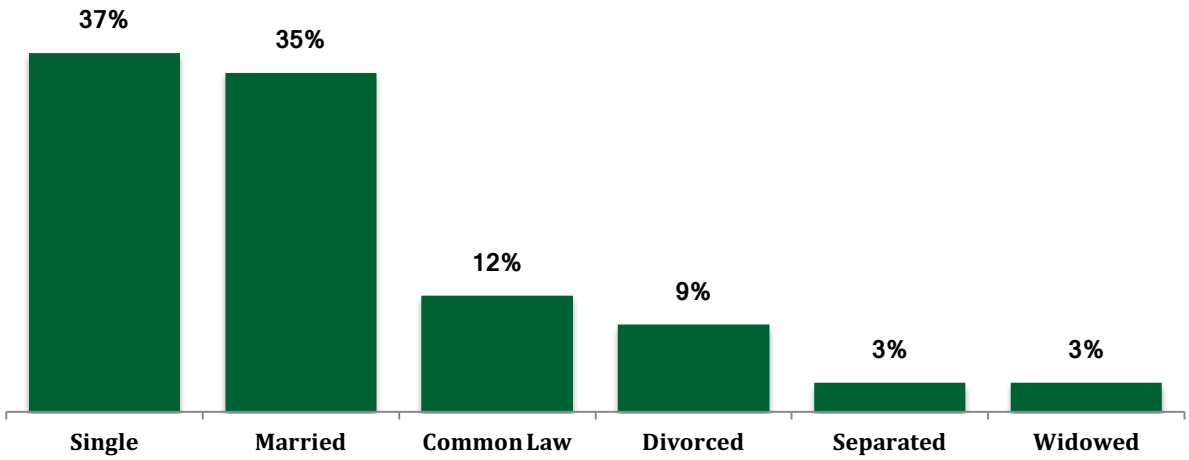
Of the 326 participants, a slight majority (53 per cent) were female. The age range was between 19 and 88 years old, but the sample's mean age was 48 years old. In total, three-quarters of the sample self-identified as Caucasian and only 10% self-identified as Asian, 6% as Aboriginal, and 5% as South Asian (see Figure 1). Slightly more than four-fifths (88 per cent) of respondents indicated that their primary language was English.

FIGURE 1: ETHNICITY OF RESPONDENTS



Of note, there were nearly equal proportions of respondents who were single (37 per cent) and married (35 per cent) at the time of the first interview. Much smaller proportions indicated that they were in a common law relationship (12 per cent), divorced (9 per cent), separated (3 per cent), or widowed (3 per cent) (see Figure 2).

FIGURE 2: MARITAL STATUS OF RESPONDENTS

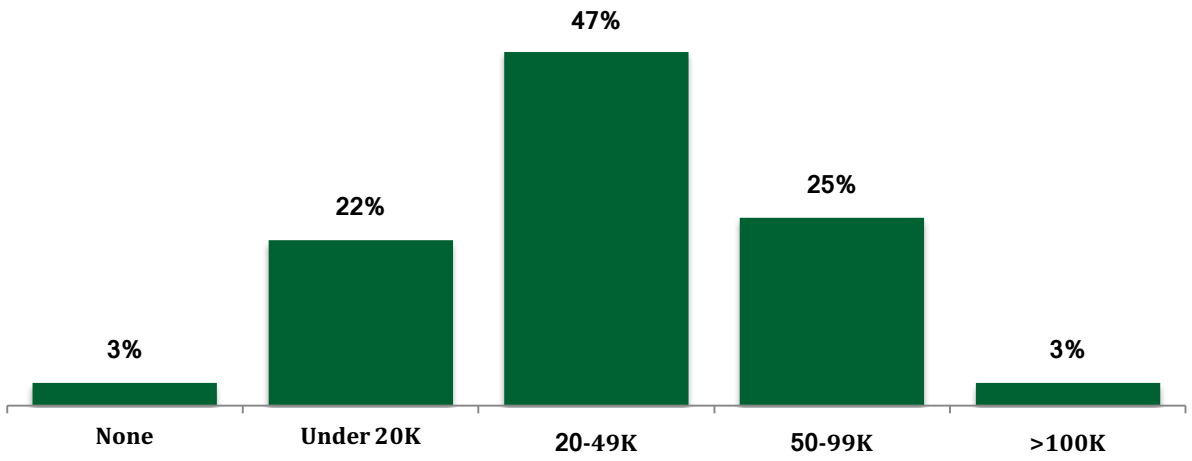


In terms of participants' levels of education, a slight minority (46 per cent) had a high school degree or had completed some high school. In fact, 18% of the sample had less than a high school education. However, one-fifth of the sample had some college education, 15% had a university undergraduate degree, and 6% had a professional degree. Nearly three-quarters (71 per cent) of the sample was employed at the time of their first interview, with another 17% reporting that they were retired. Only 9% of the sample was unemployed.

In considering the entire sample, one-quarter of the sample reported an income of $20,000 per year or less. Nearly half of the sample (47 per cent) reported an income of $20,000 to $50,000, and 28%

reported an income of more than $50,000 (see Figure 3). When just considering those who were employed at the time of the interview (n = 227), 16% reported earning $20,000 or less per year, half reported earning between $20,000 and $50,000, and slightly more than one-third (34 per cent) reported earning more than $50,000 per year. Of note, among those who were employed, only 4% reported earning more than $100,000 per year.

FIGURE 3: INCOME LEVEL OF RESPONDENTS

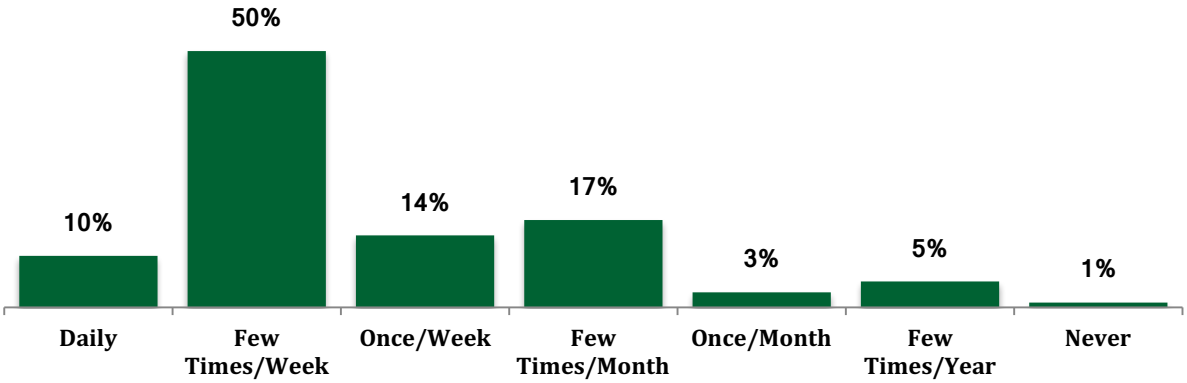


With respect to the geographic distribution of the sample, nearly half (45 per cent) of the sample lived in the Lower Mainland, a slightly smaller proportion was from the Island, and 16% lived in the Interior of the province.

PREVIOUS GAMBLING HISTORY

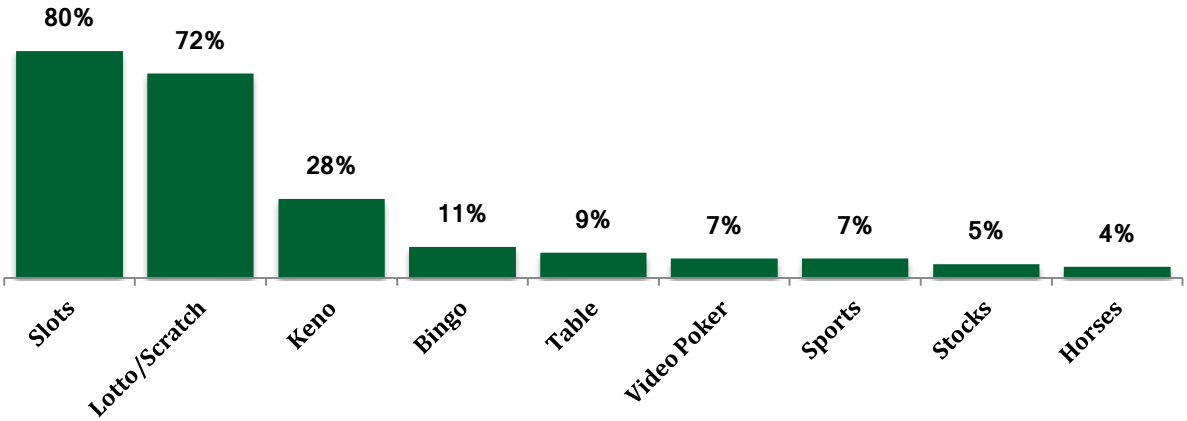
In order to obtain a sense of the quantity and type of gambling that VSE enrollers participated in, participants were asked to report on their gambling behaviour and activities during the 12 months prior to participating in this study. While only 1% of the sample reported that they had not gambled at all in the past 12 months, 10% indicated that they gambled daily, 50% reported that they gambled at least a few times each week, and 14% indicated that they gambled at least once a week (see Figure 4). Adding these responses together demonstrated that nearly three-quarters of the sample (74 per cent) gambled at least once per week.

FIGURE 4: FREQUENCY OF GAMBLING IN THE PAST 12 MONTHS



In terms of the different forms of gambling, four-fifths of the sample reported playing slots and nearly three-quarters (72 per cent) reported playing the Lotto or scratch tickets[1]. While slightly more than one-quarter (28 per cent) indicated that they played Keno, only a small proportion of respondents reported playing Bingo, table games in a casino, video poker, or betting on sports or horses (see Figure 5). It is important to note here that British Columbia is one of only two Canadian provinces (the other being Ontario) that does not have video lottery terminals (HLT Advisory, 2006), which have been associated with problem gambling (Doiron & Nicki, 2001; Morgan, Kofoed, Buchkoski, & Carr, 1996).

FIGURE 5: TYPES OF GAMBLING IN THE PAST 12 MONTHS



[1] As respondents were asked to report on all of the different forms of gambling that they participated in, the numbers exceed 100%.

Previous research suggests that respondents typically underestimate the total amount of money they spend on gambling (e.g. Wood & Williams, 2007). The current study asked participants to estimate the average amount of money they typically put at risk in a visit, and the average amount that they lost in a typical visit, as well as how long they commonly gambled in a typical visit. As demonstrated in Table 1, on average, when considering just land-based gambling, respondents gambled in three different venues, with a range of no land-based gambling to playing in 15 different venues over the past year. On average, the amount of money that participants put at risk in each gambling session was $569.00, but the range was from as little as $25.00 to $10,000.00. The average amount of time spent gambling in one session was just over four hours, with a range of 30 minutes to 24 hours. Finally, the average amount of money lost in one session was $1,569.00, with a range of $30.00 to $85,000.00. Because these values were so heavily skewed, median values are also reported in Table 1. When compared to the behaviour of participants when gambling online, only one-fifth of participants reported ever gambling online, but nearly two-thirds of those people (62 per cent) reported doing so in the past year. In general, people spent less money and less time gambling online than when in land-based casinos or Bingo halls.

TABLE 1: PAST YEAR GAMBLING

	Land-Based			Online		
	Average	Median	Range	Average	Median	Range
Number of Different Venues	3	2	0 to 15	-	-	-
Amount of Money At Risk	$569.00	$300	$25 - $10,000	$318.00	$100	$2 - $5,000
Time Spent	4.2 Hours	4 Hours	.5 Hours – 24 Hours	2.6 Hours	2 Hours	10 Minutes – 11 Hours
Maximum Amount of Money Lost	$1,569.00	$700	$30 - $85,000	$1,260.00	$100	$2 - $30,000

Respondents were asked to report all of the reasons why they gambled. As demonstrated in Table 2, the two main reasons were because it was fun or exciting (89 per cent) and because of boredom (80 per cent).[2] Moreover, a slight majority (58 per cent) of respondents reported gambling because it allowed them to temporarily escape uncomfortable feelings and/or because they believed that if they could just get one big win, they would be able to solve their financial problems. Of note, a slight minority (46 per cent) of respondents indicated that one of the reasons they gambled was that it provided them with an opportunity to socialize with others. Slightly more than one-third (38 per cent) of respondents indicated that one of the reasons they gambled was to escape financial problems, one-fourth of the sample indicated that they gambled to escape work problems, and approximately one-fifth (21 per cent) gambled to escape health problems.

[2] As respondents were asked to report on all the reasons why they gambled, the numbers exceed 100%.

TABLE 2: REASONS FOR GAMBLING

	%
Because it was Fun or Exciting	89%
Because of Boredom	80%
To Escape Uncomfortable Feelings	58%
Because One Big Win Would Solve Financial Problems	58%
For an Opportunity To Socialize	46%
To Escape Family Problems	42%
To Escape Financial Problems	38%
To Escape Work Problems	25%
To Escape Health Problems	21%

Many participants (76 per cent) reported that they had previously attempted to stop gambling. When asked what steps they took to try to quit gambling, three-quarters stated that they used some form of self-control. Of note, a slightly smaller proportion (72 per cent) indicated that they previously enrolled in a voluntary self-exclusion program (see Table 3).

TABLE 3: PREVIOUS ATTEMPTS TO QUIT GAMBLING

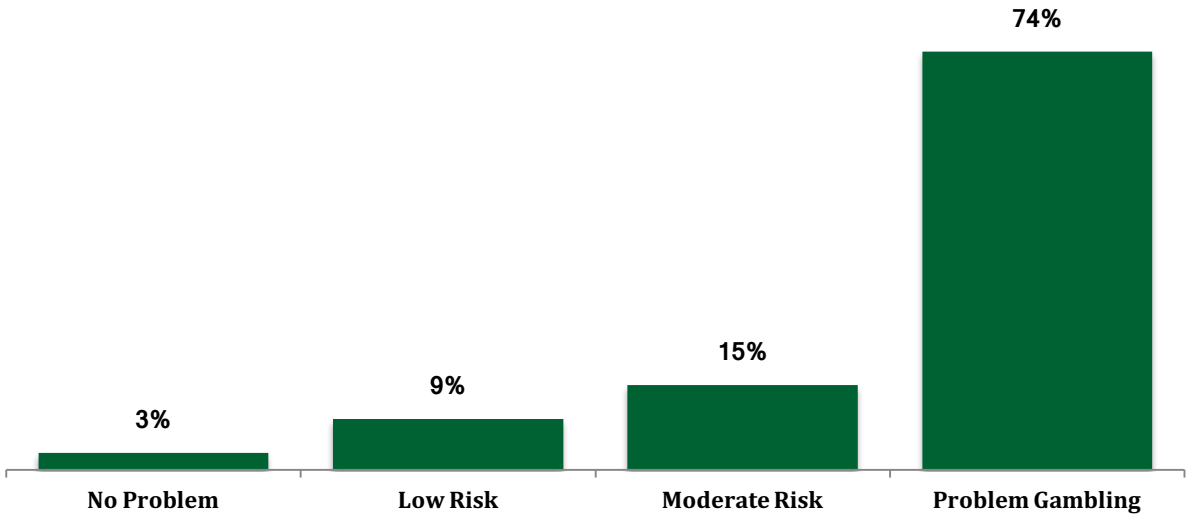
	%
Self-Control	75%
Previous VSE Enrollment	72%
Talk to a Friend or a Family Member	54%
Problem Gaming Counsellor	26%
Online Information or Resource(s)	16%
Gambler's Anonymous	15%
Problem Gambling Hotline	13%
GameSense Advisor	13%
Other	5%
GamTalk	2%

PROBLEM GAMBLING SEVERITY INDEX

The Problem Gambling Severity Index (PGSI) screen by Ferris and Wynne (2001) was administered to all participants during their first interview. This screen is used to identify major gambling problems. The nature of the scale is such that there are nine questions that can be scored from 0 to 3 making the full range of the scale 0 to 27. The cutoff score for problem gambling is scoring an eight. The initial scoring proposed by Ferris and Wynne (2001) was that 0 indicated non-problem gambling, a score of 1 or 2 suggested low-risk gambling, while a score of 5 through 7 indicated moderate-risk gambling. A recent study by Currie, Hodgins, and Casey (2013) reclassified the middle categories by expanding the low-risk group to range from 1 through 4, while reducing the moderate-risk group to 5 through 7. The updated scoring categories were used in this report. As expected, and consistent with the previous literature, a large majority of the sample fell into the highest risk category (74 per cent) of being a problem gambler with negative consequences resulting from gambling, in addition to a possible loss of control (see Figure 6). Slightly less than

one-fifth of the sample (15 per cent) scored in the moderate risk range. Moreover, for our sample, the mean score was 12.3 with a range of 0 to 27. This finding suggests that, overwhelmingly, those people who sign up for the VSE are in need of this type of program and that the program is being used by the type of gambler the program was designed to assist. While there will be a comparison of VSE participants to non-VSE participants later in this report, the fact that 90% of the sample in this evaluation were either moderate risk or problem gamblers at the time they began their latest or first enrollment with VSE indicates that the program is being used by the intended type of gambler.

FIGURE 6: DISTRIBUTION OF SAMPLE ON THE PROBLEM GAMBLING SEVERITY INDEX SCALE



Of the nine problem gambling symptoms present on the PGSI, VSE participants most strongly endorsed having felt guilty about gambling or about what happens while gambling, and having felt they had a problem with gambling (see Table 5). Very few participants endorsed having borrowed money or having sold something for money to gamble.

TABLE 5: DISTRIBUTION OF PGSI SCORES AT TIME 1

In the past 12 months, how often:	Never	Sometimes	Most of the Time	Almost Always
Have you bet more than you could afford to lose	18%	33%	25%	25%
Have you needed to gamble with larger amounts for the same excitement	29%	36%	20%	15%
Have you gone back another day to try and win back lost money	17%	33%	25%	25%
Have you borrowed money or sold something for money to gamble	58%	28%	9%	5%
Have you felt you might have a problem with gambling	7%	34%	28%	31%
Has gambling caused any health problems, including stress or anxiety	25%	33%	23%	19%
Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true	38%	37%	15%	10%
Has your gambling caused any financial problems for you or your household	29%	34%	18%	19%
Have you felt guilty about the way you gamble or what happens when you gamble	10%	28%	26%	37%

Participants were asked an additional three questions about their gambling that may indicate greater severity. These questions are part of the Canadian Problem Gambling Index, but were removed from the smaller PGSI screen. They were added as additional questions in the current study to add some additional context to the range of potential symptoms of problem gambling felt by participants. These questions were how often they claimed to be winning money, but were not (14 per cent endorsed this most or almost all of the time in the past year), how often they had hidden betting slips or other signs of gambling (23 per cent endorsed this most or almost all of the time in the past year), and how often they had lost time from work or school due to gambling (3 per cent endorsed this most or almost all of the time in the past year). Participants were also asked about various aspects of their life that their gambling may have negatively effected. For these scales, participants were asked to rank from 1 (none) to 5 (very large effect) how much of a negative effect their gambling had had on their marital life, family life, work or career, social life, mood, and finances. The domains where gambling had the strongest negative effects were finances (X = 3.6) and mood (X = 3.4), whereas gambling was perceived to have had relatively little negative effect on their work or career (X = 1.7).

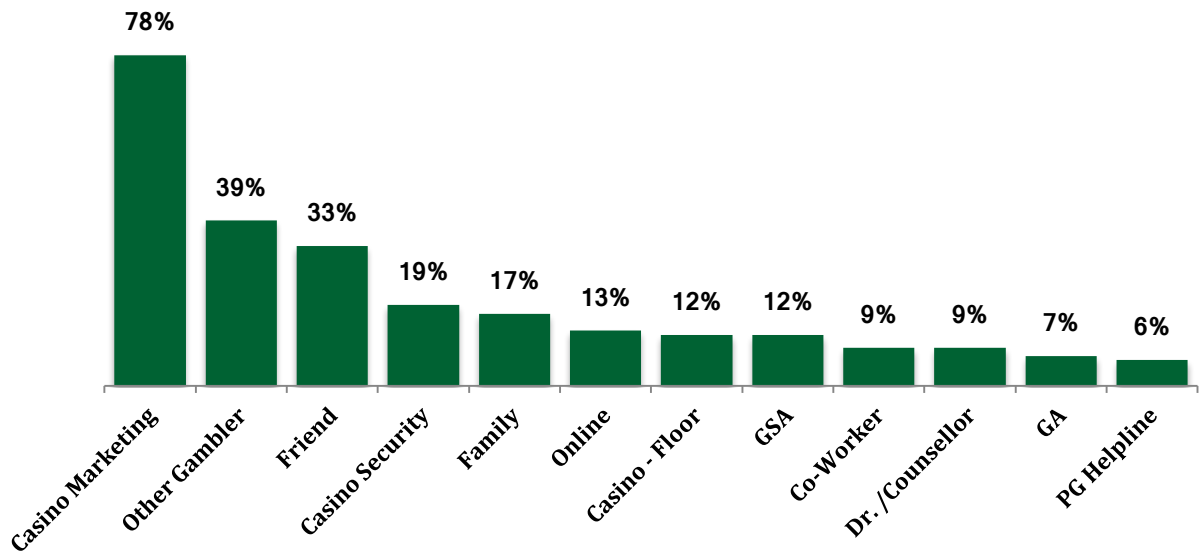
THE ENROLLMENT PROCESS

In terms of the enrollment process, all respondents were asked about the length of time between first becoming aware of the existence of the VSE program and deciding to enroll. It was interesting to note, but not unexpected, that for approximately two-thirds of the sample, there was a lengthy period of time between knowing about the VSE program and actually enrolling in the program. In fact, only 15% of the sample reported that they enrolled in the program immediately after becoming aware of its existence and 20% reported that they enrolled between one month and one

year after learning of the program. This finding suggests, much like the research on other programs to assist with different types of addictions, that it takes some time once a person learns of a program to identify themselves as needing help, recognizing that the program could benefit them, and deciding to enroll.

Importantly, it seems clear that many participants recognized the benefits of the VSE program as only slightly more than one-third of the sample (36 per cent) were first time enrollers. In fact, the large proportion of the sample (74 per cent) that were repeat users of the program, on average, this time was the third time they had enrolled in the program. It would also seem that the marketing of the program within casinos is somewhat effective, as slightly more than three-quarters (78 per cent) of those who enrolled stated that they were aware of the program as a result of the marketing of VSE inside casinos (see Figure 7).[3] Slightly more than one-third of respondents (39 per cent) became aware of the program through another gambler or a friend (33 per cent). While this might be a reflection of the nature of the sample and the way in which gamblers become aware of possible treatment options, it was somewhat surprising that only 12% of respondents identified a GameSense Advisor, 9% reported a doctor or counsellor, and 7% mentioned Gamblers Anonymous or the problem gambling helpline as a source for becoming aware of the VSE.

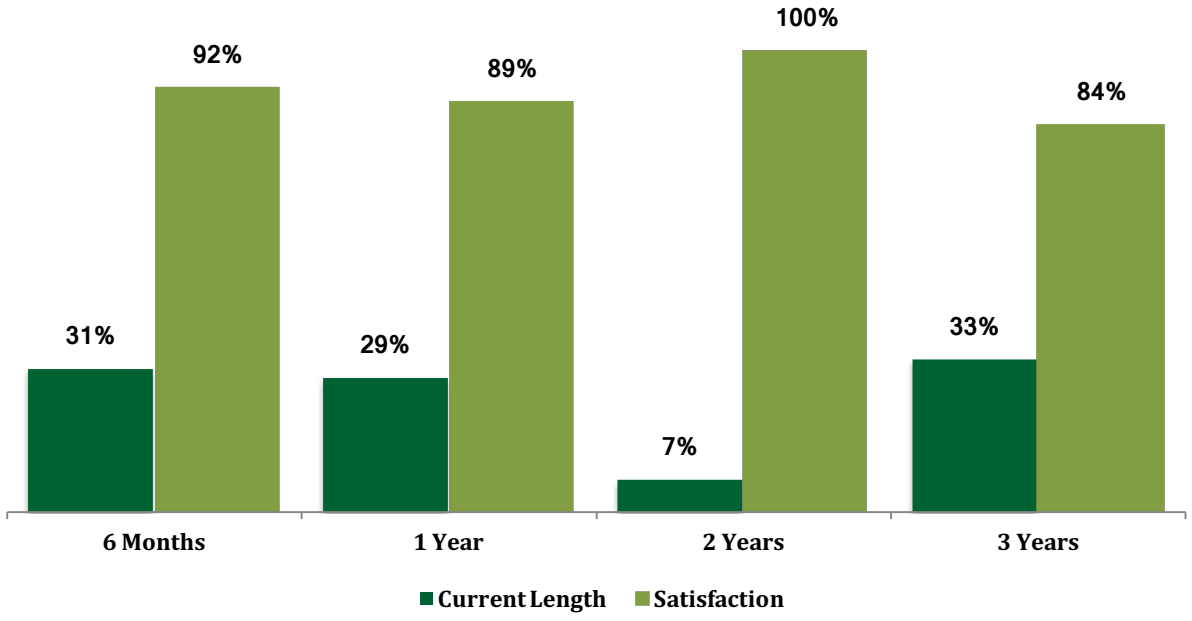
FIGURE 7: HOW RESPONDENTS BECAME AWARE OF THE VSE PROGRAM



[3] As respondents could select more than one response, the totals exceed 100%.

Overall, 90% of the sample were satisfied with the enrollment length they selected. Moreover, there was no effect on the length of time people enrolled for based on whether security or a GameSense advisor recommended a specific length of time or not. With the exception of the two year option, approximately one-third of the sample enrolled in the VSE program this time for either six months, one year, or three years. As demonstrated in Figure 8, regardless of the enrollment length, respondents were generally happy with the length of time they selected. One possible explanation for this high level of satisfaction could be the proportion of respondents who were repeat enrollers. In other words, these people might have some insight into what period of time works best for them and what to expect in the program, therefore, they may have been better prepared to select a length of enrollment, thus more satisfied with their decision. Still, when comparing those who had previously enrolled with the VSE program and first timers, there was very little difference in their degree of satisfaction in the aggregate. In other words, 90% of repeat enrollers were satisfied with the length of their enrollment, as were 87% of first timers. Nor were there any statistically significant differences when considering the specific length of time that either repeat or first time enrollers selected.

FIGURE 8: LENGTH OF ENROLLMENT AND BEING SATISFIED WITH THAT DECISION

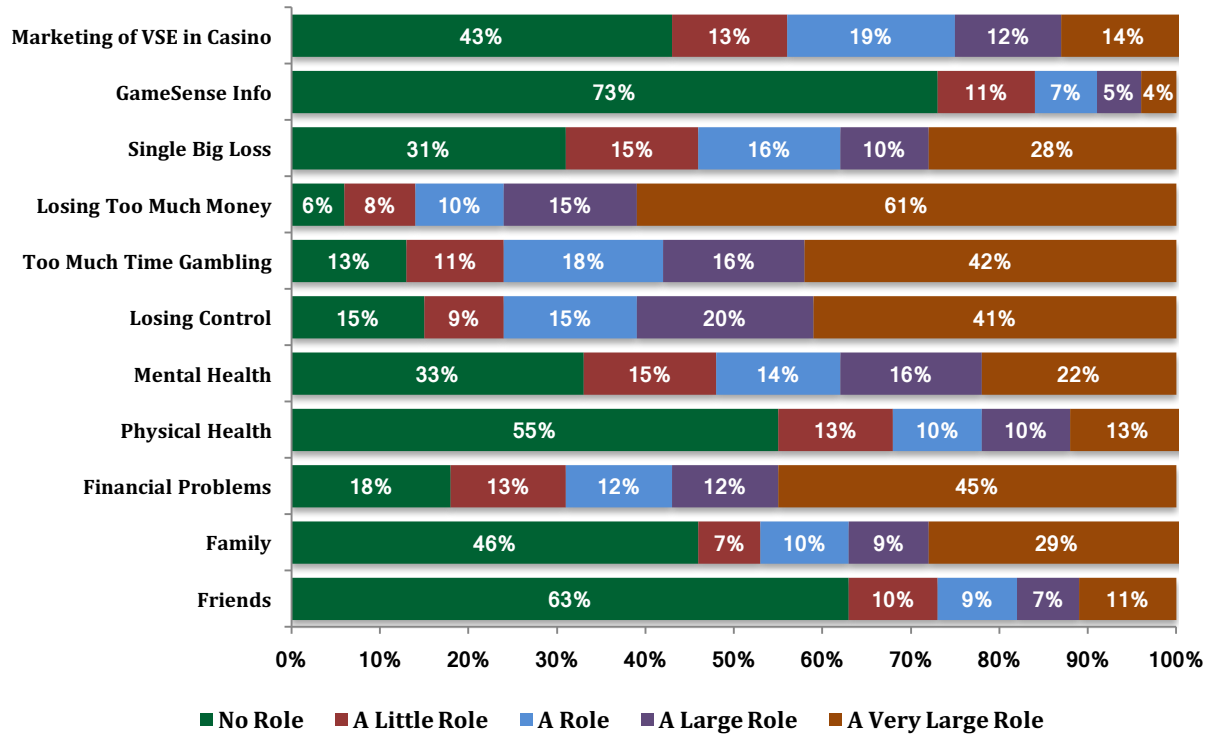


Coming to terms with the need to seek support in order to stop gambling is a difficult degree of insight to obtain, and the existing research suggests that many problem gamblers do not initially seek help due to feelings of shame, embarrassment, or denial of a problem (e.g. Pulford, Bellringer, Abbott, Clarke, Hodgins, & Williams, 2009; Suurvali, Hodgins, & Cunningham, 2010). In their study of reasons for seeking or avoiding enrollment in self-exclusion programs, Pulford and colleagues

(2009) argued that help-seeking behaviours were mainly triggered by experiencing negative consequences, such as a large financial loss, a threat to a personal relationship, or negative emotions. Those who sought out self-exclusion did so to minimize these harms and/or to regain self-control over their level of gambling.

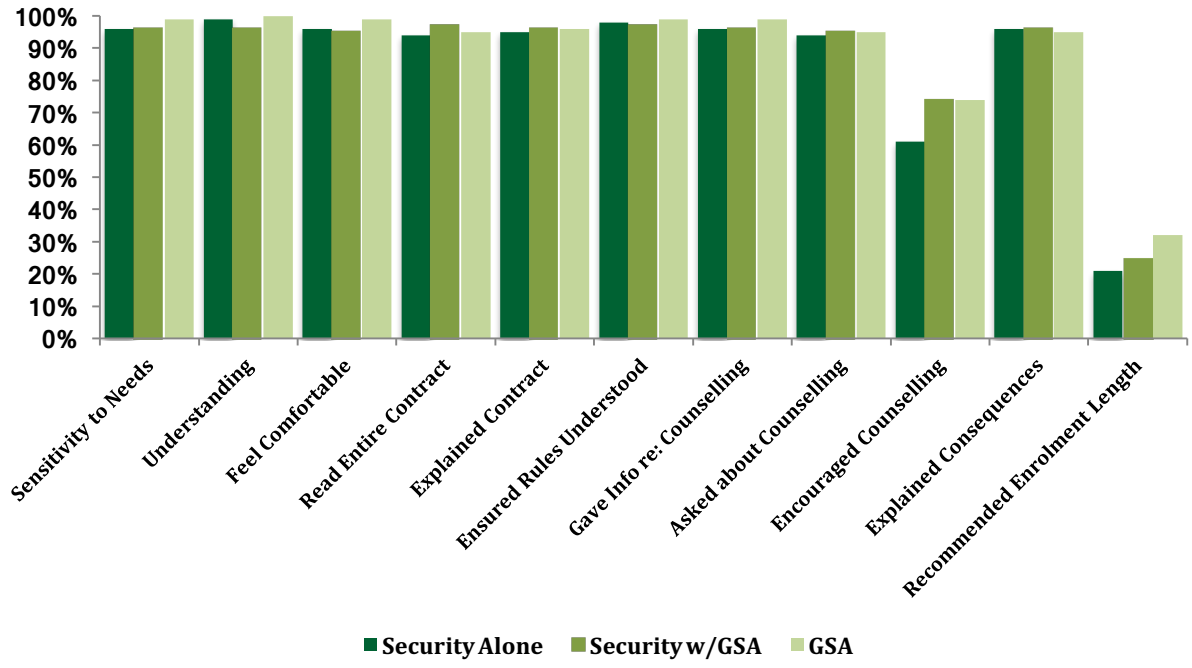
In the current study, respondents were asked to rate how much of a role various people or problems had on their decision to enroll in the VSE program. Respondents' views were scored on a five-point scale anchored by no role (scored as a 1) to a very large role (scored as a 5). Nearly one-third of the sample (29 per cent) reported that family played a very large role (see Figure 9). However, nearly half (45 per cent) indicated that financial problems played a very large role. A similar proportion (41 per cent) felt that the fact that they felt they were losing control played a very large role in their decision to enroll, as did a sense that they were spending too much time gambling (42 per cent). These findings were supported by the fact that 61% of the sample stated that losing too much money over time played a very large role in their decision to enroll. For the majority of respondents, GameSense information (73 per cent), physical health (55 per cent), and friends (63 per cent) played no role in their decision to enroll in the VSE program, while a near majority stated marketing of the program in the casino (43 per cent) and family (46 per cent) played no role in their decision to enroll.

FIGURE 9: FACTORS THAT CONTRIBUTED TO THE DECISION TO ENROLL IN VSE PROGRAM



Participants were asked to recall certain experiences from their enrollment in the program, which occurred up to one month prior to the interview. In terms of satisfaction with the enrollment process, with very few exceptions, the vast majority of the sample was satisfied with all aspects of the enrollment process (see Figure 10). It should be noted that a GameSense advisor was only present for approximately one-third (34 per cent) of the enrollments, but their presence did not significantly affect satisfaction levels. It was encouraging to see that security or the GameSense Advisor rarely recommended an enrollment length because, given the stressful situation, it is possible for a person enrolling, especially for the first time, to accept the advice of the person doing the enrolling without completely thinking through the consequences and later regret an uncorrectable mistake. At the same time, it was somewhat surprising that only approximately only two-thirds to three-quarters of respondents indicated that either security or a GameSense Advisor encouraged counselling.[4] However, security was more likely to recommend counselling when a GameSense Advisor was present. The fact that the vast majority of respondents felt satisfied by the enrollment process is important for so many reasons, not the least of which was the finding that only one-quarter of the sample (27 per cent) brought a support person with them during the enrollment process. As mentioned above, given that signing up for a program, like the VSE, can be extremely stressful, it was very encouraging that both security and the GameSense Advisors made people feel comfortable with the process.

FIGURE 10: RATING OF THE ENROLLMENT EXPERIENCE



[4] A full discussion on counselling appears later in this report.

Of note, when only security was present for the enrollment, there were virtually no differences in satisfaction between those who were first time enrollers and repeat enrollers. The only issue where there was a noticeable difference was with respect to obtaining information about counselling. Here, 98% of repeat enrollers stated that they were satisfied with the information they received from security about counselling, while 91% of first timers were satisfied. Similarly, when a GameSense Advisor was present there was only one issue with a noticeable difference; 99% of first timers compared to 93% of repeat enrollers indicated that the entire contract was read to them.

Among those who had previously enrolled, half (49 per cent) rated the current enrollment experience as "the same" compared to previous enrollments, but 45% indicated that their most current enrollment experience was better than previous experiences. Respondents were asked several questions about the room in which the enrollment took place. Overwhelmingly, respondents were happy with the amount of privacy afforded them by the room (94 per cent) and that the room was quiet during their enrollment (98 per cent). However, slightly less than three-quarters of the sample (72 per cent) reported that they were able to leave the casino respectfully after enrolling because the location of the enrollment room meant that the person had to walk through the casino escorted by security to exit after enrolling, which was uncomfortable. While this is not always possible, it is strongly recommended that the enrollment room either have an exit directly out of the casino or that the room is close to the exit so that those who enroll do not have to walk through the casino after enrolling. This is important not only because enrolling in a program may be a very emotional process for someone, but this is a voluntary and anonymous program and having someone escorted out of the casino, possibly in front of others the enroller may know, may result in embarrassment or questions about what is happening.

Given these findings, it is recommended, when possible, to have the enrolment room in a quiet location of the casino that provides the patron with a large degree of privacy. It is also important that the room be near a private exit so that they patron does not need to traverse the casino floor immediately after enrolling in the program.

It was not uncommon for people to tell others that they have enrolled in the program; however, this was primarily restricted to friends (69 per cent) and family (75 per cent). Very few participants told no one (6 per cent) of their enrollment, but it was not common to inform one's workplace (22 per cent) or a doctor or counsellor (22 per cent). Of note, while not a statistically significant difference, a slightly greater proportion of first time enrollers (73 per cent) compared to repeat enrollers (67 per cent) told at least one friend that they had enrolled. Conversely, a smaller proportion of first time enrollers (68 per cent) compared to repeat enrollers (79 per cent) told a family member. Interestingly, a slightly larger proportion of first time enrollers (26 per cent) than repeat enrollers (20 per cent) told their workplace that they had enrolled, and there was very little difference among these two groups on whether they choose to tell no one about their enrollment in the VSE program (4 per cent of first time enrollers compared to 6 per cent of repeat enrollers).

Time 2 Interviews

INTERVIEW RESPONSE RATE

The interview response rate six months following the completion of the first interview was high, at 83% of participants (n = 270). Importantly, on all demographics, as well as key gambling variables, there were no statistically significant differences between participants who dropped out of the study following the Time 1 interview and those who continued on to the Time 2 interview. However, the participants who dropped out after the first interview were more likely to come from the "Problem Gambling with Negative Consequences/Possible Loss of Control" group, whereas a higher proportion of those in the "Low or Moderate Risk" groups continued on to the Time 2 interview. This difference is important as it might affect the findings regarding program success. However, it is important to note that while those who dropped out versus those who remained differed with regards to the categorical PGSI group, there was not a statistically significant difference in regards to the raw PGSI score. Specifically, at Time 1 the average PGSI score for those who dropped out of the study by the second interview was 13.3, whereas it was 12.1 for those who continued on.

PROGRAM STATUS

By the time the second interview occurred, it was possible that the exclusion period for some of the participants had expired, given that 31% of participants selected a 6 month period of enrollment for their index enrollment. In total, the index enrollment period had ended for 74 participants. One-tenth (11%) of these participants reported that they had already re-enrolled in the VSE program. All reportedly did so because they felt that the program had worked for them. Further, the vast majority reported that they had already started gambling again and were worried about losing control (75 per cent), they felt they were spending too much time (63 per cent) or money (63 per cent) gambling, and half had already suffered another big financial loss.

Virtually all (97 per cent) participants whose index enrollment had expired, but who had not yet re-enrolled in the program, indicated that the program had worked for them, but the vast majority now wanted to manage their gambling on their own (77 per cent) and felt that they had developed better self-control since their last enrollment (71 per cent). Interestingly, only a slight majority (60 per cent) of participants who chose not to re-enroll actually wanted to gamble again, whereas 39% had not felt the need to gamble.

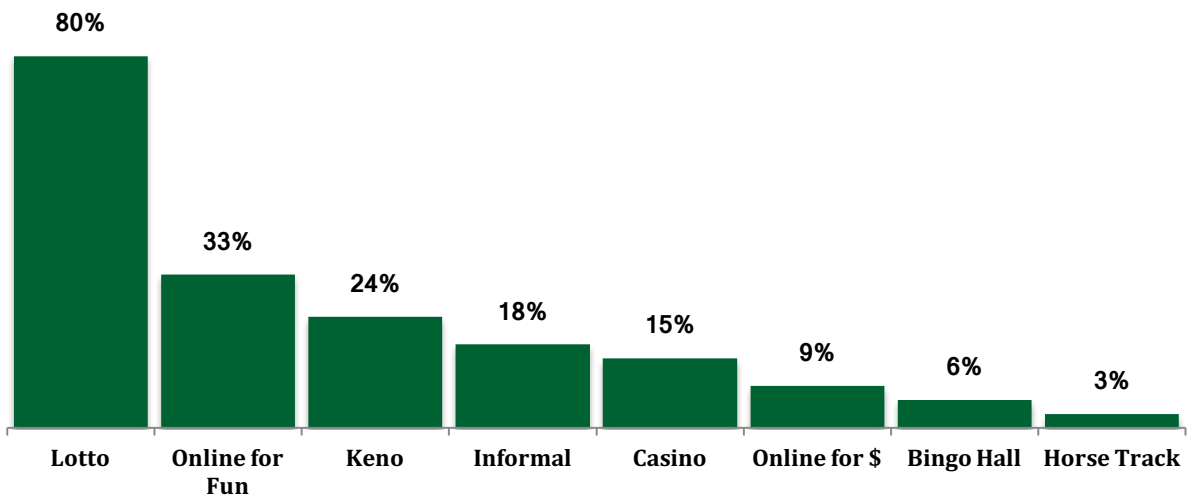
GAMBLING DURING FIRST SIX MONTHS OF EXCLUSION

All 270 participants were asked about gambling in any form in the past six months while excluded. Overall, 13% had completely abstained from gambling in any form. This was a much lower percentage than the amount of abstinent gamblers observed in the first six months of the previous

study, which was at 41% (Cohen et al., 2011). However, in exploring the form of gambling further, it appeared that much of the gambling activity while excluded in the current study came from playing lotto or scratch and wins.[5] Of those who gambled while excluded (n = 235), nearly one-third (31 per cent) only did so by playing the lotto or scratch and wins. In other words, nearly half (40 per cent) of participants in the current study either completely abstained or only played lotto or scratch and wins while self-excluded from casino and provincial online gaming.

Of the 234 participants who gambled at all during their exclusion, the most common form was lotto or scratch and wins (see Figure 11). One-third of participants had gambled online for fun, but not for money, while one-quarter had played Keno. Another one-fifth gambled in informal settings, such as at a house game. In total, 15% of participants said they had gambled at a casino in British Columbia, while less than one-in-ten reported gambling at a bingo hall, and very few reported gambling at a horse track. Considering that the purpose of the VSE program is to help participants stay away from brick-and-mortar casinos, as well as the PlayNow.com website, it is important to note that, of the 234 participants who reported gambling while excluded, 97% only gambled via unofficial means. In other words, 228 participants who gambled while excluded only did so at locations not limited by their exclusion agreement.

FIGURE 11: FORMS OF GAMBLING WHILE EXCLUDED (TIME 2)



[5] In the first study, gambling via lotto or scratch and wins was not included as a response option; however, 21% of participants indicated in the "other" category that this was a form of gambling they had participated in while excluded. Still, because it was not asked directly, this likely underestimates the proportion of participants in the first study who gambled in this way.

VIOLATIONS OF VSE AGREEMENT IN FIRST SIX MONTHS

It is important for BCLC to be aware of the rate of attempts to violate the VSE agreement by program participants, their success rate at entering a casino undetected, and the methods used by agreement violators to increase success. Considering the entire sample of 270 respondents, 15% (n = 40) at Time 2 indicated that they had attempted to re-enter a casino in British Columbia while excluded. This percentage represents a substantial decrease from the first study, where nearly one-quarter (23 per cent) of participants had attempted to violate their agreement within the first six months.

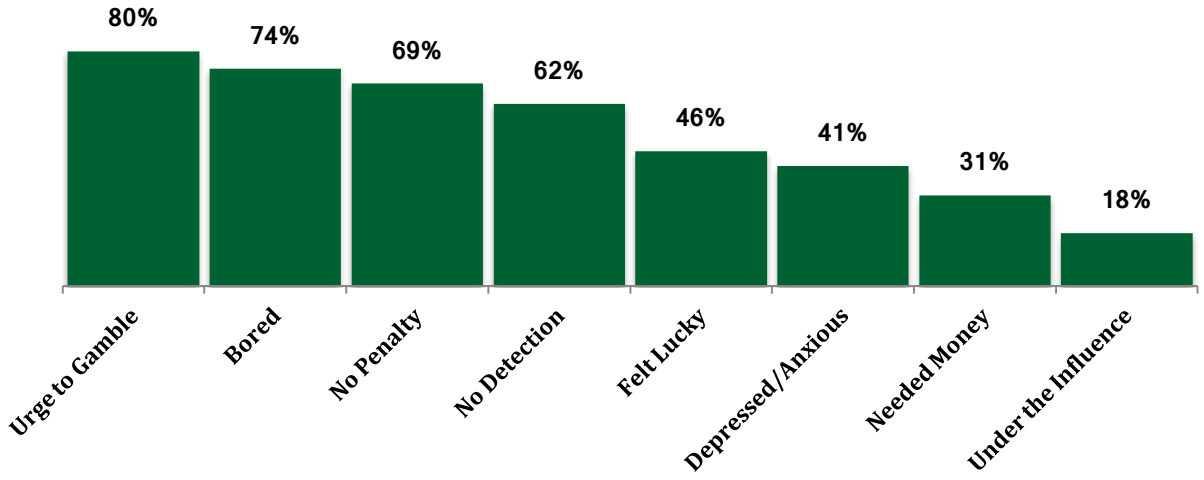
On average, agreement violators attempted to re-enter casinos in British Columbia 11 times. However, within this sub-group was one participant who reported having tried over 100 times, and another who reported having tried 50 times. More typically, one-quarter of the sample had only tried once, while a slightly larger percentage (29 per cent) had tried two or three times. Overall then, while there are a small sub-group of chronic agreement violators, most commonly, it appears that agreement violators attempt to re-enter the casino between one and three times in the first six months following enrolling in the program.

Unfortunately, consistent with the first study, it appears that casinos have a difficult time detecting agreement violators, as nearly all (97 per cent) of those who had tried to re-enter the casino said they had successfully entered on at least one occasion. In fact, five individuals reported that they could re-enter the casino every time they tried, while nearly one-third (29 per cent) reported that they could successfully re-enter the casino approximately half of the times they tried. Still, nearly half (46 per cent) of the participants said that they had been detected by security staff at least one time in the past six months. The typical response to their violation was for the staff to remind them of their agreement, remind them that they are ineligible to win the jackpot, and escort them out of the facility.

When asked what strategies they had employed, if any, to reduce the likelihood of detection, two-thirds (67 per cent) reported that they had gone to a different casino than the one they typically gambled at when not excluded. Additional methods included getting a ride or using public transportation to avoid detection by the licence plate readers (26 per cent), altering their appearance in some way (26 per cent), leaving their identification at home (21 per cent), or using someone else's identification (21 per cent).

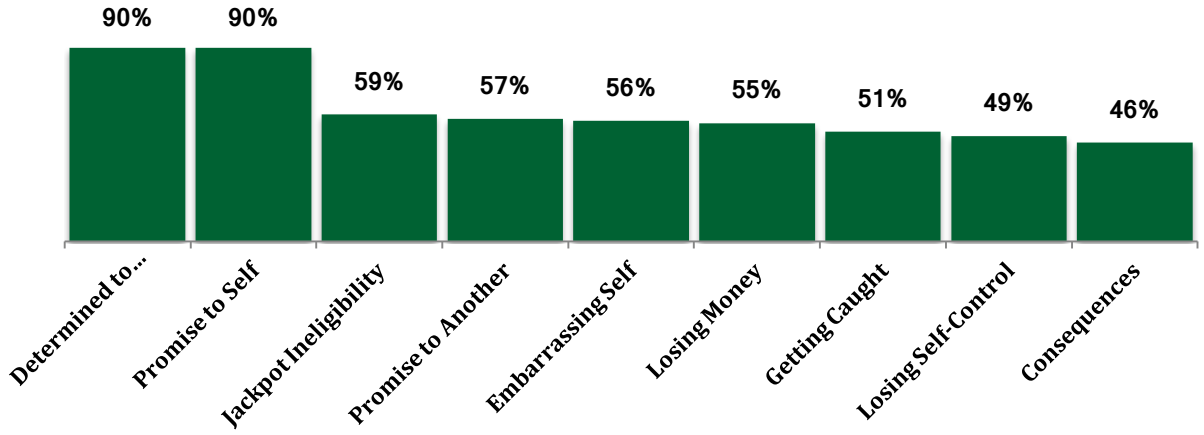
Participants were asked to report why they had or had not attempted to re-enter the casino while excluded (see Figure 12). Those who had attempted to violate their agreement most commonly reported that they felt the urge to gamble or felt bored, or that they knew the penalty would not be enforced nor would they be likely to be detected entering the casino.

FIGURE 12: REASONS FOR VIOLATING AGREEMENT (TIME 2)



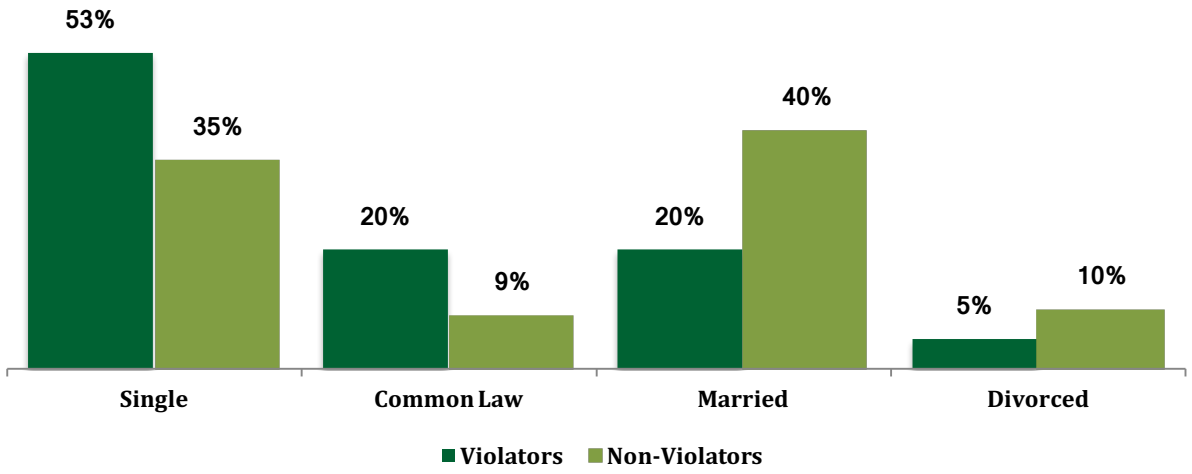
In contrast, those who had not attempted to violate their agreement while excluded felt strongly about their decision to abstain from gambling and were committed to keeping a promise to themselves about not entering a casino or bingo hall. Jackpot ineligibility was also a commonly reported reason for not attempting to re-enter the casino, as was the desire to keep a promise to another person, fear of embarrassing oneself if caught by security, fear of losing money, and fear of getting caught. A large minority also reported fearing loss of self-control if they re-entered the casino, or feared the potential consequences (e.g. a fine or a charge of trespassing). It was somewhat surprising to find that only 60% of participants reported that the jackpot rule deterred them from re-entering the casino (see Figure 13). This may be because participants felt that they could still gamble and win small amounts, as the jackpot ineligibility only applies to prizes where the participant would need to show identification in order to make their claim.

FIGURE 13: REASONS FOR NOT VIOLATING AGREEMENT (TIME 2)



To better understand the profile of attempted agreement violators, a series of bivariate analyses were run using chi-square and t-tests to examine the association between participant demographics and whether or not they attempted to violate their agreement. Compared to those who did not attempt to violate their agreement, who were more likely to be married or divorced, agreement violators were significantly more likely to be single or in a common law relationship, x^2 (5) = 13.5, p = .019 (see Figure 14). Agreement violators did not appear to significantly differ from non-violators on any other demographic variable, such as gender, education, employment, age, income, location, or language.

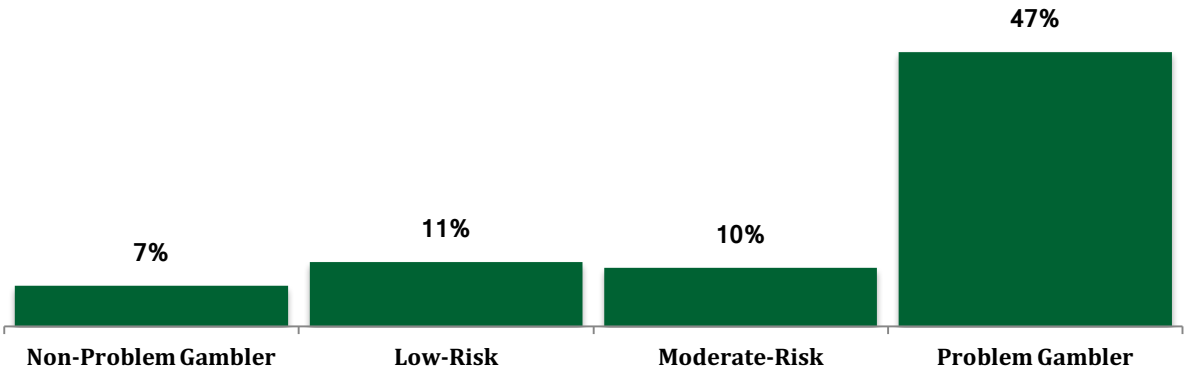
FIGURE 14: MARITAL STATUS OF VIOLATORS VERSUS NON-VIOLATORS (TIME 2)



Moreover, agreement violators did not significantly differ from non-violators on gambling frequency in the past year, raw PGSI score or PGSI group at Time 1, or their gambling history, in terms of the average amount of time or money spent gambling. However, by Time 2, there was a significant difference in participants' current PGSI scores. In effect, whereas at Time 1 agreement violators and non-violators had nearly equal PGSI scores (X = 13.4 versus X = 11.9, respectively), by Time 2, the agreement violators had a statistically significantly higher score (X = 8.6) than non-violators (X = 2.9). Although the nature of data collection means that causality cannot be determined for this relationship, it is plausible that the reduction of PGSI symptoms for non-violators exerted a protective effect over the likelihood of violating one's agreement. Essentially, it can be hypothesized that those who attempted to violate their agreement within the first six months of the study were still suffering from a severe gambling problem six months into their exclusion period, whereas the vast majority of participants who had not attempted to violate had managed to decrease the severity of their gambling problem within a six-month period. This is clearly reflected in Figure 15, which presents the proportion of each PGSI group measured at Time 2 who attempted to violate their agreement. While several individuals from the none to low level range attempted to violate, there was a significant relationship between PGSI group membership at Time 2 and the likelihood of attempting to violate one's agreement in the past six months, x^2 (3) =

35.1, p = .000, with nearly half of those in the "Problem Gambling" range having attempted to re-enter the casino at least one time. Further, while there was non-significant correlation between the number of times a participant tried to re-enter the casino by Time 2 and their PGSI score at Time 1, *r* (265) = .143, p > .05, there was a statistically significant correlation between the number of times a participant tried to re-enter the casino while excluded by Time 2 and their PGSI score at Time 2, *r* (267) = .313, p = .000.

FIGURE 15: PERCENTAGE OF PGSI GROUP AT TIME 2 WHO VIOLATED THEIR AGREEMENT (N = 270) (TIME 2)



COUNSELLING ACCESS BY TIME 2

At the time of enrollment, participants are asked whether they would like to consent to have their name released by BCLC to a treatment provider. If they gave their consent, a treatment provider contacted them shortly thereafter to pursue an appointment to begin treatment.

Consistent with the first study, very few participants (15 per cent) in the current study accessed counseling. On a positive note, those who were in counseling appeared to be those who needed it most, as reflected by their significantly higher PGSI scores at Time 1 (X = 16.5) compared to those not accessing counseling (X = 11.3), t (265) = -4.93, p = .000. Six months into the program, PGSI scores had reduced for both those in counseling (X = 5.8) and those not in counseling (X = 3.4); the difference in PGSI scores at Time 2 was essentially non-significant, t (44.9) = -2.00, p = .051. Given that the scores for both groups dropped within six months, it is difficult to determine the specific contributions of counseling and participating in the VSE program on the decrease in PGSI scores.

Although it was not a significant difference, it was interesting to note that slightly more than one-fifth of those who had violated their program agreement had attended counseling at some point in the past six months (23 per cent), whereas a smaller proportion of non-violators had attended counseling (14 per cent). This likely further reflects that those attending counseling are those gamblers with a more severe level of problem gambling symptomatology.

PROGRAM SATISFACTION SIX MONTHS INTO PROGRAM

Six months into their program experience, virtually all (93 per cent) participants were either very satisfied or satisfied with the VSE program. Still, participants had some recommendations for program improvement at this stage, with the two most common recommendations being better methods of detecting excluded gamblers who attempt to enter a casino while excluded, and more advertising of the program to facilitate enrollment earlier in an individual's progression towards problem gambling symptoms. Several participants suggested that BCLC might consider conducting follow-ups with participants during their exclusion period, both to see how they are progressing, as well as to offer them opportunities to re-enroll before their exclusion expires. It is understood that this type of suggestion likely contradicts one of the key principles of the VSE program, namely that BCLC will have no contact with someone who is enrolled in the program.

Another suggestion was to provide alternative activities that would allow excluded gamblers to socialize. This may be a particular issue in rural communities where casinos or bingo halls provide one of the few opportunities to socialize with others within the community. Several participants also suggested having the option to enroll in the program for less than six months to encourage further uptake of the program. It should be noted that several other participants suggested that any period of enrollment that was less than one year should not be offered, as this might suggest that the individual is not very serious about being excluded and trying to get their gambling under control. There were also some concerns expressed about privacy and maintaining the confidentiality of participants as they enroll. Some participants were escorted out of the facility after their enrollment in a way that made them walk through the casino, which made them feel embarrassed and ashamed. Others commented that as soon as they went towards the back room to enroll, they felt that the other patrons knew what they were doing. Possibly improving the messaging that participants can enroll in the program at several locations other than the casino might help reduce these concerns and promote the idea that there are a number of locations and ways in which an individual can enroll in the VSE program.

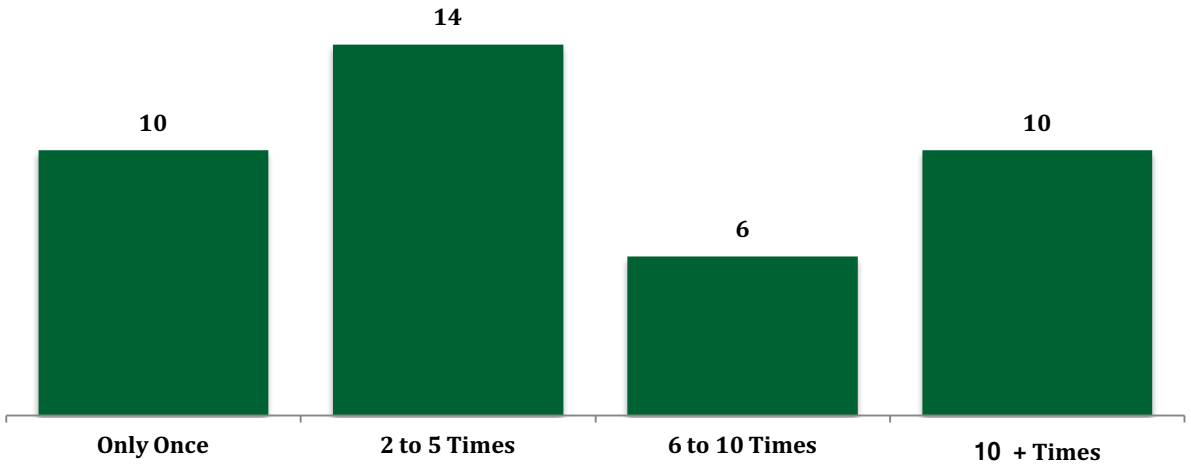
Overall, program participants seemed to have an accurate understanding of how the program worked and what the intended purpose of the program was. For example, only 8% of participants believed they would be paid out for their jackpot wins *after* their exclusion had ended, which is not the case, and only 5% agreed that if they lost money gambling in the casino while excluded that they would not need to pay for it. However, nearly half (44 per cent) of participants agreed that the purpose of the VSE program was to completely stop them from gambling, which is not accurate. The program is designed to help the gambler take a break from casino, bingo-hall, horse track, and online (via PlayNow) gambling, but the program does not intend to restrict the participant from other forms of gambling (e.g. online for fun, or via lotto or keno) or to prevent them from ever gambling again. Although program satisfaction is already very high, BCLC may want to consider counteracting this incorrect program assumption in order to ensure program participants are clear on the boundaries of the program. In addition, more than half (54 per cent) of program participants were not aware that they could attend an event at a casino while excluded, so long as they were not on the casino floor. This is a possibility in some, but not all, casinos in British Columbia. Given that gambling in casinos is a social event for many participants, BCLC might consider developing more off-floor entertainment options, including restaurants/bars and theatres and promoting more

awareness around this accessibility to remove a potential barrier to enrollment for problem gamblers who fear losing access to a form of socializing with others should they enroll in the program.

Violators of the VSE Agreement

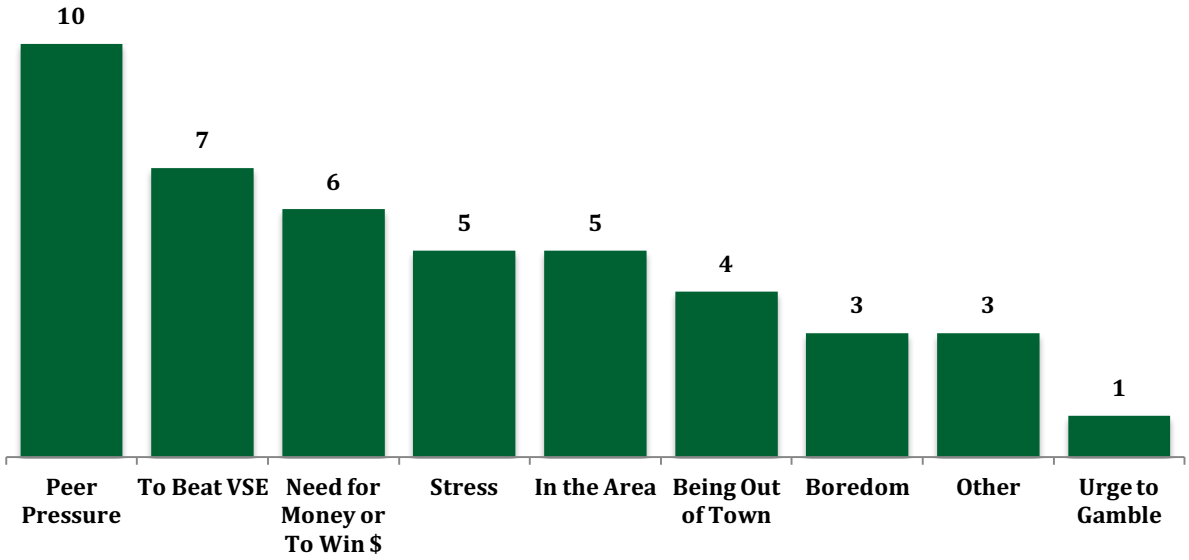
Patrons who reported that they had violated their VSE agreement at Time 2 were offered an opportunity to participate in another interview designed to explore the issues involved in violating in greater detail. In total 40 respondents completed this additional interview. Of those 40 people, all but eight were still enrolled in the program. There was quite a range in the number of times people violated the conditions of their agreement. As demonstrated in Figure 16, one-quarter of the sample reported that they only violated their agreement once, while 35% reported two to five violations. One-quarter of the sample also reported violating ten or more times. In effect, while the overall proportion of the sample that reported violating their agreement was relatively low in this study, when someone did violate their agreement, it was common for them to violate multiple times.

FIGURE 16: NUMBER OF TIMES PATRONS VIOLATED THE VSE AGREEMENT (N = 40)



When asked about their first violation, virtually everyone indicated that their visit to the casino was intentional and done with some degree of forethought. There were many reasons why participants violated their agreements the first time they did so (see Figure 17). The most commonly given reason was peer pressure or because they were with friends that wanted to go to the casino. This was followed by a desire to see if one would be caught if they violated their agreement. Another reason for those who violated their agreements to do so was because they wanted to try to win back some of their lost money or the need for money. Of note, emotional reasons, such as anxiety, stress, impulsivity, or boredom was also mentioned by a few participants.

FIGURE 17: MOST SIGNIFICANT REASON FOR THE FIRST VIOLATION OF VSE AGREEMENT



As mentioned above, several people indicated that one of the reasons for violating their agreement was to see if they would actually be caught by the casino. When asked about this issue specifically, two-thirds of the sample felt that before they attempted to violate their agreement there was at least a 50% chance that they would be caught. Obviously, this was not enough to deter them as they all attempted to violate their agreement at some point. What is interesting is that it would appear that classical deterrence is not working in this program, mainly around of the issue of consequences. In other words, in order for deterrence to work, participants have to believe that the consequences associated with getting caught in the casino would outweigh any of the benefits of being in the casino. This was clearly not the case because among those who believed that there was a good chance that they would be caught if they attempted to enter the casino, many of them were not concerned about the consequences. While some participants mentioned that they could not remembers the rules of the agreement or unsure what the punishment would be, others took a much more practical view. Everyone stated that the only punishment they would face would be being asked to leave, and several people mentioned that they would not be able to cash in on a jackpot. One person stated that no one fears being permanently banned from the casino because this is in contradiction to a casino's core business model of wanting as many customers as possible. In addition to being asked to leave, some people stated that they would be embarrassed to be escorted out of the casino; however, again, this was not seen as providing any real deterrence to violating their agreement. Of note, some respondents did mention some of the other options available to the casino when catching a violator, but even these people indicated that nothing beyond being asked to leave was the consequence of being caught.

Many respondents talked about how the first time they tried to enter the casino, it was very easy to gain entry, especially because no one was checking identification. Two respondents indicated that

their ID's were checked, but they were still permitted to enter the casino. Of the 40 respondents, only six indicated that they were caught the first time they tried to violate the conditions of their agreement. Of these six people, four were caught as a result of an ID check at the door, while the other two were caught after being in the casino for some time. It would appear that increasing ID checks at the door would increase the rate at which violators would be caught by security.

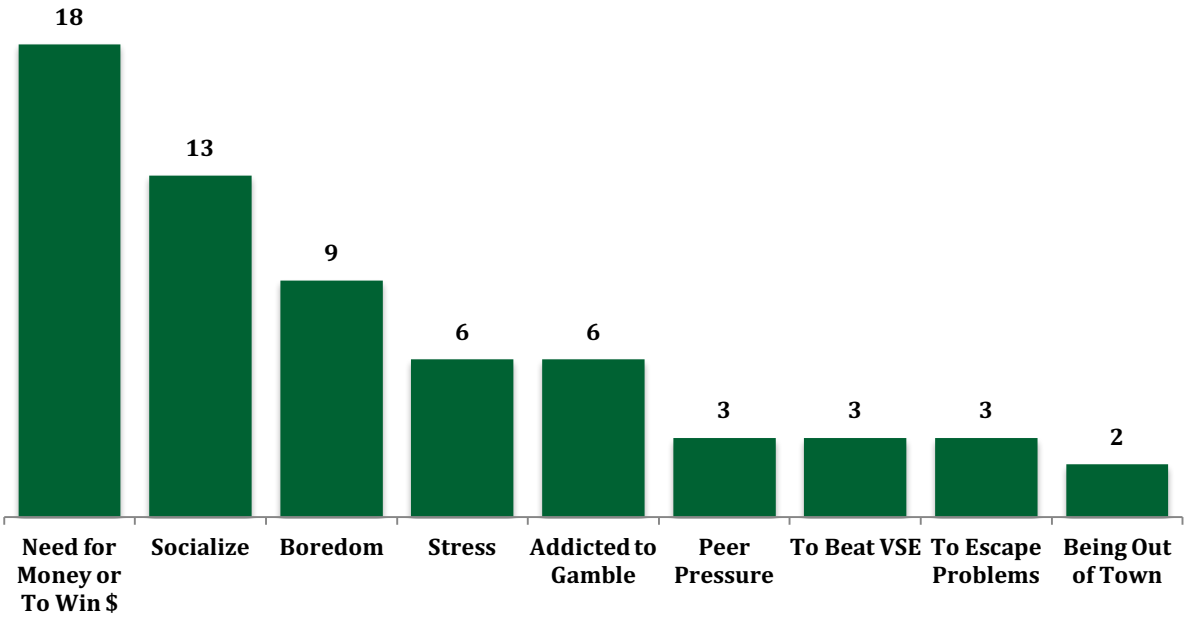
It was very interesting to note that when asked about the most recent time they violated the conditions of their agreement, the tone had switched from no risk of getting caught and no consequence to an increased sense of stress around being in the casino while in the program. While several respondents indicated that they only tried to violate once while on the program and a few others indicated that there was little difference in the last time they attempted to violate from their other previous attempts, several respondents reported that they did not feel good about violating their agreements, that they thought there was a better chance of them getting caught, that they were anxious being in the casino both in terms of being caught and in terms of losing control over their behaviour. Several respondents spoke about being more on edge, more anxious, and more agitated about being caught. It seems that, at least for some people, the longer they are enrolled in the VSE program, the more they understand its benefits and the less they attempt to violate their agreement or feel good about their casino experiences. As will be discussed in greater detail below, this might also be the result of participants experiencing a decrease in their PGSI symptoms over time in the program.

On the issue of current gambling behaviour, several interesting themes emerged. First, keeping in mind that this subsample of participants were those who admitted to violating their VSE agreements, ten indicated that, at the time of this interview, they were not participating in any form of gambling at all. Still, the vast majority of the sample was currently engaged in some form of gambling, including in a casino. The most common forms of gambling were online games, such as poker and slots, buying lottery tickets, home games with friends or family, playing Keno, and buying scratch tickets. Importantly, while there were some respondents who indicated that participating in gambling activities away from the casino did not create a desire to return to a casino, this was a minority view. For the most part, people reported that engaging in gambling or gaming activities away from the casino increased their desire to return to the casino. Among those who felt that it was a good substitute for the casino, the main reasons provided were that they lost less money, it was cheaper than going to the casino, and they still got to play the games they enjoyed so it served as a good substitute for the casino. Those who felt that these other activities were not a good substitute for the casino and increased their desire to go to the casino reported that this was because playing these games away from the casino reminded them, in a positive way, about how they felt being in a casino, and, quite simply, none of these things can adequately substitute the thrill and enjoyment they get from being in a casino. This might help to explain the reasons why participants returned to the casino while excluded.

The most common explanation for why they returned to the casino was in order to win money or to win back lost money (45 per cent) (see Figure18). This poses a challenge to any prevention program as the lure of winning big or the belief that just one big win could solve a lot of problems is very difficult to overcome. Related to this, 23% of respondents indicated that boredom was a main reason for returning to the casino, as was trying to relieve stress (15 per cent) and feeling that they

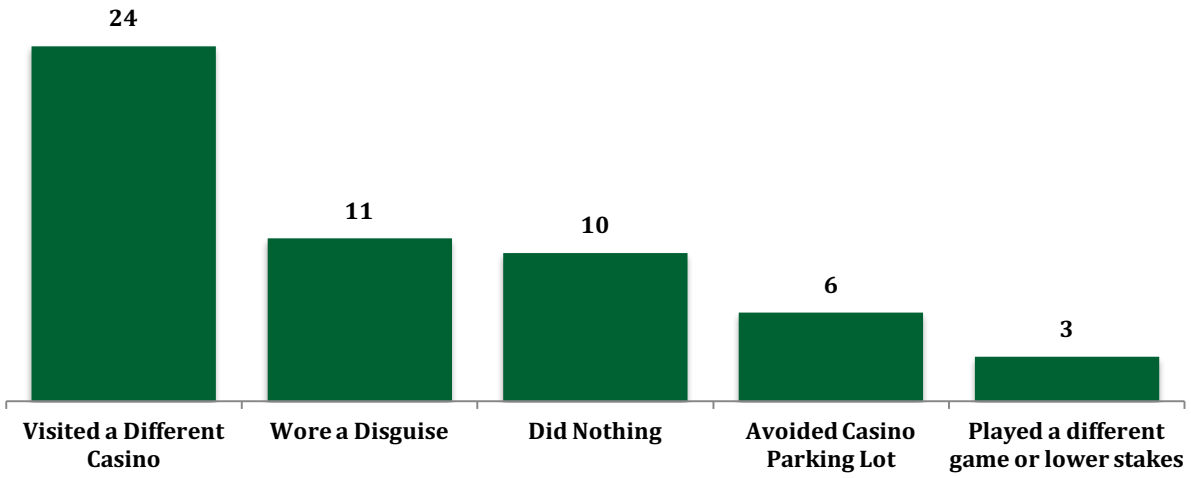
were addicted to gambling (15 per cent). Perhaps more positively, one-third of participants stated that the desire to socialize with others was a main reason for deciding to violate their VSE agreement, and very few (8 per cent) did so in order to see if they would get caught.

FIGURE 18: REASONS WHY PARTICIPANTS RETURNED TO THE CASINO WHILE EXCLUDED



There were a number of different strategies that participants employed to minimize their chances of getting caught. Of note, one-quarter of participants did not change anything in order to avoid being detected either entering the casino or while in the casino (see Figure 19). However, for those who did do something different, the most common strategy used was to visit a different casino than the one they signed up for the VSE in or to visit a casino where they believed security or staff would not recognize them. For the most part, participants reported that this was a successful approach. Nearly one-third of those who did change something reported using some form of a disguise, most commonly wearing a hat, putting on or taking off glasses, or growing a moustache or beard. Again, these participants believed that this worked in allowing them to gamble in casinos where they were known and where they had signed up for the VSE program. It was somewhat less common for participants to be worried about parking in the casino parking lot and only three people chose to change the games they played as part of a strategy to avoid detection. In fact, these three people were not worried about being identified by playing their 'known' or 'typical' games; instead, they changed to games that had a lower payout in order to avoid having to show identification to collect any winnings.

FIGURE 19: STRATEGIES FOR VIOLATING VSE AGREEMENT



One-third of the sample (n = 13) reported that they had never been caught when attempting to return to the casino while excluded. Another one-third indicated that they had been caught at least once, but less than half of the time that they returned to the casino, while the last third reported that they were caught at least half of the time to every time they attempted to return to the casino. Of note, there was a nearly even split between being caught at the door when trying to enter the casino and being caught while already in the casino.

Participants spoke about the various strategies they employed to prevent themselves from returning to the casino while excluded. Several types of strategies were mentioned by numerous participants, namely a 12-step program or seeking the assistance of a counsellor, being more physically active and joining a gym, playing house games for little or no money, and avoiding areas that are near a casino. It was interesting to note that several participants talked about how thinking about the consequences or how they would feel being caught violating their agreements assisted them in avoiding the casino, while others spoke to specific money management strategies. For example, one participant discussed putting their money, bank cards, and credit cards in a timed lock box so that they could not get access to money, others spoke to never carrying money or cards or only have a small amount of cash on them so that they would either not gamble or could only lose a very small amount.

In terms of the actions that participants felt would absolutely prevent them from trying to return to a casino while excluded, there were three main themes that emerged. The first main theme was that it was up to the individual to prevent themselves from violating their agreement. Several participants spoke about will power or the commitment that they made to themselves when signing up, indicating that this was not about the casino developing strategies to keep them out, but about people keeping their commitments and deciding to not violate their agreement. Related to this view was the notion that the real or perceived embarrassment of being caught and escorted out of the casino was a sufficient deterrent. It should be noted that this was not the view of the majority of

respondents. Instead, the two most common responses were mandatory identification checks enhanced with better facial recognition technology and licence plate readers. The second main theme was escalating fines. Many participants stated that violators should first be warned and reminded of their agreement, but subsequent violations should face increasingly punitive fines.

A final theme explored in these interviews was related to counseling. Only 14 of the 40 participants stated that they had ever attended any form of counseling related to gambling. There were mixed attitudes about counseling among those who had attended treatment. For some, there was a challenge in finding help, while others spoke to the assistance they received from BCLC in making contact with a counselor. The main benefits of counseling were having someone to talk to about their gambling, learning strategies to address the urge to gamble and how to address the urge, learning about stress, relaxation, and the specific things that trigger the urge to gamble in the individual, and learning financial responsibility. Those who mentioned specifically that they attended Gamblers Anonymous stated that the program was not very helpful. Troubling, for the majority of those who did not seek counseling, the most common reason given was that they did not think they needed any assistance and that they could control their gambling on their own. Some also believed that the cost would be to high or that there were no programs available near where they lived.

There are several important lessons that can be learned from these interviews with violators. First, there is both a strong psychological push away from the casino that many people feel as a result of signing up for the VSE program. However, this push is frequently being challenged by an equally strong psychological, emotional, and peer-focused pull towards the casino. For some, the actual or perceived embarrassment of being caught and escorted out of the casino contributes to their resistance to enter a casino while excluded, but for others, the real consequences are not enough of a deterrent. It would seem from these interviews that this sample of violators believe that it, even if they are eventually caught while in the casino, it is too easy and not enough is being done to prevent entry. Overwhelmingly, they believe that increasing identification checks at the door will not only catch them much more often, but will deter them from trying to enter the casino. Increased vigilance in identification checks should also be effective because the most common thing that violators do to avoid being detected is to visit a different casino where they are not known. This strategy could be easily defeated by increasing identification checks. Finally, it appears that many participants do not have sufficient insight into their gambling issues, and a series of misconceptions about counseling, which serve as a barrier to access. It is recommended that more information about the benefits, structure, and accessibility of counseling services be provided to people upon enrolling in the VSE.

Time 3 Interviews

Time 3 interviews were conducted approximately six months after the Time 2 interviews, and approximately one year after the initial Time 1 interview. Of the 326 participants who initially began this study, 235 participated in the third round of interviews, resulting in a follow-up response rate of 73%. Similar to Time 2, the Time 3 interview focused on experiences in the

previous six months. At the time of these interviews, participants' enrollment status could be organized under several different categories:

- Currently enrolled:
  - Enrolled for 2-3 years at Time 1 and have never been out of the index agreement;
  - Enrolled for 6 months at Time 1, and re-enrolled for 6 months or longer at Time 2;
  - Enrolled for 1 year at Time 1, and re-enrolled for 6 months or longer at Time 2;
  - Enrolled for 6 months at Time 1, did not enrol at Time 2, but re-enrolled for 6 months or longer at Time 3;
- No longer enrolled:
  - Enrolled for 6 months or 1 year at Time 1 but did not re-enroll at Time 3.

Only one group of participants would have been under an ongoing agreement for the duration of the study and, therefore, not able to legally return to casino or other land-based gambling or via PlayNow.com during the course of this study. This group constituted the majority of the Time 3 participants (n = 101). The remaining participants were at some point out of the VSE program in the past year, and could have elected to re-enroll or remain out of the program. Table 5 indicates the enrollment status of the 235 participants at Time 3.

TABLE 5: PROGRAM ENROLLMENT STATUS OF PARTICIPANTS AT TIME 3

Status at Time 1	# of Participants	Status at Time 3
6 months at Time 1, no re-enrollment at Time 2	**41**	**13 recently re-enrolled 28 did not re-enroll**
6 months at Time 1, re-enrolled for 6 months at Time 2	**15**	**4 recently re-enrolled 11 did not re-enroll**
6 months at Time 1, re-enrolled for 1 year at Time 2	**8**	**Still under recent re-enrollment**
1 year enrollment at Time 1	**70**	**16 recently re-enrolled 54 did not re-enroll**
2 or 3 year enrollment at Time 1	**101**	**Still under index agreement**

Participants whose exclusion had ended and who subsequently re-enrolled could potentially have returned to formal gambling activities in the interim. For example, 33 participants whose agreement had ended, but who had since re-enrolled, indicated that, on average, they were out of the program for 56 days (between 0 and 180 days) before re-enrolling. Given the different enrollment status options, some of the analyses for this third round of interview will differ according to the pathways noted above and whether the participant could have at any point legally returned to gambling.

The low rate of attrition is important, as it allows the results of the Time 3 interview to be more widely applied to the participants as a whole. However, to identify whether there were any particular demographic variables that differentiated between those who completed all three interviews and those who dropped out, the demographic characteristics of those who completed all

three interviews were compared statistically to those who completed only the first round of interviews.

Generally speaking, when comparing participants who did all of the interviews to those who had only completed one interview, it was found that these two groups did not differ from each other in terms of gender, education level, employment status, income; marital status, or residential location. However, there was a statistically significant relationship with age, in that participants who completed all three interviews were statistically significantly, though not substantially, older (X = 50 years) than those who completed only one interview (X = 45 years), t (288) = -2.04, p = .042. Still, both sets of participants could be considered middle aged on average; therefore, this difference is unlikely to produce any substantial effects on the findings. There was a more meaningful significant difference in terms of ethnic identity, x^2 (5) = 12.9, p = .025. Caucasians represented a larger percentage of participants in the Time 3 interview (76 per cent) than in the Time 1 interview (63 per cent), whereas the percentage of First Nations and Asian participants dropped between Time 1 (11 per cent and 14 per cent, respectively) and Time 3 (5 per cent and 9 per cent, respectively). Of note, the 2014 BC Problem Gambling study by R.A. Malatest & Associates Ltd found that gambling problems were more likely to be found among First Nations and South Asian residents; thus, the reduction in First Nations participants over the course of the current longitudinal study may pose some implications for the results.

Attrition was also reviewed in light of gambling participation as recorded at Time 1. Importantly, no statistically significant differences were identified between those who completed all three interviews and those who only completed the first one for the following gambling characteristics: maximum amount of money put at risk when gambling; maximum amount of money lost while gambling; time spent gambling; PGSI score; length of VSE enrollment at Time 1; previous VSE enrollment; previous violations of VSE agreements; or enrollment in counseling. This is important, because it suggests that any gambling related findings at Time 3 are unlikely to be due to differences in gambling characteristics of the participants who dropped out of the study.

By the third interview, a majority (60 per cent) of participants were either still enrolled or had recently re-enrolled in the program. Given this, 93 participants were no longer enrolled in the program at the time of their third interview and were, therefore, eligible to return to a casino or bingo hall to gamble in British Columbia.

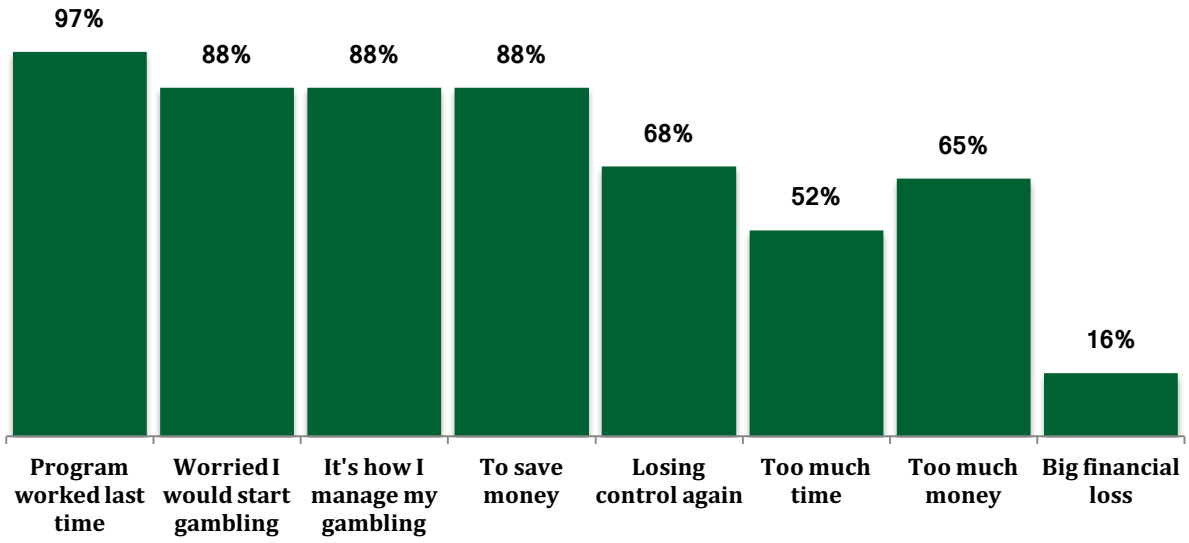
RE-ENROLLMENTS AT TIME 3

As previously noted, the index VSE agreement ended for 33 participants who subsequently re-enrolled after an average of 56 days out of the program. The majority (55 per cent) of participants who had re-enrolled by Time 3 did so for another six months, while another 40% re-enrolled for a period of one year. Of note, most participants (55 per cent) re-enrolled as soon as they felt they needed it. For the remaining participants, reasons for not re-enrolling sooner were that they were not sure who to call, they felt they could manage their gambling on their own, they wanted to gamble again, or they were waiting on another person to re-enroll.

For those who did re-enroll, compared to the last time they enrolled, 49% felt that this experience was the same, while another 49% felt it was better. The main reasons given for why they felt the process was better were that they knew what to expect this time around and because the overall process went faster.

The reasons given for re-enrolling by Time 3 primarily involved the perception that the program was successful; however, as seen in Figure 20, there were also some very consistent fears about potentially returning to gambling that led to their decision to re-enroll. Interestingly, a common reason given for re-enrolling was that the VSE program served as a way to better manage or budget their money as not being able to go to the casino helped control their spending.

FIGURE 20: REASONS FOR RE-ENROLLING AT TIME 3

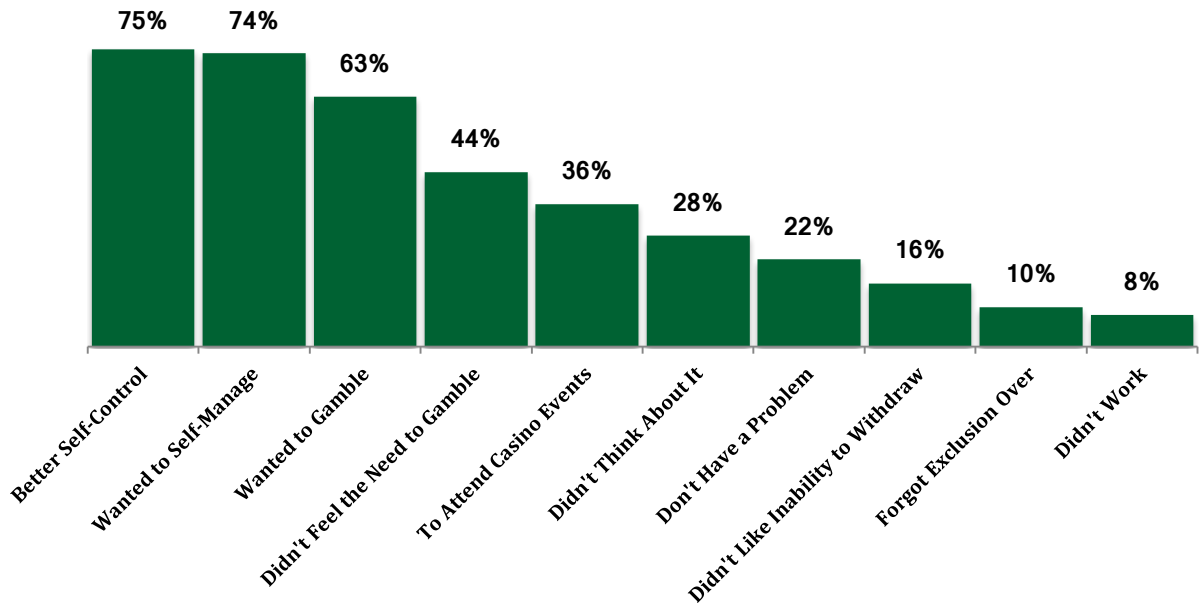


NON-RE-ENROLLMENTS AT TIME 3

A large minority (40 per cent; n = 93) of participants were not enrolled in the VSE program at the time of their Time 3 interview. Of these 93 participants, nearly one-third (30 per cent) had initially enrolled for the minimum six-month enrollment period and had not re-entered the program once it expired. Another 12% of this group had enrolled for six months at their index enrollment and had re-enrolled for a second six months around the Time 2 interview, but had not yet enrolled again by the time of their Time 3 interview. However, most (58 per cent) of the currently non-enrolled participants had initially enrolled, during their index agreement, for a one-year period. This exclusion would have recently ended, and given that the average length of time before re-enrolling was 56 days, it is possible that many of these participants re-enrolled shortly following their third and final interview. Still, these participants had been out of the program for an average of 92 days at the Time 3 interview, with the time since the exclusion ended ranging from less than one week to over six months ago. Further, some participants felt that they no longer needed the program, that

they had successfully dealt with their underlying issue, and had developed a better degree of self-control since their index exclusion (see Figure 21). Interestingly, a sub-sample of participants reported using the VSE program on a somewhat seasonal basis. For instance, some participants regularly enrolling during a certain period of the year each year. Of note, only a small proportion of those who did not re-enroll (8 per cent) at the time of their Time 3 interview reported that the program did not work for them.

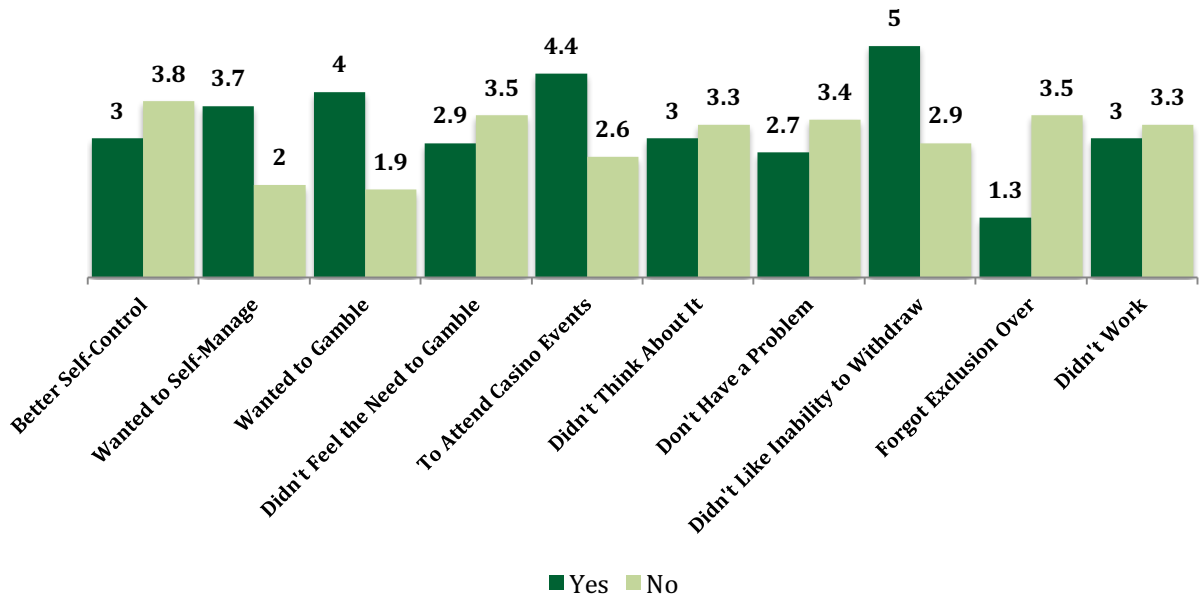
FIGURE 21: REASONS FOR NOT RE-ENROLLING AT TIME 3 (N = 93)



While the average number of days that participants had been out of the VSE program did not significantly differ based on the reasons for not re-enrolling, participants did differ substantially in one of these categories. Notably, participants reporting better self-control had been out of the VSE program for a much longer period of time (X = 100 days) than those who did not feel as though they had developed better self-control (X = 65 days); this difference neared statistical significance, t (88) = -1.850, p = .068.

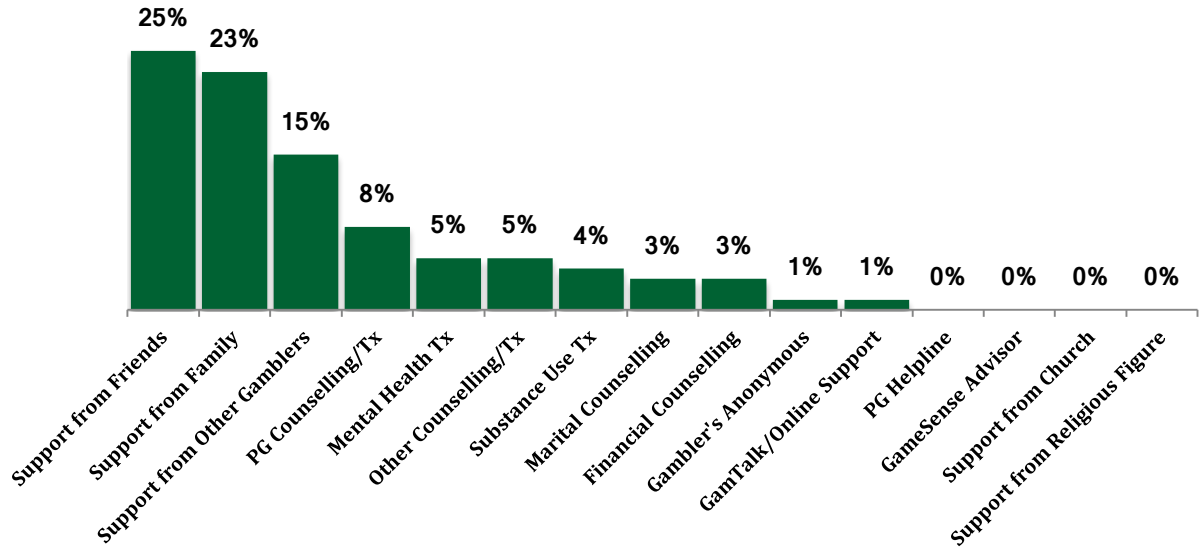
Interestingly, three of the reasons for not re-enrolling did appear to differ by PGSI scores at Time 3. Not surprisingly, those who reported not re-enrolling because they wanted to gamble again had statistically significantly higher PGSI scores at Time 3 (X = 4.0) than those who did not endorse this reason (X = 1.9), t (89.29) = -2.797, p = .006. Surprisingly, the PGSI score also differed for those who suggested that wanting to attend casino events was a reason for their not re-enrolling, with those endorsing this response demonstrating a higher rate of gambling problems (X = 4.4) than those who did not endorse this reason for not re-enrolling (X = 2.6), t (90) = -2.08, p = .041 (see Figure 22). Lastly, those who did not re-enroll at Time 3 because they wanted to manage their gambling on their own had a significantly higher PGSI score at Time 3 (X = 3.65) than those who did not endorse this reason for not re-enrolling (X = 2.04), t (69.01) = -2.06, p = .044.

FIGURE 22: AVERAGE PGSI SCORES BY REASONS FOR NOT RE-ENROLLING



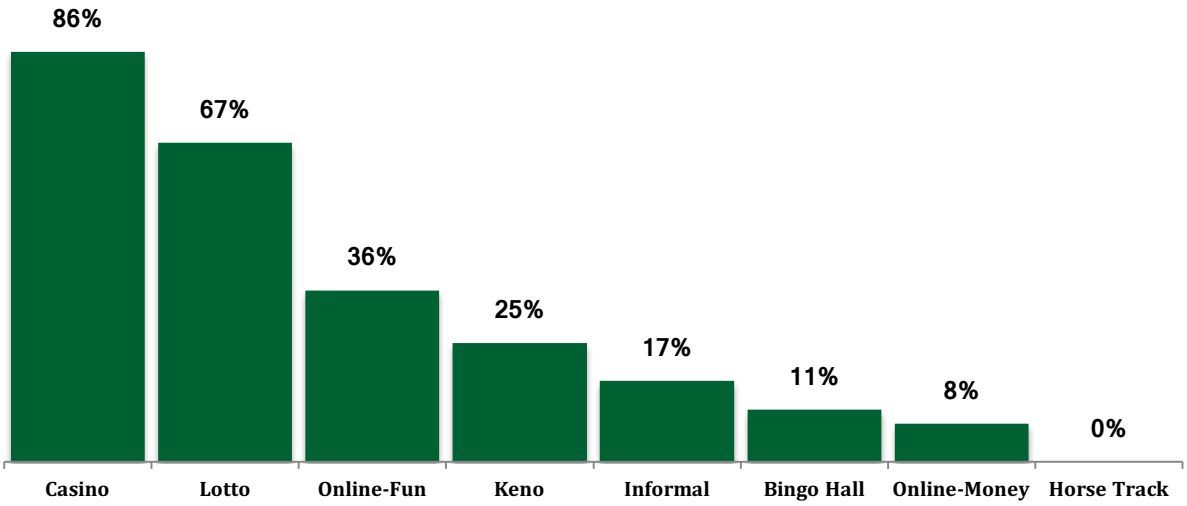
Participants who did not re-enroll in the program by Time 3 were asked about what other supports they had accessed in the last 6 months. Primarily these supports were informal (see Figure 23). Still, even the most commonly sought supports were only accessed by a quarter or less of the non-re-enrolled gamblers.

FIGURE 23: SUPPORT SEEKING FROM GAMBLERS WHO DID NOT RE-ENROLL BY TIME 3 (N = 93)



In total, 37 participants whose program involvement had ended over three months ago were asked about their gambling participation since their exclusion. All but one of these participants reported gambling in some way. While nearly two-thirds reported participation in purchasing lotto tickets, the most common response by participants was gambling at the casino (see Figure 24).

FIGURE 24: TYPE OF GAMBLING PARTICIPANTS PARTICIPATED IN OVER THE PAST 6 MONTH GAMBLING ACTIVITIES POST-EXCLUSION



Of the 31 participants who reported gambling in the casino post-exclusion, 71% had done so a few times, while 13% (n = 8) reported gambling at least once a week or more. Interestingly, when compared to violation attempts reported at the Time 2 interview, only one of these eight participants reported ever trying to re-enter the casino while excluded, while the other seven reported that they had never tried to re-enter while excluded. In essence, participants who returned to frequent casino gambling following the end of their program involvement generally appeared to have good levels of self-control over their gambling while enrolled in the VSE program. However, it is important to note that the PGSI raw scores for these eight participants more than doubled between the Time 2 and Time 3 interviews, from an average of 2.6 to an average of 6.4, indicating a movement back towards problem gambling levels. This was particularly interesting given that all eight participants were out of the program by the Time 2 interview. In fact, by the time they were interviewed at Time 3, they had been out of the program for more than six months, during which time it appeared that their PGSI scores elevated. This finding was likely the result of their continued and perhaps escalated participation in casino gambling.

Although this particular sub-sample is quite small, it does convey the important controlling effect that the program can have towards curbing problem gambling participation and the importance of re-enrolling. Importantly, when asked at the Time 2 interview whether they would re-enroll in the program again, only one of these eight stated that they would not, with the majority (63 per cent) indicating that they were unsure if they would sign up again. Although this particular sample is

small, the finding may suggest that potential marketing of the program to previous participants might assist them in returning to the program before their gambling behaviour returns to problematic levels.

It is also important to point out that, over time, whereas gambling problems appeared to increase while out of the program, participants typically self-reported that certain forms of gambling activities had changed. For instance, of the participants who had been out of the program for the previous six months, nearly half (46 per cent) felt that their slot gaming had decreased in the previous six months compared to their levels at the Time 2 interview, while a nearly equivalent group (44 per cent) felt that their table gaming had decreased in the previous six months. For the remainder of participants, a large minority felt that there had been no change in their levels of either slot gaming (32 per cent) or table gaming (38 per cent), while only a relative handful reported that they thought their gambling in these areas had actually increased (21 per cent and 19 per cent, respectively). The vast majority (83 per cent) reported that there had been no change to their amount of lotto participation.

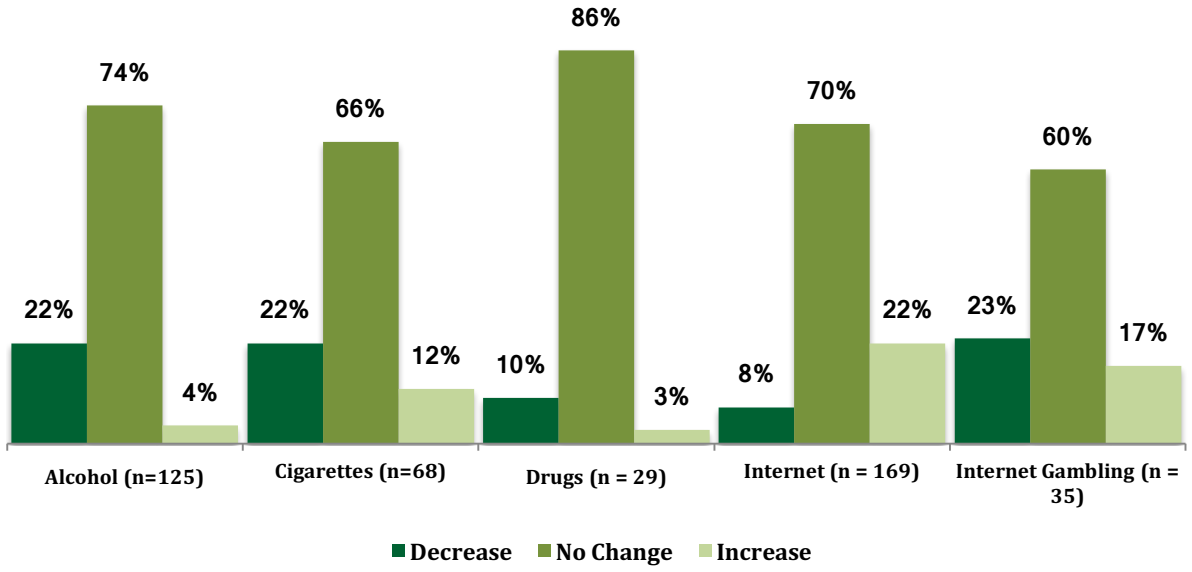
EXCLUDED OR RECENTLY EXCLUDED PARTICIPANTS AT TIME 3

At the Time 3 interview, 142 participants (60% of the Time 3 sample) were still under an exclusion agreement, whether it was their index exclusion (71%) or a re-enrollment (29%). Another 49 had only ended their exclusion less than six months ago, and so were asked about behaviours while excluded in the past six months. In total, 191 participants answered questions about their behavior over the past six months while excluded.

Participants were asked about several behaviours that may act as substitutes for gambling, including drinking alcohol, smoking cigarettes, and using the internet. Most participants reported that they had not changed their participation in these activities over the last six months while enrolled in the VSE program (see Figure 25).[6] The largest increases occurred for online activities, with both online gambling and other forms of online activity increasing for one-fifth of participants, although a larger proportion of participants decreased, rather than increased their participation in internet gambling. Other reductions were found for alcohol and cigarette use where between one-fifth and one-quarter of participants reported decreasing their use of these substances over the last six months.

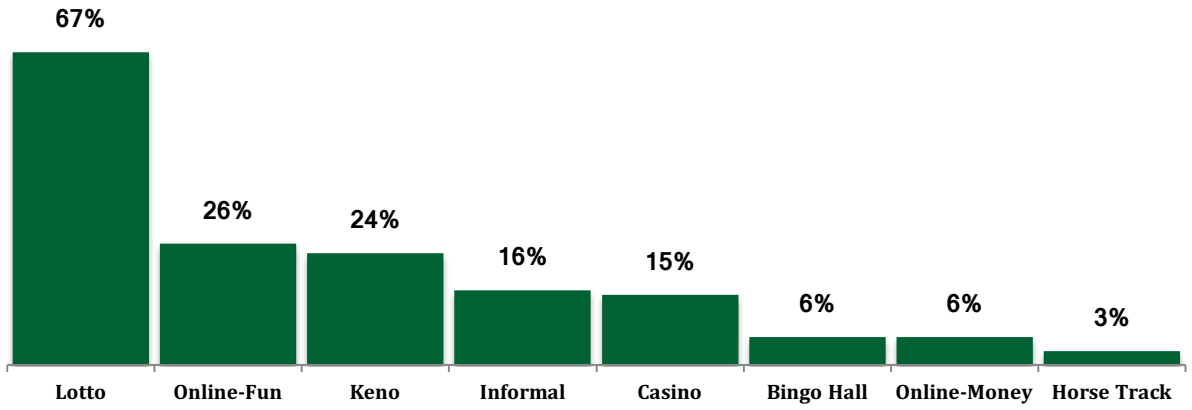
[6] The different n's in the figure represent the number of participants who ever reported having engaged in these activities.

FIGURE 25: SUBSTITUTE BEHAVIOURS WHILE EXCLUDED



Participants were asked whether they had engaged in any forms of gambling while excluded from casino gambling in the past six months. This could include gambling online, gambling in home games, or purchasing lotto, among other activities. In other words, this question was not specific to violating their agreement with BCLC and was focused more on abstinence from all possible forms of gambling. Overall, 83% of these participants reported some form of gambling in the past six months while excluded. The most common activity was purchasing lotto tickets (67 per cent) followed by gambling online without betting money (26 per cent), and playing Keno (24 per cent) (see Figure 26). Of note, all three of these activities are outside of the agreement made between the participant and BCLC and, therefore, are not considered violations of the program. In fact, only 15% of participants reported any casino gambling in the past six months while excluded.

FIGURE 26: PAST 6 MONTHS GAMBLING WHILE EXCLUDED (N = 194)



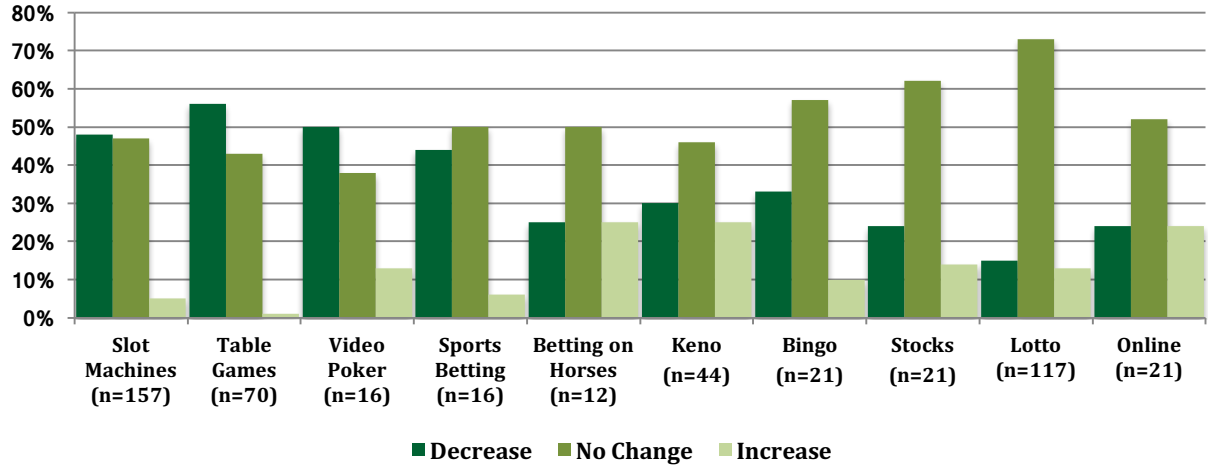
Compared to participants who had been out of the program for six months or longer (non-excluded), participants who were still in the program or whose exclusion had only recently ended (excluded) were significantly less likely to report gambling in the casino. There were no statistically significant differences for other forms of gambling (see Table 6). In other words, the VSE program appeared to be achieving its main goal of preventing enrolled participants from gambling in British Columbian casinos while self-excluded.

TABLE 6: COMPARING FORMS OF GAMBLING OVER THE PAST 6 MONTH AMONG NON-EXCLUDED AND EXCLUDED PARTICIPANTS (N = 231)

Forms of Gambling Past 6 Months	Non-Excluded	Excluded	Significant Difference (α = .05)
Casino	84%	15%	x^2 (1) = 76.6, p = .000
Bingo	11%	6%	ns
Betting on Horses	0%	3%	ns
Gambling Online for Money	8%	6%	ns
Gambling Online for Fun	35%	26%	ns
Informal	16%	15%	ns
Keno	24%	24%	ns
Lotto	65%	67%	ns

Excluded participants were also asked about changes to their gambling behaviours in the past six months. Whereas casino-related activities, including table games, video poker, and slots, showed substantial reductions in participation, two other forms of gambling participation; namely keno and online gambling, increased for one-quarter of this group (see Figure 27). It should be noted that the number of participants involved in these activities was fairly low (44 and 21, respectively). Similarly, while betting on horses increased for one-quarter of the sample, this was based on only 12 individuals.

FIGURE 27: PAST SIX MONTH CHANGES TO GAMBLING BEHAVIOURS AMONG EXCLUDED PARTICIPANTS



Several demographic and gambling behaviours at Time 1 were used to try and identify characteristics associated with increasing participation in either Keno or online gambling by Time 3. While gender, marital status, education, employment, income, residence, ethnicity, primary language spoken, age, previous gambling averages, and raw PGSI scores were not statistically significantly associated with either Keno or online gambling at Time 3, previous experience with gambling online neared a significant association with past six month increases in Keno participation (44 per cent) as compared to those with no previous online gambling participation (0 per cent), x^2 (2) = 5.8, p = .054. In contrast, gender neared a significant association with past six month increases in online gambling, x^2 (2) = 5.4, p = .068, where females were more likely than males to report increases in online gambling (60 per cent versus 13 per cent), and males were more likely to report decreases than females (31 per cent versus 0 per cent). Again, these analyses were based on fairly small samples of participants reporting having ever engaged in either Keno or online gambling.

PGSI SCORES AT TIME 3

Participants were screened for gambling problems for a third and final time at the Time 3 interview. At this point, approximately one year after enrolling in the VSE program, the average PGSI score was in the low-risk category for problem gambling (X = 3.2, median = 2, SD = 4.5). Further, one-fifth (22 per cent) of VSE participants were now considered in the "non-problem gambling" range with a score of 0, while the majority (60 per cent) were considered low-risk for gambling problems. Only 26% were in the moderate risk level, while just over one-tenth (10.6 per cent) remained in the problem gambling end of the screen.

Although counselling will be discussed later in this report, it is important to consider whether there was an association between problem gambling symptoms and access to counselling, as it is possible that attendance at counselling would bring down PGSI scores. Interestingly, in the Time 3 analysis, there was a non-significant association between these two variables, t (30.06) = -1.53, p > .05, with the average PGSI score only two points higher (X = 4.9) for those who had attended counselling compared to those who had (X = 2.9). This finding could possibly indicate that counselling had no effect on PGSI scores, as these scores went down regardless. But, it is also possible that participants with higher initial PGSI scores were more motivated to attend counselling, and they may have achieved a more substantial reduction in their PGSI scores over time than those not in counselling, but who also started at a lower point. In fact, there was a statistically significant difference in total PGSI scores at Time 1 when comparing those who had ever attended problem gambling counselling (X = 15.3, SD = 6.0) and those who never attended problem gambling counselling (X = 11.5, SD = 6.1), t (322) = -4.5, p = .000.

VIOLATION ATTEMPTS AT TIME 3 AMONG EXCLUDED PARTICIPANTS

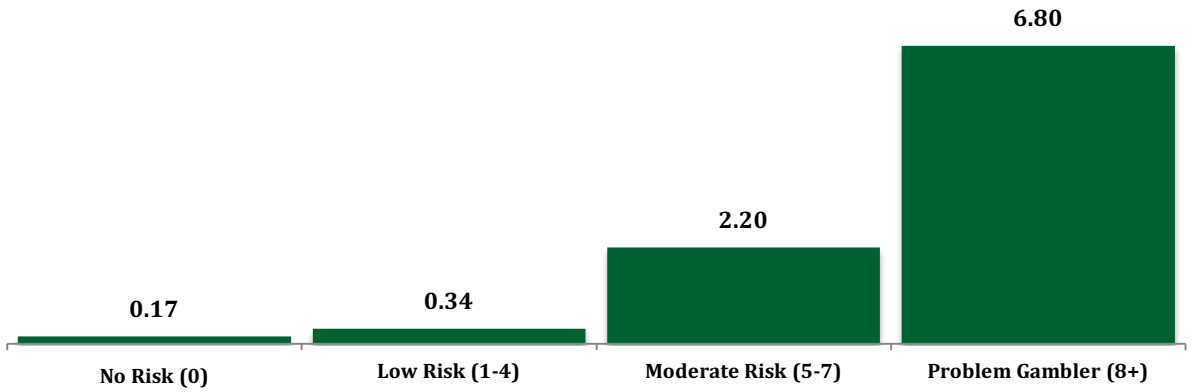
Participants who were currently excluded or whose exclusion had recently ended were asked how many times they had attempted to re-enter a casino in British Columbia while excluded. A large majority (81 per cent) had never tried to re-enter the casino. The remaining 36 participants had

attempted to violate their agreement, on average, six times in the past six months. One-third of participants had attempted to violate their agreement only one time; however, one-quarter (n = 9) indicated they had attempted to violate their agreement 10 or more times in the past six months, with four of these participants indicating over 20 attempted violations. Given that there was a small sample size of chronic violators, a more appropriate statistic to reflect the typical number of violation attempts in the past six months would be the median number of violation attempts, which, in this case, was two.

Demographic and previous gambling history variables were compared to whether or not the participant had attempted to violate in the past six months while excluded. Again, the sample size of program violators was relatively small, at only 36 participants. Given the sample size, these results must be treated with caution. Length of enrollment at Time 1 was not statistically significantly related to past six-month violation attempts, although the results were in the same general direction as the previous study, whereby those least likely to violate were found in the six-month enrollment group (9 per cent) compared to those enrolled for either one or two years (26 per cent) or three years (16 per cent). Past six-month violation attempts were also unrelated to gender, marital status, education, employment, income, residence, language, ethnicity, age, or the frequency of previous gambling. Attending problem gambling counselling or treatment in the past six months was also unrelated to past six-month violation attempts, with 24% of those who attended problem gambling counselling reporting at least one violation attempt compared to 18% of those who had not attended counselling.

One of the only variables statistically significantly associated with past six-month violation attempts at Time 3 was the participant's PGSI score at Time 3. In this case, participants who had attempted to violate in the past six months had a statistically significantly higher average PGSI raw score (X = 6.5) compared to participants who had not tried to violate in the past six months (X = 2.4), t (40.78) = -3.78, p = .001. When looking at the distribution of PGSI categories across violation status, one-third of those who violated were considered problem gamblers (36 per cent), while nearly one-tenth (8 per cent) were in the moderate-risk range. Interestingly, nearly half of those who attempted to violate were in the low-risk group, while another 8% were considered to be at no-risk for problem gambling. Still, this analysis reflected only *whether* the participant had tried to violate their agreement in the past six months, not how many times they had tried to do so. When comparing PGSI categories across the number of violation attempts, the raw PGSI score was positively and moderately correlated with the number of violation attempts, r (191) = .450, p = .000, indicating that as PGSI score goes up, so does the frequency of violation attempts. Similarly, the no-risk group attempted to violate, on average, less than one time, significantly less than the 6.8 average number of violation attempts made by problem gamblers, F (3, 189) = 22.9, p = .000 (see Figure 28).

FIGURE 28: AVERAGE VIOLATION ATTEMPTS BY PGSI CATEGORY AT TIME 3



The only other characteristics associated with past six-month violation attempts at Time 3 involved mental health issues. Participants were given two questions[7] at each survey to screen for possible depression, anxiety, stress, or substance related issues. Total possible scores ranged from 0 to 6 on each pair of questions, with higher scores indicating that the participant felt these symptoms more often. Higher scores on the depression and anxiety questions were significantly associated with violation attempts. Those who had attempted to violate in the past six months had significantly, though not substantially, higher scores on the depression (X = 2.2)[8] and anxiety (X = 1.9)[9] sub-scales than participants who had not tried to violate (X = 1.2 and X = 0.7, respectively). The stress and substance use screening questions were not significantly associated with violation attempts in the past six months.

With regards to attempts to violate the program agreement in the past six months, the only characteristics that appeared to separate those who did from those who did not attempt to violate at Time 3 were current PGSI score which, in the case of violators, still fell into the problem gambling range, and possible issues with depression and anxiety.

In addition to violations reported at Time 3, the violations reported at Time 1 and Time 2 were combined into a single variable indicating whether the participant reported attempting to violate their agreement at any point between their index enrollment and the Time 3 interview. One-quarter of the sample reported trying to violate their agreement at some point over the course of the study. To help security staff guide their efforts towards detecting potential future program violators, bivariate analyses were conducted with a set of gambling and demographic variables in an attempt to identify characteristics associated with violation attempts.

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[7] These questions were adapted from the DASS21, a 21-item scale measuring Depression, Anxiety, and Stress. Lovibond, S.H. & Lovibond, P.F. (1995). *Manual for the Depression Anxiety Stress Scales.* (2nd Ed.). Sydney: Psychology Foundation.

[8] t (191) = -3.78, p = .000

[9] t (190) = -3.21, p = .002

Given the novelty of the program constraints to first timers and the difficulty in self-controlling recent gambling behaviours, it was somewhat surprising to find that repeat enrollers were actually significantly more likely to try violating at any point (56 per cent) than first time enrollers (44 per cent). Of note, the length of enrollment selected by the participant at Time 1 was surprisingly unrelated to whether they attempted to violate their agreement at any point, with between one-fifth (21 per cent) of those enrolling for three years reporting an attempted violation up to 31% of those enrolling for one year.

PGSI scores at Time 3 were again related to having violated at any point, with the Time 3 PGSI score for violators remaining in the moderate risk level (X = 5.5), compared to the low-risk level of non-violators (X = 2.4), t (61.52) = -3.55, p = .001. Interestingly, one's PGSI score at the start of the study, immediately after enrolling in the program, was unrelated to ever attempting to violate the agreement. This was likely because both violators (X = 13.5) and non-violators (X = 12.0) started with very high PGSI scores suggesting that both groups were likely suffering from problem gambling. While this indicates that a PGSI score at enrollment cannot be used on its own to predict who will violate their agreement, it does suggest that progress during the enrollment period is helpful at predicting who will attempt to violate their agreement, with those making fewer changes to address gambling addiction being more likely to violate. As having ever attempted counselling was also unrelated to ever having attempted to violate, with approximately one-quarter of those who have been in counselling (27 per cent) and those who had not engaged in counselling (25 per cent) both reporting violation attempts, there must be other yet unidentified factors related to decreasing one's PGSI score and having an indirect effect on violation attempts. These potential drivers will be explored later in the Longitudinal Analysis section of the report.

In terms of demographics, there was no difference in ever having attempted to violate the VSE agreement by gender, education level, employment status, income, residence, language spoken, or ethnicity. However, marital status did relate to ever having attempted to violate, as a greater percentage of common law (44 per cent) and single participants (35 per cent) violated at some point compared those who were married (17 per cent), divorced (14 per cent), or widowed (0). However, this may relate more directly to age, rather than marital status, as violators were significantly younger (X = 45 years) than non-violators (X = 51 years), t (222) = 2.67, p = .008. Of note, the current analyses were conducted bivariately, and thus these predictors were not tested in relation to the effect of other related predictors. These predictors will be tested in a multivariate model in the Longitudinal Analysis section of this report.

Program violators were asked some additional questions about their experiences with and motivations for violating their agreement. Two-thirds (64 per cent) reported that they had only recently tried to re-enter the casino, although the remaining one-third (36 per cent) indicated that they had repeatedly violated throughout their agreement. In total, 11 participants indicated that they had never actually been able to successfully re-enter the casino, while 17 reported that they were able to successfully re-enter the casino every time they attempted to do so. Generally, participants suggested that about two-thirds (66 per cent) of the times they had tried to re-enter the casino they were able to do so successfully without being detected by security, while the slight majority (54 per cent) of participants who had attempted to violate reported that they had not been caught any time in the past six months in the casino while excluded.

There are several methods that excluded gamblers use to try to enter the casino undetected by security. At the Time 3 interview, the most common method used by those trying to violate their agreement was to attend a different casino than they typically gambled at (42 per cent) in the hopes that staff would be unfamiliar with them, thus not recognizing them as program participants. One-quarter attempted to change their appearance in some way, such as shaving or growing a beard, or wearing a hat or glasses, while one-fifth avoided the license plate recognition technology by having someone else drive them or using public transportation. One-fifth also attempted to enter the casino either without identification or with another person's identification.

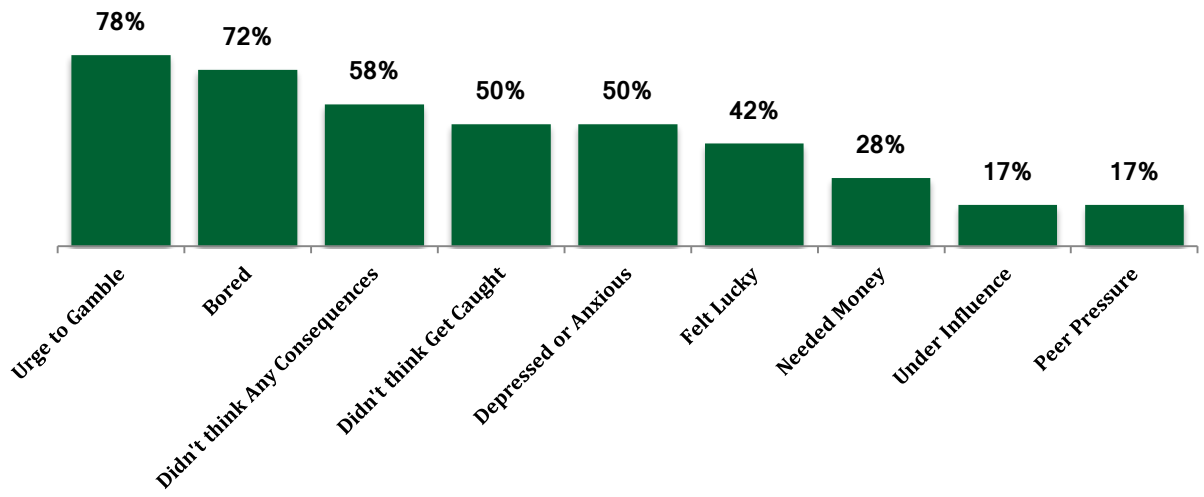
Time 3 participants who were caught in the casino while excluded (n = 16) reported few consequences other than being reminded of their agreement to stay out of casinos in British Columbia for the duration of their agreement (88 per cent), and being reminded that they were not eligible for payouts (53 per cent). A minority reported being escorted out (25 per cent) or reprimanded or scolded (24 per cent), and only one participant reported having their winnings withheld. No participants were given a fine or charged with trespassing after being caught in the casino while under their exclusion agreement.

The major motivations for attempting to re-enter casinos while still under their exclusion agreement were feeling an urge to gamble, feeling bored, thinking no consequences would be imposed, thinking that they would not get caught, or feeling depressed or anxious. These explanations may reflect a lack of self-control that results from a pathological desire to re-engage in an addictive behavior. Interestingly, when compared to PGSI raw scores at Time 3, the reasons for violating that were significantly associated with violation attempts were needing money (X = 13.1 versus X = 5.1), t (34) = -3.06, p = .004, and, not surprisingly, feeling the urge to gamble (X = 8.07 versus X = 1.78), t (33.23) = -2.58, p = .000.

It is possible that the reasons for attempting to violate the agreement vary by region. For example, it is possible that in rural communities, casinos may represent a type of community. However, when location in either the Lower Mainland, Vancouver Island, or Interior was compared against violation attempts, there was not a significant relationship with likelihood of having tried to violate in the past six months. Similarly, none of the reasons for re-entering the casino were significantly associated with region of residence.

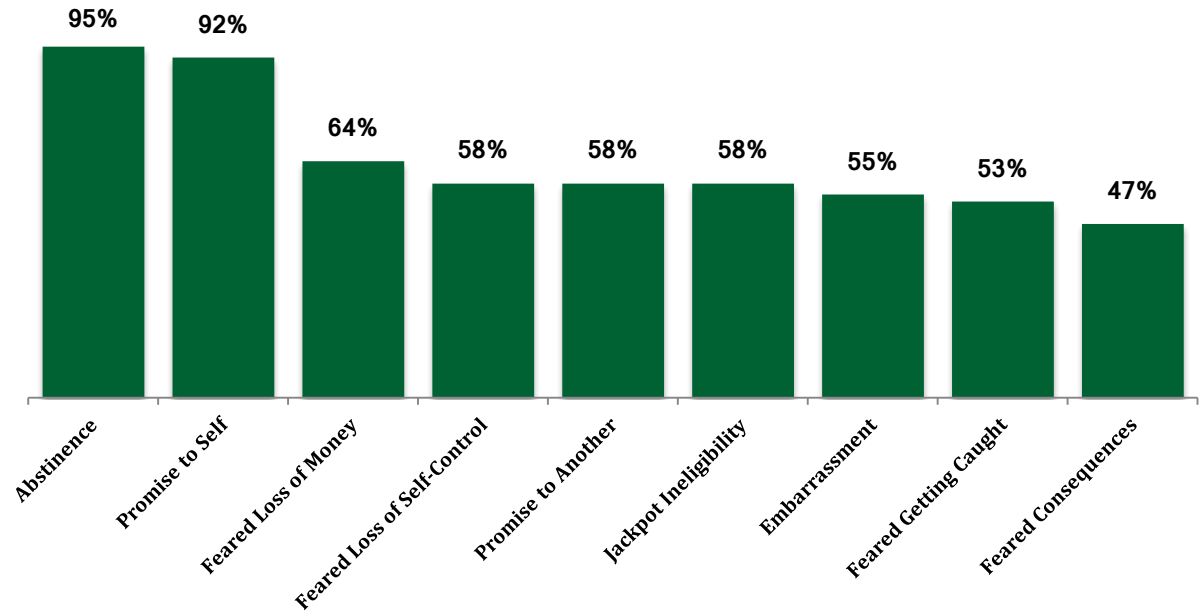
Similar to the findings presented above, when asked why they had violated their agreement, if they had done so, the most common responses were the urge to gamble (78 per cent) and feeling bored (72 per cent) (see Figure 29). A majority of participants also mentioned that they had not considered the consequences of being caught while excluded (58 per cent), that they did not think they would get caught (50 per cent), or that feeling anxious or depressed contributed to why they violated their agreement (50 per cent).

FIGURE 29: REASONS FOR VIOLATING THE VSE AGREEMENT AT TIME 3



Non-violators (n = 148) were similarly asked why they had not attempted to violate their agreement in the previous six months. Two main and related reasons were endorsed by nearly all non-violators; namely a desire to stay abstinent from gambling and a desire to keep a promise they had made to themselves not to gamble (see Figure 30). Other common reasons included fearing that they would lose money or self-control, or the fact that they were ineligible to claim the jackpot if they won.

FIGURE 30: REASONS FOR NOT VIOLATING AGREEMENT AT TIME 3

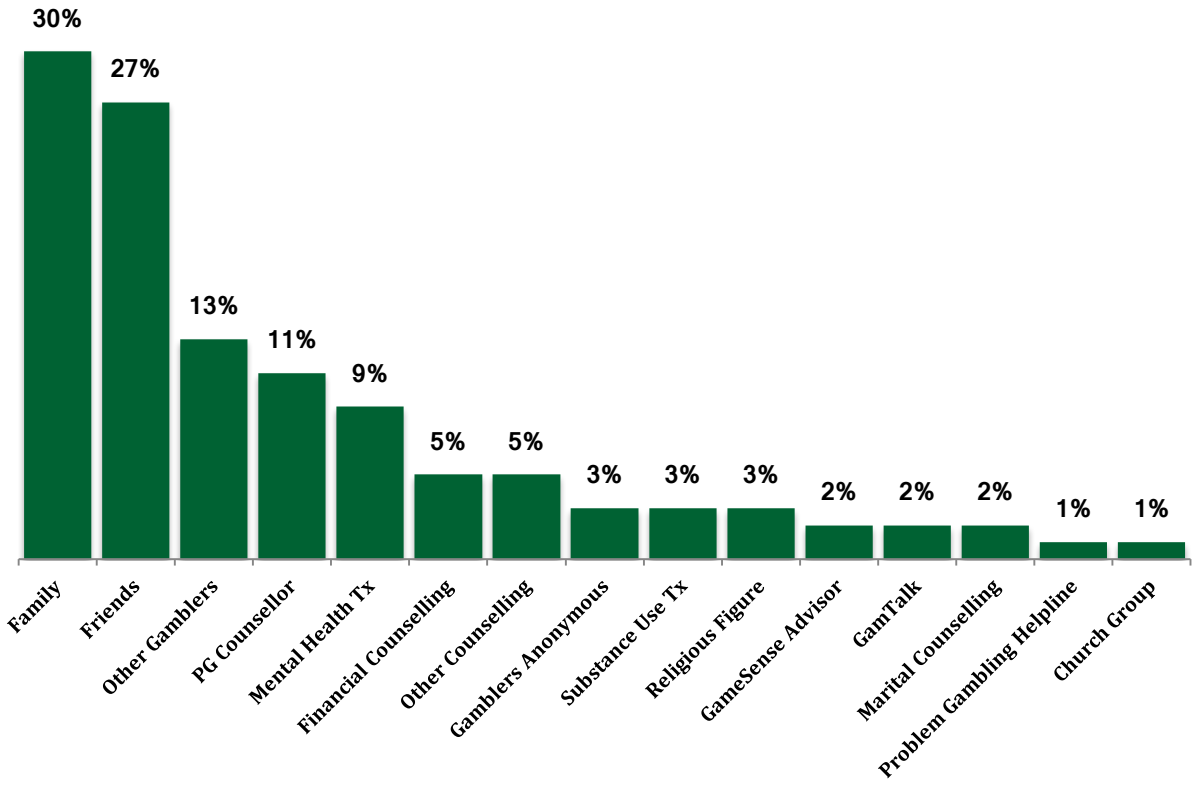


COUNSELLING PARTICIPATION AT TIME 3

In total, 88% of participants at Time 3 indicated that they had not participated in problem gambling counselling over the previous six months. Although those who attended counselling in the six months prior to Time 3 reported lower PGSI scores at Time 3 (X = 2.9) when compared to participants who had not attended counselling (X = 4.9), these scores were not significantly different, t (30.1) = -1.53, p > .05. However, the PGSI scores at Time 1 did significantly differ as those who had attended counselling in the six months prior to Time 3 had statistically significant higher PGSI scores (X = 16.1) than those who had not attended counselling in the previous six months (X = 11.6), t (231) = -3.56, p = .000. Thus, counselling may have had a positive influence on PGSI scores.

In addition to counselling, other ways of seeking support while excluded can include doctors, other forms of counselling, Gambler's Anonymous, and informal supports through friends and family. Despite all these options, the average number of sources of support sought by participants was very low, at only 1.2. Nearly half the sample (47 per cent) reported seeking no supports. Of those who did, the most common forms were informal (see Figure 31).

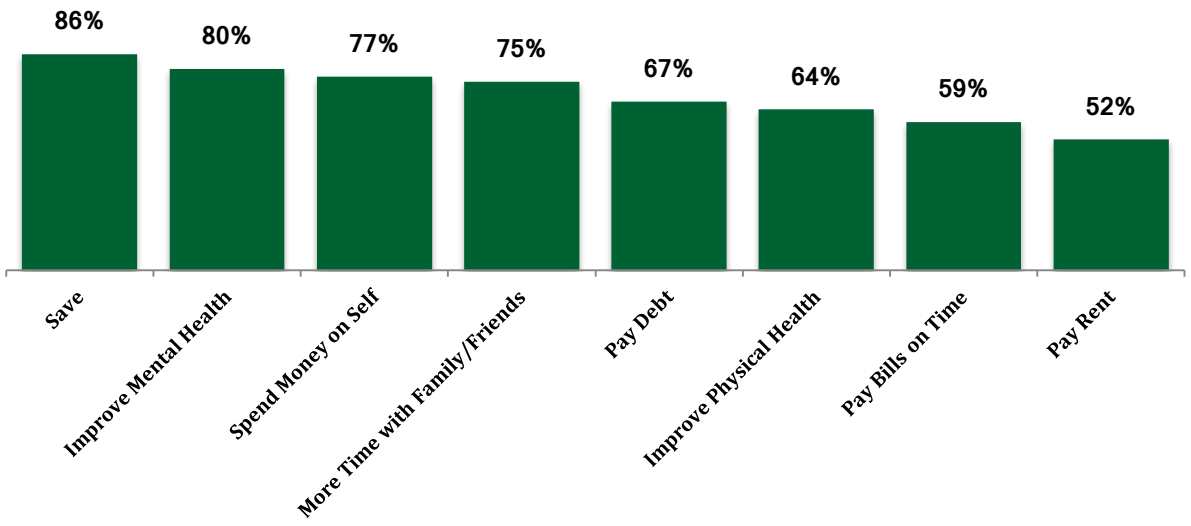
FIGURE 31: SOURCES OF SUPPORT SOUGHT AT TIME 3 (N = 123)



BENEFITS AND PERCEPTIONS OF THE PROGRAM AT TIME 3

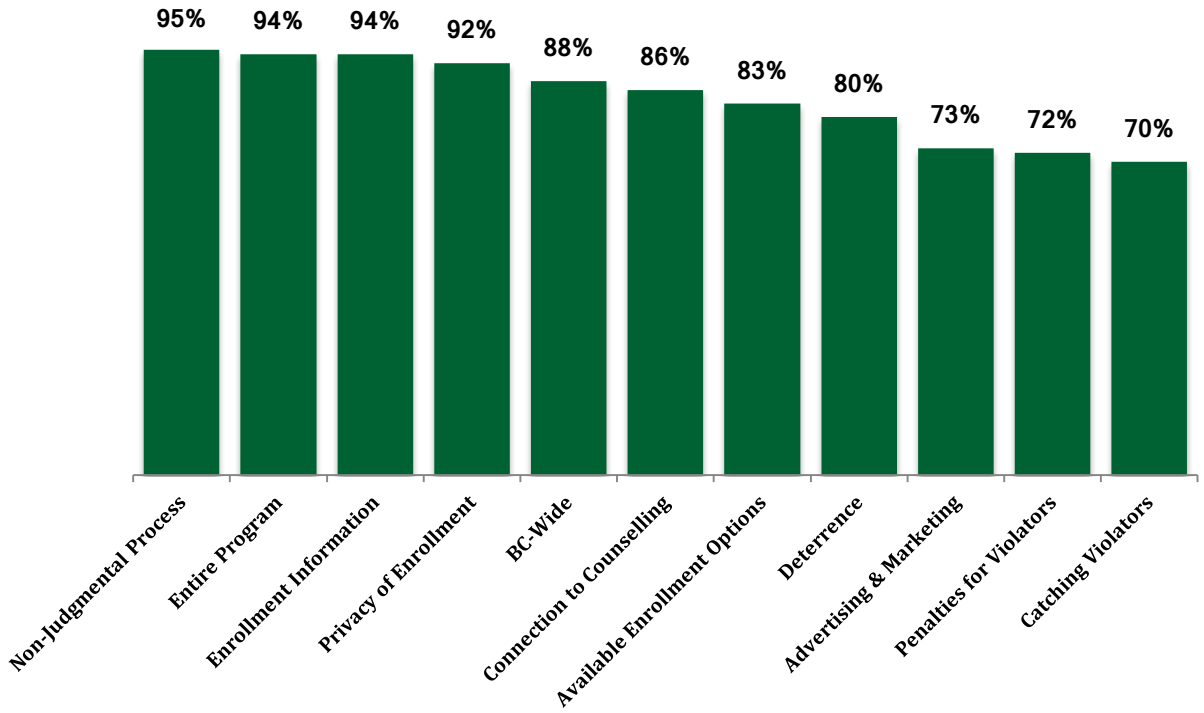
One of the themes that was clear throughout the interviews was that, for some participants, the VSE program was a way to manage or control their spending of money on gambling. At the Time 3 interviews, one-third (34 per cent) of participants indicated that they had enrolled in the VSE as a way to budget or manage their finances. Not surprisingly then, the most commonly provided respond when asked about the benefits of the program was related to the program's contribution to helping participants save, manage, and budget their money better (see Figure 32). A large proportion of the sample also indicated that the program contributed to an increase in mental health (80 per cent), the ability to spend money on other things (77 per cent), and not attending a casino or bingo hall allows the participant to spend more time with friends and family (75 per cent).

FIGURE 32: BENEFITS OF VSE PARTICIPATION PERCEIVED AT TIME 3



Not surprisingly, participants were overwhelmingly satisfied with the program overall, as well as with many of the individual elements of the program (see Figure 33). In particular, participants were pleased with the non-judgmental process afforded them during enrollment, the information provided during enrollment, the privacy of the enrollment process, as well as the overall program itself. In addition, 97% of participants said they would recommend the VSE program to others. It is interesting to note that the elements with the lowest level of satisfaction were the penalties for violators (72 per cent) and catching violators (70 per cent). While the satisfaction levels for these two aspects of the program were still high, it is interesting that participants seem to be suggesting that additional deterrent measures for participants of a voluntary program might be beneficial.

FIGURE 33: SATISFACTION WITH ELEMENTS OF THE VSE PROGRAM



There was another method used to collect information on how the program and its specific elements could be improved, from the perspective of the participants. First, the sample was asked to rate on a scale of 1 (very ineffective) to 4 (very effective) their perception of the effect of a variety of possible changes (see Table 7). The program characteristic endorsed to the highest extent was to advertise the program beyond the casinos.

TABLE 7: PARTICIPANT RATINGS OF POSSIBLE CHANGES TO PROGRAM

Program Characteristic	Effectiveness Rating
Advertise Outside Casinos	3.6
Facial Recognition	3.4
Mandatory Id Check	3.3
5 Year Enrollment	3.3
BCLC Calls Before Exclusion Ends	3.3
Phone Re-Enrollment	3.1
Random Id Checks	3.1
Penalties Enforced	3.0
Mailed Re-Enrollment	2.9
Lifetime Enrollment	2.9
Opportunities To Meet Other Excluded Patrons	2.9
Option For Mentors	2.9
Gambling Counsellor Conduct Enrollments	2.9
Automatic Re-Enrollment In VSE	2.9
Mandatory Education	2.8
GameSense Required At Enrollment	2.8
Stop Security Escort After Enrollment	2.8
Mandatory Treatment	2.8
Penalties More Severe	2.7
Mandatory Counselling	2.6
Can Attend For Non-Gambling Activities	2.6
3rd Party Enrollment	2.4
6 Months Or Less Enrollment	2.4
Have Name On Watch List Post-Exclusion	2.3
Remove Chronic Violators From Program	2.2
Post Pictures Of Violators At Entrances	2.0

Longitudinal Analysis

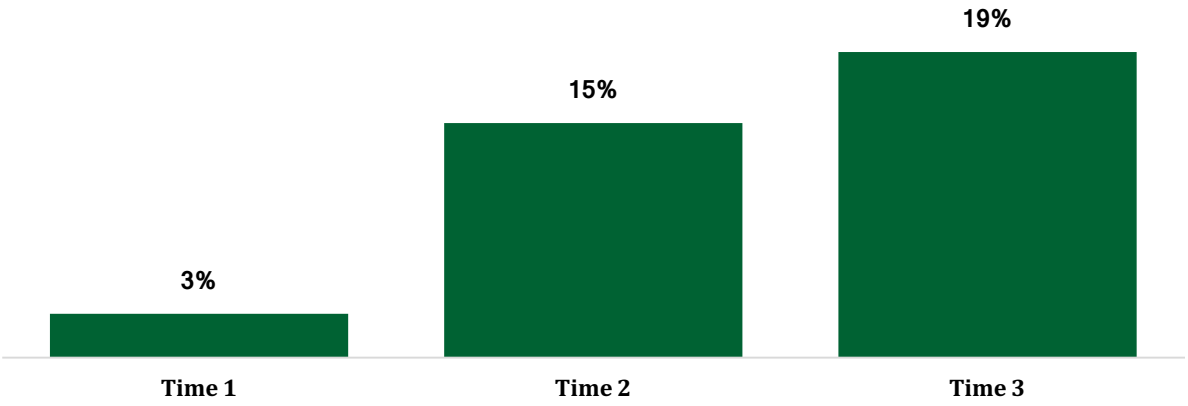
This section of the report analyses changes over time in three key variables: a) VSE violations (i.e., attempts to return to a casino to gamble while enrolled in the VSE program); b) scores on the Problem Gambling Severity Index (PGSI); and c) whether participants received any counselling for gambling. These longitudinal analyses are presented in two parts. First, trend analyses were conducted on the three primary variables of interest, as well as on three variables related to participants' emotional states. The trend analyses demonstrate pattern of change; that is, how the variables changed over the course of the three interview periods. Second, mixed linear models and generalized estimated equations were used to analyze the patterns associated to these patterns of change. More specifically, these statistical techniques assessed the relationships between the dependent variables (VSE violations, PGSI scores, and counselling attendance) and a series of demographic factors and indicators of emotional status.

TREND ANALYSIS – VSE VIOLATIONS

The percentage of participants who reported that they had violated the conditions of the VSE program is presented in Figure 34. At the time of the first interview, participants were asked to indicate how many times they had tried to return to a casino to gamble since the start of their current VSE enrollment. For most participants, this period of time was only a few weeks in

duration. Not surprisingly then, very few participants (fewer than 3%) indicated that they had made any attempt to return to a casino. As a result, what appears to a very large jump in the proportion of violators between the first (Time 1) and second (Time 2) interviews is in fact a methodological artifact. More worthy of note is the change in violating behaviours between the second and third (Time 3) interviews. At Time 2, approximately 15% of participants reported VSE violations, while that proportion rose to nearly 20% at Time 3. Put another way, between the second and third interviews, there was a statistically significant increase of about 30% of those who reported at least one attempted violation. In effect, the likelihood of violating the conditions of the VSE program increased significantly over time.

FIGURE 34: PROPORTION OF PARTICIPANTS VIOLATING VSE BY TIME

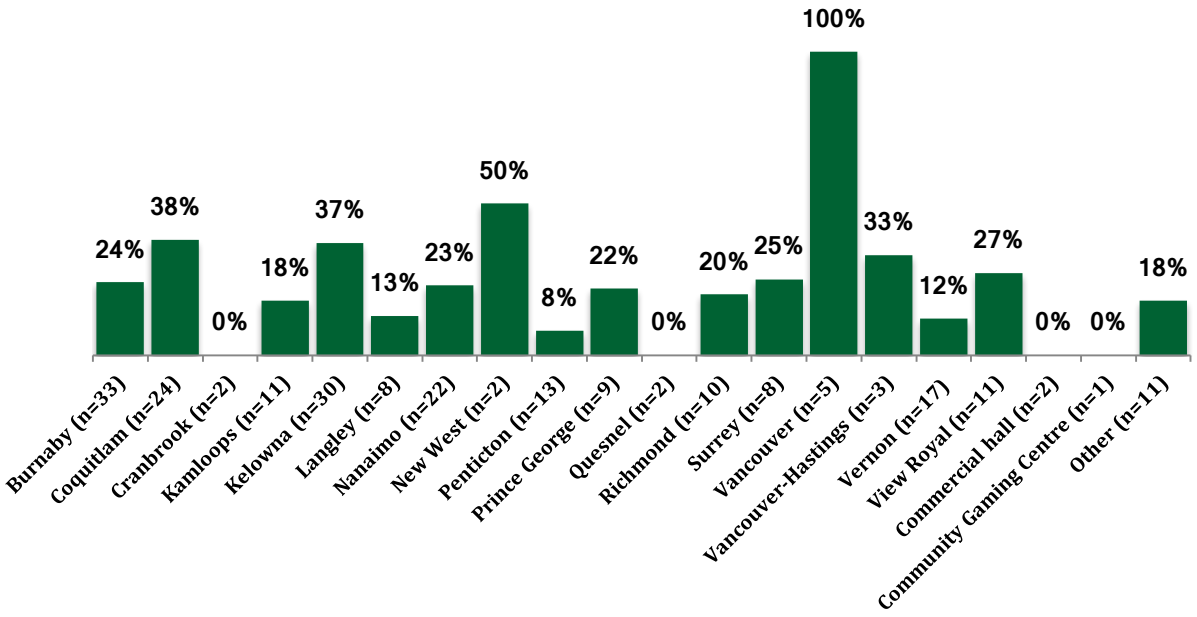


Although the proportion of participants violating increased over time, the average number of violations reported by participants at Times 2 and 3[10] actually decreased over the same period. The mean number of violations dropped from, on average, 1.6 at Time 2 to, on average, 1.2 at Time 3. This represented a drop of about 25%, but it was not statistically significant.

The location of enrollment was cross-referenced by the proportion of participants who reported attempting to violate at any point in the study (see Figure 35). An important caveat to note is that the casino the participant attempted to violate at may not be the same casino where they enrolled. Still, the data may identify locations where a higher proportion of program enrollees are likely to attempt to violate, thus suggesting the need for better monitoring and connections to counselling.

[10] Time 1 is omitted because so few respondents indicated any violations.

FIGURE 35: PROPORTION REPORTING VIOLATING VERSUS LOCATION OF ENROLLMENT



PROBLEM GAMBLING SEVERITY INDEX

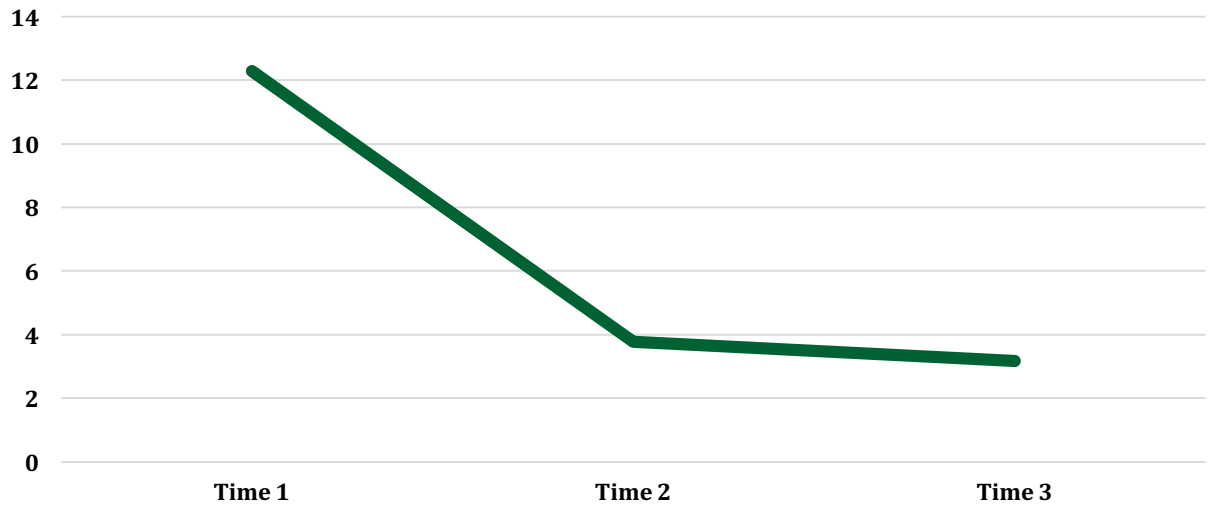
Across the entire observation period, PGSI scores dropped precipitously.[11] In broad terms, VSE participation is associated with reductions in problem gambling behaviour. However, Figure 34 clearly indicates that the vast majority of the effect happens soon after enrollment in the program, most commonly between Time 1 and Time 2. While the trajectory of PGSI scores continues onto Time 3, the decline in this period was not statistically significant. In relation to the PGSI, it would appear that the potential benefits of VSE were experienced early on in the process (see Figure 36). While there are other benefits associated with the VSE program the longer one stays in the program, continued VSE enrollment did not produce further reductions in problem gambling behaviour.

As the PGSI is comprised of 12 items, it was important to test whether the overall PGSI results show in Figure 35 were valid across the range of indicators, or whether the results were driven by particular items on the Index. Secondary analyses determined that the overall pattern of PGSI scores was evident across most of the indicators. Of the 12 items, only two, *Gambling caused financial problems* and *Felt guilty about gambling*, showed notable decreases in the second observation period (from Time 2 to Time 3). Notably, *Felt guilty about gambling* was the response

[11] At the first interview, participants were asked about problem gambling behaviours in relation to the previous 12 months. At subsequent interviews, the relevant time frame was 6 months.

item most heavily endorsed by participants at Time 1. This was an interesting finding. Given the fact that feeling guilty about gambling was the most endorsed at Time 1 and the slowest to change over time might suggest that this is an important predictor of problem gambling and might be a good focus for counseling since it is the most difficult to change. The remaining ten indicators revealed that same overall pattern, namely significant decreases in the first period, followed by insignificant changes in the second period.

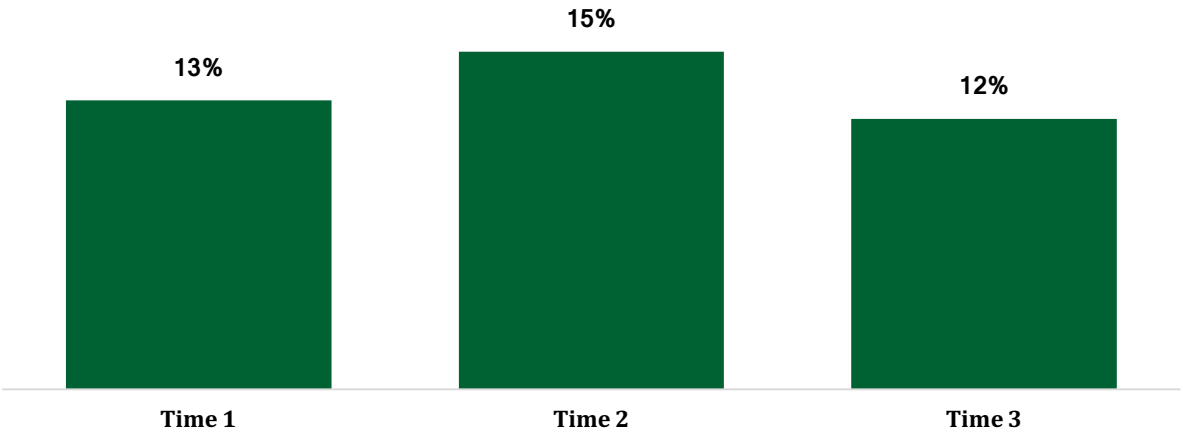
FIGURE 36: AVERAGE PGSI SCORES BY TIME



PARTICIPATION WITH COUNSELLING

The results related to whether or not participants attended the gambling counselling offered as part of the VSE program revealed a less distinct pattern. As demonstrated in Figure 37, at the time of the first interview, 12.7% of participants had attended counselling. By the second interview, that percentage had increased only slightly to 14.9%, but, by the third interview, it had fallen back to 11.9%. Neither the marginal increase nor the subsequent decrease was statistically significant. Over the course of the project, then, attendance at counselling was essentially a flat line. As will be discussed below, the relatively static nature of counselling attendance has implications for modeling.

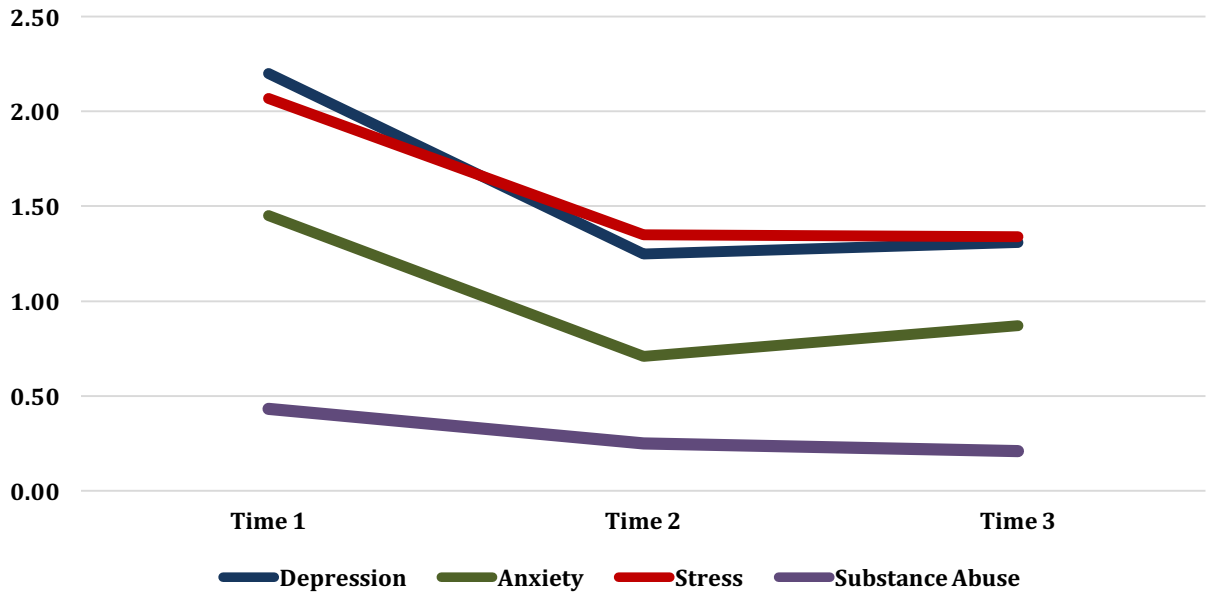
FIGURE 37: PROPORTION OF PARTICIPANTS ATTENDING COUNSELLING BY TIME



EMOTIONAL STATES

In addition to the three key dependent variables, trend analyses were also conducted on four constructs intended to measure participants' emotional states; depression, anxiety, stress, and substance abuse. Each emotional state was based on two distinct Likert scale questions with a range of 0 to four, so each emotional state could have a range from 0 (not present at all) to eight (high level). As demonstrated in Figure 38, average levels of all four emotional state measures declined substantially over the course of the study. Consistent with the pattern displayed by PGSI scores, the significant change occurred between the first and second interview periods. In fact, average levels of both depression and anxiety rose slightly, but not significantly, between the second and third interviews. Given that exclusion status was not controlled for, the return to gambling post-exclusion for some participants may be what was driving this change, similar to the increase in PGSI scores observed for those who returned to gambling. Still, measures of both stress and substance abuse were essentially unchanged during the same period. Subsidiary analyses of the items comprising each of the three scales revealed analogous patterns. As was the cases with problem gambling, potential improvements associated with VSE are more apt to occur soon after the participant enrolls in the program.

FIGURE 38: AVERAGE EMOTIONAL STATE LEVELS BY TIME



The nature of longitudinal data presents unique analytic challenges. Standard statistical techniques assume that data points are independent of one another. With longitudinal data, this assumption is typically violated. If, for example, we consider PGSI scores, the best predictor of problem gambling behaviours at Time 2 are problem gambling behaviours at Time 1. Put another way, if a participant has comparatively high PGSI score at the time of the first interview, he or she is more likely to have a comparatively high PGSI score at the time of the second interview. If not controlled for, this data dependence produces incorrect estimates of effect size. Thus, special statistical techniques are required to analyze longitudinal data.

This study was further complicated by the fact that each of the three dependent variables of interest are based on a unique distribution and, therefore, requires a distinct modelling strategy. First, PGSI scores were roughly normally distributed and, as a result, were estimated with standard linear models. In contrast, VSE violations were collected as counts (0, 1, 2, etc.). Count data has specific properties that must be taken into account during modelling. In this study, violations were analyzed using negative binomial models. Finally, participation with counselling is a dichotomous variable; that is, it was answered by respondents as either yes or no. Binary variables such as this require a logistic modelling strategy.

Given the requirements of the data, analyses were conducted using generalized estimating equations (GEEs). GEEs control for data dependence, while simultaneously allowing for a wide range of distributions (normal, negative binomial, and logistic) in the dependent variable.

VSE VIOLATIONS

The analyses of the number of VSE violations are summarized in Table 8.[12] The *Time 2 Average* and *Time 3 Average* columns provide the average number of violations across the various categories of the demographic factors.[13] For example, for male participants, the mean number of violations dropped from 2.35 at Time 2 to 1.33 at Time 3. By comparison, the mean number of violations for female participants increased marginally over the same period (from 0.91 to 1.08). This descriptive information can be useful in interpreting the results of the bivariate and multivariate analyses.

TABLE 8: LONGITUDINAL ANALYSES OF VSE VIOLATIONS

Demographic Factors	Category	Time 1 Average	Time 2 Average	Time 3 Average	Bivariate Exp(B)	Full Model Exp(B)
Gender	Males		2.35	1.33		
	Females		0.91	1.08	0.51	
Ethnicity	Caucasian		1.52	1.08		
	Indo-Canadian		7.00	2.50	3.84**	
	First Nations		0.08	0.00	0.03***	0.05**
	Asian-Canadian		0.58	1.38	0.68	
	Other		0.36	2.67	1.05	
Marital Status	Single		3.11	1.22		
	Married		0.81	1.40	0.49*	
	Separated/Divorced		0.38	0.63	0.21**	0.16**
Education	Less than HS		0.24	1.00		
	High School		3.53	1.34	4.89**	6.19***
	Post-Secondary		1.01	1.18	2.00	
Employment	Unemployed		0.63	0.20		
	Employed		2.02	1.48	3.89*	4.14**
	Retired		0.53	0.55	1.17	5.92*
Income	Under 20K		0.75	1.48		
	20K to 49K		1.63	0.73	1.20	
	50K and Over		2.38	1.67	1.98	
Region	Lower Mainland		2.77	1.80		
	Vancouver Island		0.65	0.62	0.27**	0.25**
	Interior		0.67	0.75	0.30**	0.34**
Age					0.97***	
Emotional States						
Depression					1.87***	1.59***
Anxiety					2.21***	1.46***
Stress					1.43**	
Substance Abuse					1.73**	

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

[12] Because so few participants reported violations at Time 1, the analyses focused on the changes that occurred between the second and third interviews.

[13] No averages are provided for age or the emotional state variables because they are continuous.

The *Bivariate Exp(B)* column analyzes the relationship between each of the independent variables and the number of violations. For the demographic variables (with the exception of age), the results for each category may be interpreted in relation to the reference category, which is blank. For example, the value 3.84 for the Indo-Canadian category of *Ethnicity* indicates that, all else held constant, the number of violations for Indo-Canadian participants were 3.84 times higher than for Caucasian participants (the reference category). In contrast, the number of violations for First Nations participants were 97% lower than for Caucasian participants. Table 8 indicates that both of these differences were statistically significant.

Several other bivariate results were notable. With regard to *Marital Status*, both Married/Common Law and Separated/Divorced/Widowed participant reported significantly fewer violations than Single participants (51% and 79% fewer, respectively). Interestingly, the results for *Education* and *Employment* were contrary to what would usually be expected. For the former, participants who completed high school had almost five (4.89) times the number of violations as those who had not completed high school. Similarly, employed participants reported violations at nearly four (3.89) times the rate as those who were unemployed. Finally, significant differences in violations were recorded across the various *Regions* of British Columbia. Compared to those residing in the Lower Mainland, participants from Vancouver Island and the Interior committed far fewer violations (73% and 70% fewer, respectively).

The final demographic measure considered was age. The results in Table 8 demonstrate that age is significantly and negatively related to the number of violations. Because age is a continuous measure, the interpretation of Exp(B) is slightly different. For every one year increase in the age of a participant, the number of violations is expected to decrease by 3%. More generally, this results suggests that older participants tended to violate less often than younger VSE participants.

Table 8 also presents findings evaluating the potential relationships been violations and participants' emotional states. More specifically, all four indicators of emotional states were positively related to the number of violations in a significant manner. For example, every one-unit increase in *Depression* raised the level of violations by 87%. Likewise, a one-unit increase in *Substance Abuse* increased the number of violations by 73%, and a one-unit increase in *Stress* increases the number of violations by a factor of two.

Bivariate results are useful insofar as they provide important baseline information. However, social reality is complex; to understand properly the effects of independent variables, the effects must be entered into a model simultaneously. In other words, whereas bivariate models estimate each independent variable separately in relation to the dependent variable, multivariate models estimate the effects of a group of variables simultaneously. The final column in Table 8, *Full Model Exp(B)*, presents the results when all of the independent variables are entered into a single model. To better facilitate comparison, only significant coefficients are illustrated.

In the full model, many of the effects for the demographic factors remained largely unchanged. The size (and associated significance) of the coefficients for *First Nations*, *Separated/Divorced/ Widowed*, *High School Education*, *Employed*, and *Region* variables were very stable. In contrast, three formerly significant bivariate effects, *Age*, *Indo-Canadian* and *Married*, were reduced to insignificance. That is, once the effects of the other demographic variables were controlled for, the

differences between Indo-Canadian and Caucasian participants, and between Married and Single participants, were no longer significant. As well, the inclusion of other variables in the model also moderated the effect of age. In terms of demographics, the only other notable finding was in relation to *Retired*, which rose to significance.

The multivariate results for the emotional states were reasonably straightforward. Although the coefficients for *Depression* and *Anxiety* were marginally smaller, they were still significant. This finding strongly suggests that these two constructs, while conceptually related, nonetheless tap into distinct dimensions of a participant's emotional state. Substance abuse, on the other hand, became insignificant, as did stress. When all of the other effects were controlled for, substance abuse and stress were not associated with the number of violations. The relative stability of the full model results suggests that there is a relatively stable set of indicators that are useful in predicting VSE violations.

PGSI

Utilizing the same set of factors, Table 9 presents the bivariate and multivariate results for estimating PGSI scores.[14] Numerous demographics factors had significant bivariate associations with PGSI scores. For example, on average, *female* participants had PGSI scores that were higher than the scores for *male* participants; female participants reported higher levels of problematic gambling behavior than did male participants. Similarly, the PGSI scores for *First Nations* participants were higher than for *Caucasian* participants. *Single* participants had substantially higher PGSI scores than either *Married* or *Separated/Divorced/Widowed* participants, while *Unemployed* participants were higher than those who were *Retired*. Consistent with the analysis of VSE violations presented above, there is a negative relationship between the PGSI and age; older participants tended to exhibit fewer problem gambling behaviors over time. But, contrary to the findings for violations, in the bivariate context, there were no noteworthy differences for *Education* or *Region*. Finally, each of the emotional states were, on their own, strongly associated with problem gambling.[15]

As demonstrated in Table 9, the results for the full model are much more complicated. While many of the models stayed virtually unchanged, some of the variables that were significant on their own, including *First Nations* and *Married*, were not significant when all of the variables were entered into the model. As was the case with violations, the strong negative effect of *Age* was also attenuated in the full PGSI model. At the same time, several variables that were not significant in the bivariate models became significant in the full model. For example, controlling for all other effects, *Asian-*

[14] Because PGSI analyses were based on the normal distribution, the reported coefficients are t-values, not exponentiated betas.

[15] It is entirely possible that the relationship between PGSI scores and emotional states is reciprocal. In other words, it is possible that negative emotional states are produced by problem gambling. However, recursive analyses of this sort are beyond the capabilities of the analytic techniques used in this study. For present purposes, emotional states are considered to be independent variables.

Canadians displayed higher levels of problem gambling than did *Caucasians.* As well, participants in the highest income bracket, *50K and Over*, also showed elevated PGSI scores in comparison to the smallest income category. Finally, both *High School* and *Post-Secondary* participants reported lower levels of problem gambling than those who did not complete high school. None of these relationships were evident in the bivariate analysis, but the interactive effects produced by the full model produced significant coefficients.

TABLE 9: LONGITUDINAL ANALYSES OF PGSI SCORES

Demographic Factors	Category	Time 1 Average	Time 2 Average	Time 3 Average	Bivariate t-values	Full Model t-values
Gender	Males	11.64	3.40	2.55		
	Females	12.87	4.11	3.69	1.88*	1.89*
Ethnicity	Caucasian	11.95	3.66	3.04		
	Indo-Canadian	12.47	5.86	3.27	1.01	
	First Nations	15.32	4.77	5.08	2.44**	
	Asian-Canadian	12.78	3.88	3.09	0.77	1.68*
	Other	12.13	1.91	2.90	-0.18	
Marital Status	Single	12.71	4.90	3.71		
	Married	12.02	2.98	3.04	-1.84*	
	Separated/Divorced	12.08	3.50	2.53	-2.17*	-2.50**
Education	Less than HS	12.35	3.17	3.87		
	High School	12.68	4.45	2.50	-0.31	-2.44**
	Post-Secondary	12.06	3.60	3.30	0.18	-2.97**
Employment	Unemployed	12.73	4.27	3.36		
	Employed	13.20	3.37	3.00	-0.18	1.79*
	Retired	9.91	2.09	2.52	-2.35**	
Income	Under 20K	12.54	3.64	3.61		
	20K to 49K	12.41	3.66	2.66	-0.09	
	50K and Over	12.06	4.18	3.35	0.03	1.91*
Region	Lower Mainland	12.64	4.19	3.01		
	Vancouver Island	12.38	3.88	3.37	-0.90	
	Interior	11.79	3.13	3.26	-0.51	
Age					-3.26**	
Emotional States						
Depression					20.16***	10.85***
Anxiety					15.17***	5.21***
Stress					15.66***	3.21**
Substance Abuse					4.80***	2.52**

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

In keeping with the findings for VSE violations, emotional state was strongly associated with problem gambling. In fact, even after controlling for the effects of all of the other demographic factors, *Depression* displayed, by far, the largest effect in the full model.

ATTENDING COUNSELLING

As demonstrated in Table 10, only two demographic factors and one emotional state measure showed substantial coefficients in the bivariate analysis. *Female* participants were 74% more likely than *male* participants to attend counselling, and *Separated/Divorced/ Widowed* participants attended counselling more than twice (2.31) as often as *Single* participants. As well, higher levels of *Stress* were associated with a greater likelihood of visiting a counsellor. In the full model analysis, attending counselling was only predicted by *Stress*. Given the lack of variation identified in the trend analysis earlier, these results are not surprising. In general, variables that display little change over time (as was the case with counselling attendance) are typically very difficult to model. Even *Depression* and *Anxiety*, which showed consistent effects across the models for both VSE violations and PGSI scores, were not significant in this model.

TABLE 10: LONGITUDINAL ANALYSES OF COUNSELLING ATTENDANCE

Demographic Factors	Category	Time 1 Average	Time 2 Average	Time 3 Average	Bivariate Exp(B)	Full Model Exp(B)
Gender	Males	11.1%	8.5%	5.2%		
	Females	14.5%	15.6%	11.6%	1.74*	
Ethnicity	Caucasian	13.6%	13.6%	9.1%		
	Indo-Canadian	11.8%	5.9%	5.9%	0.58	
	First Nations	21.1%	15.8%	21.1%	1.78	
	Asian-Canadian	6.3%	6.3%	3.1%	0.38	
	Other	6.7%	6.7%	0.0%	0.32	
Marital Status	Single	8.3%	10.7%	6.6%		
	Married	14.3%	12.3%	7.1%	1.33	
	Separated/Divorced	19.6%	15.7%	17.6%	2.31**	
Education	Less than HS	12.3%	7.0%	7.0%		
	High School	12.9%	12.9%	6.5%	1.43	
	Post-Secondary	13.1%	13.6%	10.2%	1.52	
Employment	Unemployed	7.3%	14.6%	4.9%		
	Employed	14.4%	12.2%	9.6%	1.43	
	Retired	10.9%	10.9%	7.3%	1.01	
Income	Under 20K	12.5%	8.8%	11.3%		
	20K to 49K	9.9%	12.5%	6.6%	0.88	
	50K and Over	18.9%	15.6%	10.0%	1.52	
Region	Lower Mainland	11.0%	13.1%	8.3%		
	Vancouver Island	22.6%	18.9%	15.1%	1.80	
	Interior	11.0%	8.7%	6.3%	0.90	
Age					1.01	
Emotional States						
Depression					1.12	
Anxiety					1.06	
Stress					1.21**	1.21**
Substance Abuse					1.01	

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$

The results for each of multivariate analyses are also summarized in Table 11. The findings are extremely varied. None of the variables were significant across all three models. One of the other

emotional state measures, *Depression*, was a strong predictor of both violations and PGSI, while substance use was related only to the latter. The results for the demographic variables were much more mixed. Perhaps the most consistent demographic factors were *Marital Status* and *Education.* In terms of marital status, *Separate/Divorced/Widowed* participants, who reported significantly fewer VSE violations and lower problem gambling scores than did *Single* participants. Similarly, *Employed* and *Retired* participants showed both high numbers of violations and greater PGSI scores than *Unemployed* participants. Conversely, none of the demographic indicators were associated with attending counselling, and several, including *Gender*, *Income*, and *Region* were significant in only one model. One demographic variables produced somewhat contradictory findings across analytic models. The coefficients for *High School* (vs. *Less than High School*) were positive in one model and negative in the other, meaning that participants with high school educations had more VSE violations, but also lower incidences of problem gambling behavior.

TABLE 11: SUMMARY OF EFFECTS

Demographic Factors	**Category**	**Violations**	**PGSI**	**Counselling**
Gender	**Males**			
	Females		**1.89***	
Ethnicity	**Caucasian**			
	Indo-Canadian			
	First Nations	**0.05****		
	Asian-Canadian		**1.68***	
	Other			
Marital Status	**Single**			
	Married/Common Law			
	Separated/Divorced	**0.19****	**-2.50****	
Education	**Less than HS**			
	High School	**6.06****	**-2.44****	
	Post-Secondary		**-2.97****	
Employment	**Unemployed**			
	Employed	**4.22****	**1.79***	
	Retired	**7.02****		
Income	**Under 20K**			
	20K to 49K			
	50K and Over		**1.91***	
Region	**Lower Mainland**			
	Vancouver Island	**0.22****		
	Interior	**0.33****		
Age				
Emotional States				
Depression		**1.59*****	**10.85*****	
Anxiety		**1.46*****	**5.21*****	
Stress			**3.21****	**1.21****
Substance Abuse			**2.52****	

Overall, a number of important generalizations were revealed by the longitudinal analyses. First, it is difficult to draw a definitive conclusion about the changing pattern of VSE violations. On the one hand, the proportion of participants who reported VSE violations increased between the second and third interviews. On the other hand, the average number of violations decreased during the

same period. To some extent, the answer to the question depends on how "violations" are operationalized. Second, the VSE program was associated with significant decreases in problem gambling behavior over time, particularly during the early stages of enrollment. Third, there was very little change in the proportion of participants accessing counselling for gambling over the course of this study. It did not appear that VSE had much of an effect in this regard. With regards to the various analytic models, several variables were predictive of both VSE violations and PGSI scores, but owing to a lack of variation over time, developing a predictive model of counselling attendance proved to be much more elusive.

Non-VSE versus VSE Participants

A supplementary component of the 2013 study was the additional surveying of a population of British Columbian gamblers who had never previously participated in a self-exclusion program. The main intent of surveying this population was to identify whether any characteristics differentiated the populations of gamblers who did and did not enroll in self-exclusion. An additional objective was to identify whether any gamblers in the non-VSE population should be in the VSE population, and to identify what might be preventing them from enrolling.

The survey data was collected online in the summer of 2015 via BCLC's Exchange Panel of gamblers who had previously agreed to participate in research studies with BCLC. The survey data was similar to the data collected from VSE program participants at Time 1, with a focus on demographics, previous gambling experiences, and PGSI scores.

A total of 326 surveys were submitted from non-VSE participants. While the gender of participants in each group did not statistically significantly differ, there were some significant demographic differences between the VSE and non-VSE sample (see Table 12). The VSE sample was significantly more likely to include South Asian and First Nations participants, participants were more likely to be single, have less than a high school education or high school/GED completion, to be employed, though making under $50,000 per year, and to live in the Interior or on the Island. In contrast, the non-VSE sample was significantly more likely to include Asian participants, be married, divorced, or widowed, to have some form of post-secondary education, to be retired, though to also have an income over $50,000 per year, and to live in the Lower Mainland.

TABLE 12: DEMOGRAPHIC COMPARISONS BETWEEN VSE AND NON-VSE SAMPLES

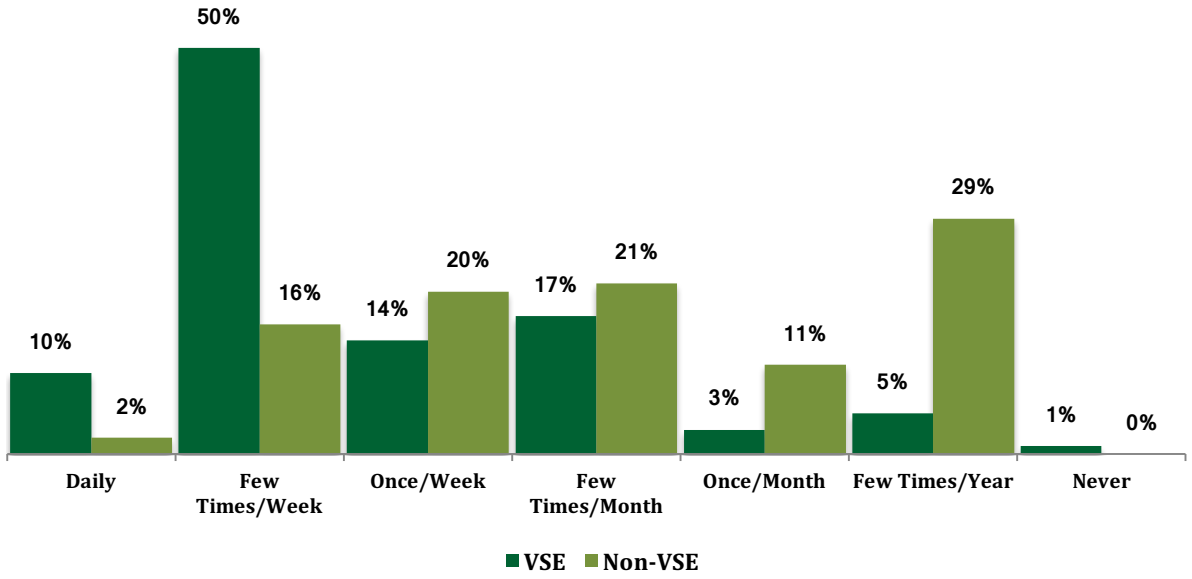
Demographic Factors	Category	VSE	Non-VSE	Statistical Significance
Gender	Female	53%	57%	ns
Ethnicity	Caucasian	75%	77%	x^2 (6) =- 25.6, p = .000
	First Nations	6%	1%	
	South Asian	5%	2%	
	Asian	10%	17%	
Language	English	88%	91%	x^2 (10) = 23.0, p = .011
	Chinese	5%	2%	
	Vietnamese	2%	0%	
	Punjabi	2%	1%	
Marital Status	Single	37%	23%	x^2 (5) = 20.7, p = .001
	Married	35%	48%	
	Separated	3%	3%	
	Divorced	9%	10%	
	Widowed	3%	5%	
	Common Law	12%	11%	
Education	Less than HS	18%	3%	x^2 (7) = 60.5, p = .000
	High School / GED	29%	21%	
	Some Post-Secondary	54%	75%	
	Graduate	2%	6%	
	Professional Training	6%	4%	
Employment	Employed	71%	58%	x^2 (3) = 21.8, p = .000
	Unemployed	9%	7%	
	Retired	17%	32%	
	Seeking Work	3%	2%	
Income	None	3%	0%	$x2$ (5) = 181.6, p = .000
	Under $20,000	22%	7%	
	$20,000-$49,000	47%	17%	
	$50,000-$99,000	25%	36%	
	Over $100,000	3%	40%	
Region	Lower Mainland	45%	65%	x^2 (3) = 67.9, p = .000
	Vancouver Island	16%	15%	
	Interior	39%	14%	
Age		48 years	51 years	ns

Another population comparison is with the sample of at-risk/problem gamblers identified in the BC prevalence study. The 2014 prevalence study used the Problem Gambling Severity Index (PGSI) to screen gamblers considered to be at-risk (score of 1-2), moderate (score of 3-7), or problem (score of 8 or more) gamblers. British Columbians considered most at-risk for gambling problems were younger (18-24 years old), male, Aboriginal, Inuit, Metis, or Southern Asian (as opposed to European or Canadian ethnicity), and had a low household income, were students, and were unemployed (as opposed to employed) (R.A. Malatest & Associates Ltd, 2014). Some of these characteristics differed from the VSE sample, which was more likely to include females and older gamblers, and few South Asians.

VSE and non-VSE participants both reported their forms and frequency of past-year gambling. Whereas all participants in the non-VSE sample had gambled at least once in the past year, three VSE participants had abstained from gambling completely. Beyond that, as the frequency of gambling increased, so did the proportion of VSE participants (see Figure 39). Three-quarters (74 per cent) of VSE participants reported gambling at least once a week or more during the past year,

compared to a little more than one-third (38 per cent) of non-VSE participants. Statistically speaking, VSE participants were significantly more likely than non-VSE participants to gamble either daily or a few times a week, whereas non-VSE were significantly more likely than VSE participants to gamble once a week or less.[16]

FIGURE 39: COMPARING FREQUENCY OF PAST YEAR GAMBLING BETWEEN VSE AND NON-VSE PARTICIPANTS

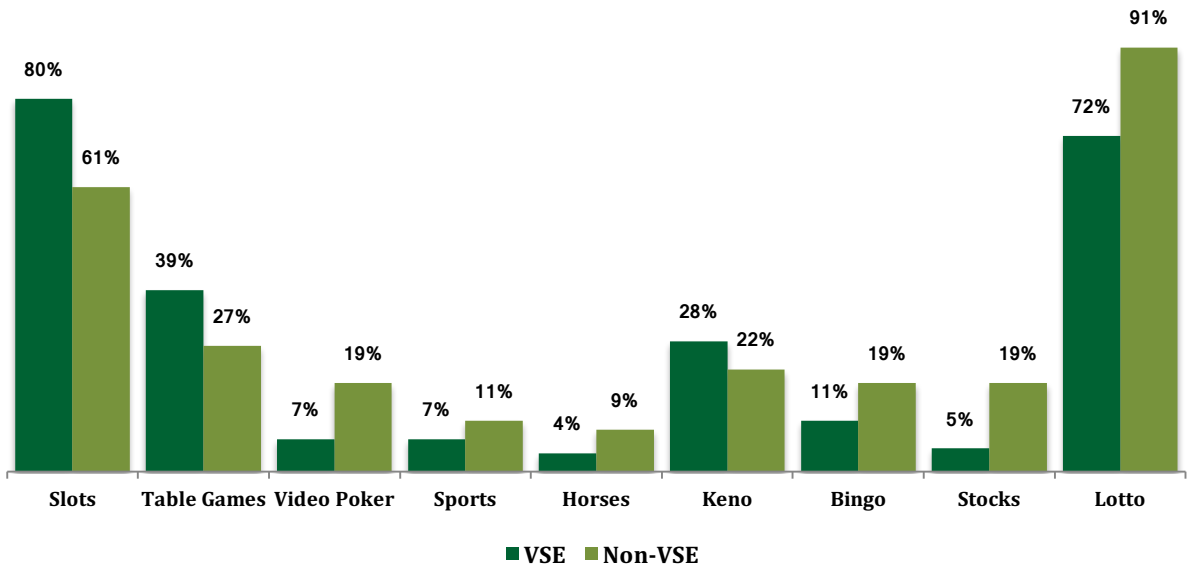


Although the difference was not substantial, VSE participants actually participated in statistically significantly fewer forms of gambling activities (X = 2.5) than non-VSE gamblers (X = 2.8). In terms of the specific differences in types of gambling activities, VSE participants were significantly more likely than non-VSE gamblers to play slots[17] or table games in the past year. Non-VSE participants were significantly more likely than VSE participants to play video poker, place sports bets, bet on horses, play bingo, play the stock market, or to purchase lotto/scratch and win tickets in the past year. The only form of gambling that did not differ between the samples was playing Keno (see Figure 40).

[16] This was determined through a series of pair-wise chi square analyses comparing VSE versus non-VSE status with various pairings of gambling frequencies. All observed p values were equal to .000.

[17] All analyses referred to in this paragraph were conducted using chi square analysis with an alpha of .05.

FIGURE 40: COMPARING FORMS OF PAST YEAR GAMBLING BETWEEN VSE AND NON-VSE PARTICIPANTS



Additional differences were observed in terms of the amount of time and money spent gambling, as well as the number of different venues visited. Overall, VSE participants gambled in significantly more locations, put a significantly higher amount of money at risk when gambling, lost approximately 15 times more money, and spent twice as long gambling than non-VSE participants. Interestingly, they did not put at risk or lose significantly more online, although they did spend significantly more time gambling online than did non-VSE participants (see Table 14). However, gambling online overall was fairly uncommon for VSE participants, and non-VSE participants were significantly more likely to report having gambled online.

TABLE 14: COMPARING AVERAGE TIME AND MONEY SPENT GAMBLING BETWEEN VSE AND NON-VSE PARTICIPANTS

Gambling Behaviours	VSE	Non-VSE	Statistical Significance
LAND-BASED	*Averages*	*Averages*	
# Different Gaming Venues	3	2	t (670) = -4.80, p = .000
Amount Gambled	$569	$90	t (329.19) = -8.51, p = .000
Maximum Amount Lost	$1570	$100	t (320.12) = -5.16, p = .000
Time Gambled	4.2 Hours	2 Hours	t (629.91) = -12.03, p = .000
ONLINE			
Ever	20%	26%	x^2 (1) = 3.87, p = .049
Amount Gambled	$319	$86	ns
Maximum Amount Lost	$1260	$63	ns
Time Gambled	2.6 Hours	1.7 Hours	t (106) = -2.1, p = .038

The findings were heavily skewed by a few participants who gambled large amounts of money or time, particularly with respect to the VSE sample where the variances were quite large. Analyses

were run again comparing the median amounts between groups using the Mann Whitney *U* test (see Table 15). Of note, all differences remained statistically significant and the median value of the maximum amount of money lost online also statistically significantly differed between the VSE and non-VSE sample.

TABLE 15: COMPARING MEDIAN TIME AND MONEY SPENT GAMBLING BETWEEN VSE AND NON-VSE PARTICIPANTS

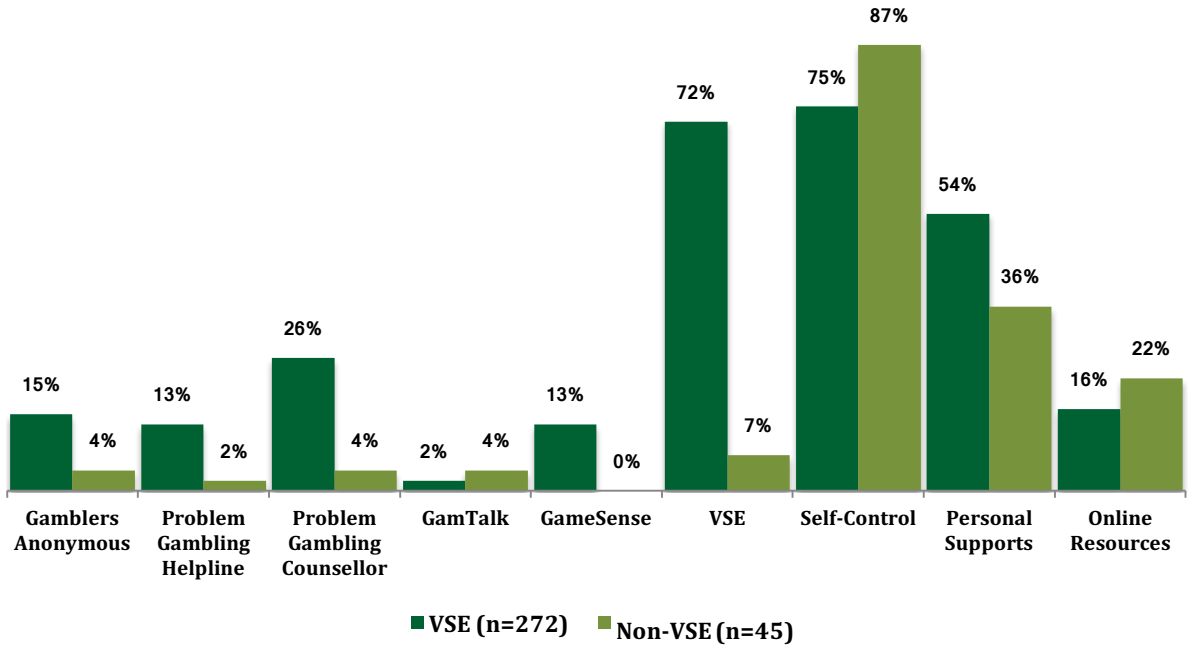
Gambling Behaviours	VSE	Non-VSE	Statistical Significance
LAND-BASED	***Medians***	***Medians***	
# Different Gaming Venues	**2**	**1**	**Mann Whitney *U* = 34,016, Z = -9.08, p = .000**
Amount Gambled	**$300**	**$40**	**Mann Whitney *U* = 12,037, Z = -17.60, p = .000**
Maximum Amount Lost	**$700**	**$40**	**Mann Whitney *U* = 5,202, Z = -20.34, p = .000**
Time Gambled	**4 Hours**	**1.5 Hours**	**Mann Whitney *U* = 22,126, Z = -13.64, p = .000**
ONLINE			
Amount Gambled	**$100**	**$25**	**Mann Whitney *U* = 768, Z = -3.46, p = .001**
Maximum Amount Lost	**$100**	**$25**	**Mann Whitney *U* = 543, Z = -4.94, p = .000**
Time Gambled	**2 Hours**	**1 Hour**	**Mann Whitney *U* = 941.5, Z = -2.52, p = .012**

Not surprisingly, there was a substantial difference in the proportions of VSE and non-VSE participants who had previously attempted to stop gambling. Whereas three-quarters (76 per cent) of VSE participants had previously attempted to stop gambling, only one-tenth (13 per cent) of non-VSE participants had. Most commonly, attempts to stop gambling among members of both groups involved self-control or personal supports (see Figure 41). Although the non-VSE group was more likely to have used online resources to stop gambling, this difference was not statistically significant. In contrast, the VSE participants were significantly more likely to have tried self-exclusion previously[18], Gamblers Anonymous, the Problem Gambling Helpline, a Problem Gambling counsellor, or other support systems.[19]

[18] Although a screener question at the start of the survey removed those who reported ever having used a self-exclusion program before, three non-VSE participants indicated that they had, in fact, enrolled in the VSE program at some point in the past.

[19] These differences were all tested using a chi square analysis set to an alpha of .05.

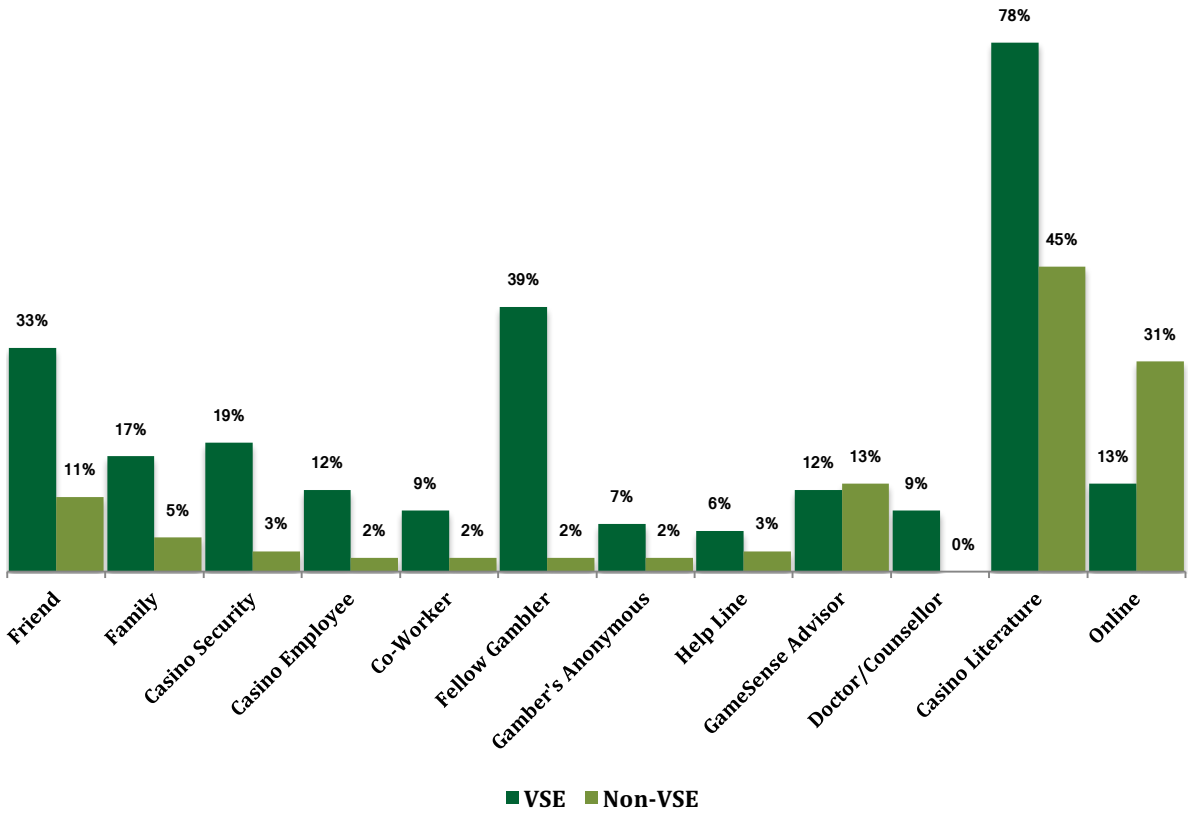
FIGURE 41: PREVIOUS ATTEMPTS TO STOP GAMBLING BY VSE AND NON-VSE PARTICIPANTS



FAMILIARITY WITH THE VSE PROGRAM

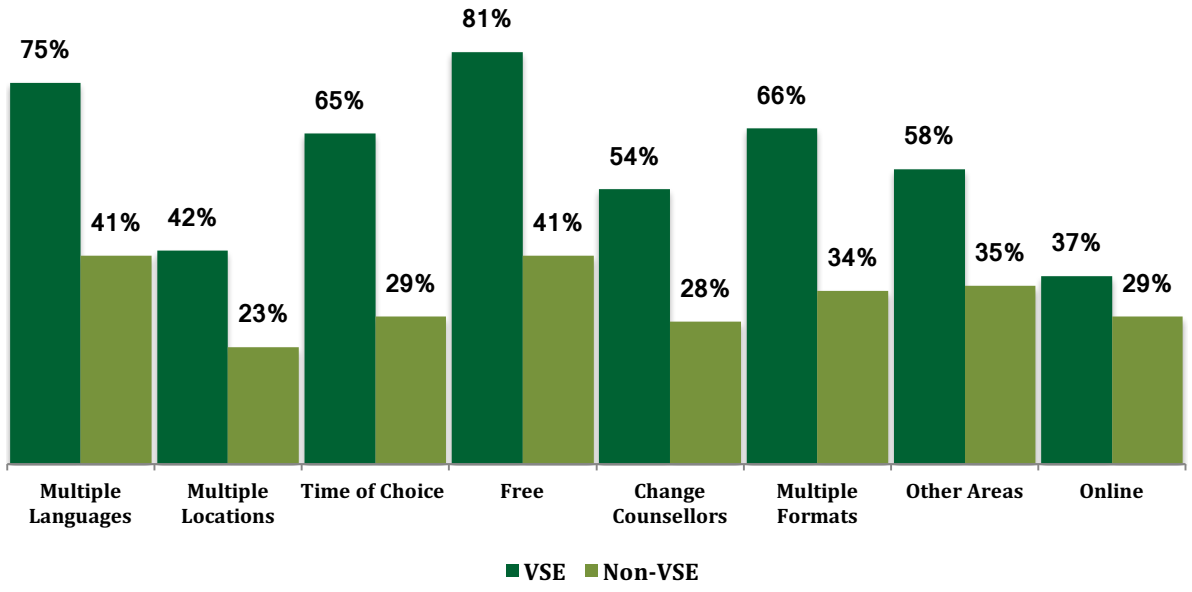
Although the non-VSE participants had never previously enrolled in British Columbia's self-exclusion program, 72% of them had heard about it before. Most commonly for both groups, this was due to the casino literature or marketing (see Figure 42). Compared to the VSE participants, the data analysis indicated that non-VSE gamblers were significantly more likely to have heard about the program online. In contrast, VSE participants were significantly more likely to report all other forms of awareness, with the exception of the Problem Gambling helpline and the GameSense Advisor. Both samples were essentially equally as likely to have heard about the VSE program.

FIGURE 42: SOURCES OF VSE AWARENESS BETWEEN VSE AND NON-VSE PARTICIPANTS



There were also statistically significant differences with respect to awareness of the available counselling options, with VSE participants significantly more likely to report awareness of the fact that counselling was available in multiple languages, in multiple locations, at the time of their choosing, free of charge, with the ability to change counsellors, in multiple formats (e.g. individual, group), in other areas (e.g. debt, family), and online (see Figure 43).

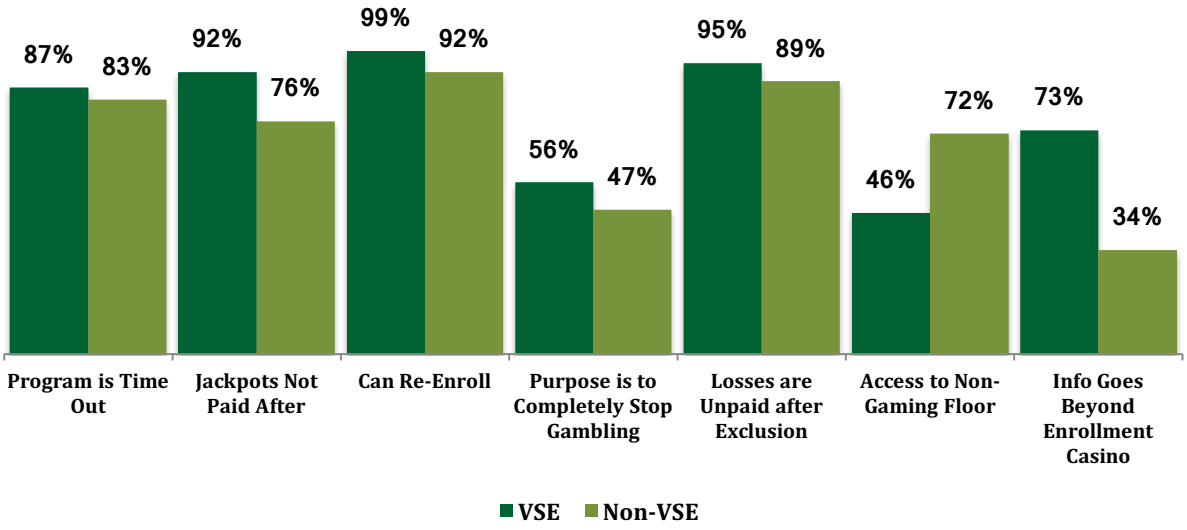
FIGURE 43: COMPARING FAMILIARITY WITH COUNSELLING OPTIONS BETWEEN VSE AND NON-VSE PARTICIPANTS



A final way of assessing familiarity with the VSE program was to ask a series of true/false questions about different aspects of the program. In analysing the responses for each individual question, there was no difference between the likelihood that VSE or non-VSE would provide the correct answer for the questions about the purpose of the VSE program to take a time out from gambling or to completely stop someone from gambling (see Figure 44). However, the VSE sample was significantly more likely to correctly identify that they would not be paid out their jackpot wins or their losses after the exclusion agreement ended, that they could re-enroll again after the current exclusion was over, and that the personal information they provided to the enrollment casino would be shared with other gaming facilities across the province. In contrast, non-VSE participants were more likely to correctly identify that while excluded from the casino, they could continue to attend events held away from the casino floor.

It was interesting to note that one-quarter of VSE participants indicated that the information they shared with their enrollment casino stayed within that casino. This may reflect a lack of understanding that the program is provincial in nature, and may contribute to unintentional violation attempts. A second misnomer held about the program by those participating in it was that the purpose of the VSE program was to completely stop them from gambling. It is important to note again that the purpose of the program is to prevent gambling in regulated casinos and slot machine halls in the province and that the program cannot prevent gambling through lottery purchases, on unregulated online sites, or in informal settings.

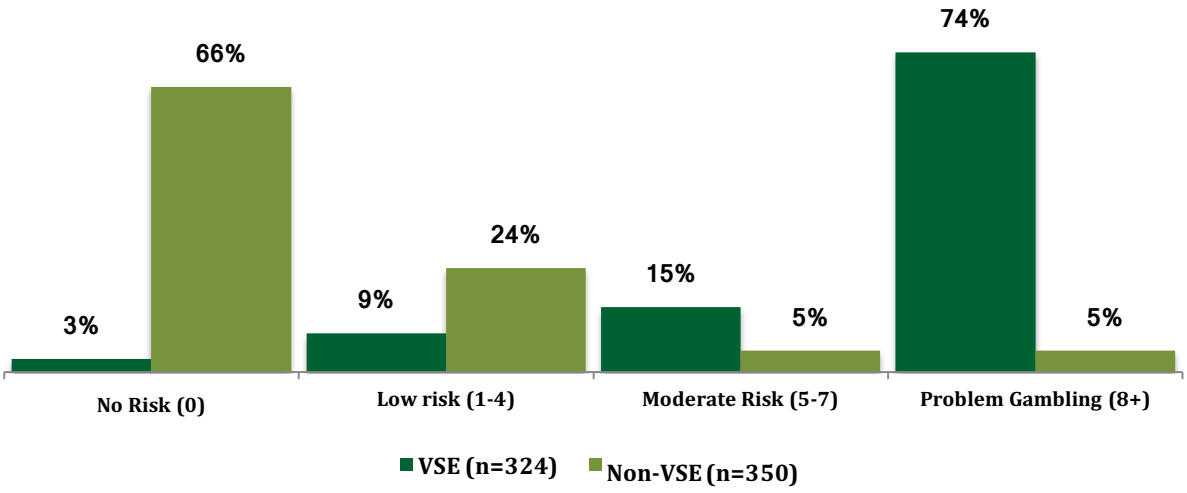
FIGURE 44: UNDERSTANDING OF THE VSE PROGRAM AMONGST VSE AND NON-VSE PARTICIPANTS



PGSI SCORES

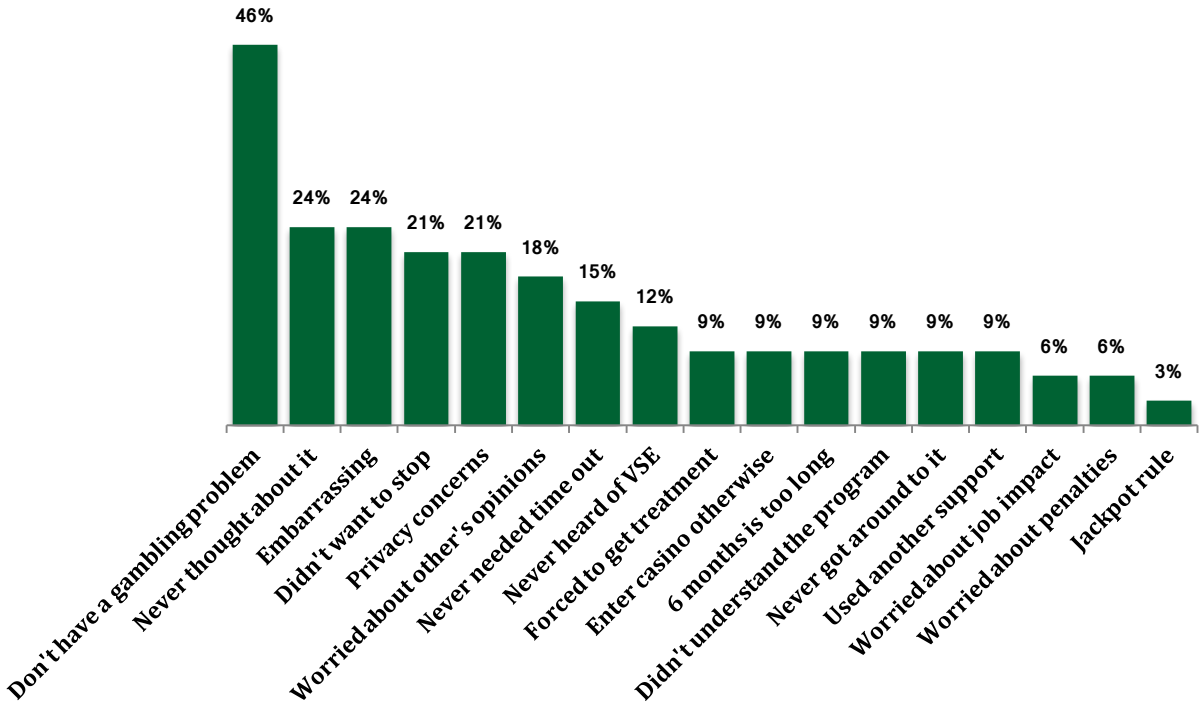
It was expected that the VSE sample would likely score higher on the PGSI screen than the non-VSE sample, which was the case. The average PGSI score for VSE participants was well into the high-risk for problem gambling (X = 12), whereas the average non-VSE score was considered low-risk for gambling problems (X = 1), t (465.06) = -28.57, p = .000. Overall, three-quarters of the VSE participants at Time 1 would be considered problem gamblers using the PGSI screen compared to only 5% of non-VSE gamblers. By way of comparison, two-thirds of non-VSE gamblers fell into the no risk category compared to only 3% of VSE participants (see Figure 45). In effect, it appears from this single comparison that participants in need of a program like the VSE due to their level of gambling addiction are in fact accessing the program.

FIGURE 45: PGSI RISK GROUPS FOR VSE VERSUS NON-VSE PARTICIPANTS



Still, there were a handful of gamblers who scored in the moderate to high risk for gambling who had never previously enrolled in the VSE program. The reasons for never having enrolled in the program previously were explored for this sub-set of 33 gamblers. Interestingly, the most common reason self-reported by non-VSE participants for not enrolling in the program was not that they had never heard of the program, which was the second most common reason, but that they did not think that they had a gambling problem (see Figure 46).

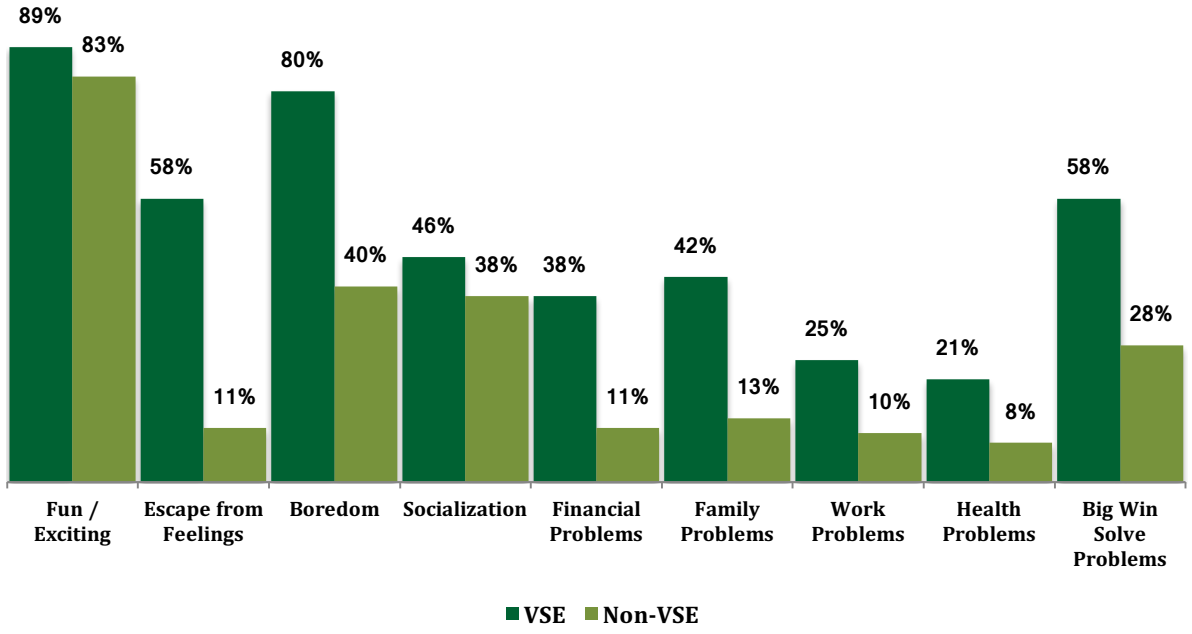
FIGURE 46: REASONS FOR NOT ENROLLING IN VSE AMONGST MODERATE-RISK AND PROBLEM NON-VSE GAMBLERS (N = 33)



Looking specifically at those who did have a gambling problem, as defined by a PGSI score of eight or above (n = 17), 29% of these participants did not perceive that they had a gambling problem. Overall, amongst the 17 non-VSE participants, the self-reported most important reason for not having enrolled previously in the VSE was either that they did not believe they had a gambling problem (18 per cent), that they may have needed a time out, but did not want to stop gambling (18 per cent), or that they had simply never thought about enrolling before (18 per cent). The next most common reason was that they were worried about what their friends or family might think if they enrolled in a self-exclusion program (12 per cent).

Both VSE and non-VSE gamblers were asked about their motivations for gambling. The analysis identified significant differences between the samples on all the reasons for why they were gambling. The most substantial differences were observed gambling to escape from uncomfortable feelings, gambling because they were feeling bored, or gambling because one big win would solve their problems (see Figure 47).

FIGURE 47: VSE VERSUS NON-VSE PARTICIPANTS REASONS FOR GAMBLING



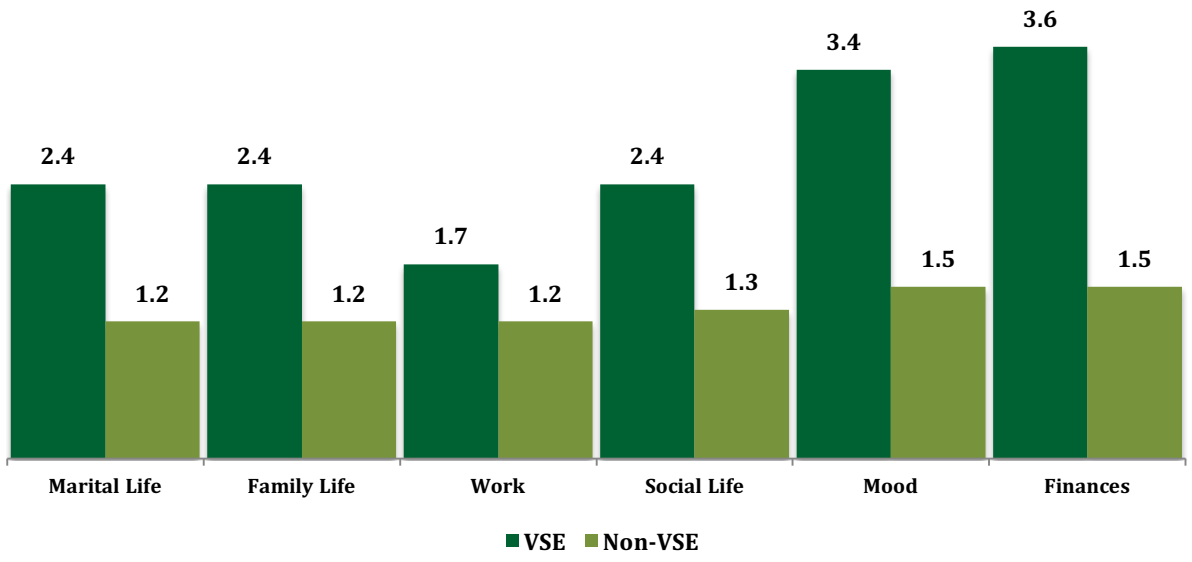
Reasons for gambling were also compared within samples to the location of the participant and some significant differences were identified. There was a significant association between location and gambling for fun/excitement for the VSE sample, x^2 (2) = 12.49, p = .002, but not for the non-VSE sample. Among VSE participants, those living in the Interior (95 per cent) or Vancouver Island (94 per cent) were more likely to report gambling for fun or excitement than VSE participants in the Lower Mainland (82 per cent). A second reason for gambling – boredom – was significantly related to participant location for both the VSE, x^2 (2) = 9.06, p = .011, and non-VSE, x^2 (2) = 6.51, p = .039, samples. For the VSE sample, two-thirds of those in the Lower Mainland (63 per cent) and 58% of those in the Interior reported gambling because one big win would solve all their financial problems. This finding was compared to less than half (40 per cent) of those on Vancouver Island. In contrast, those on Vancouver Island who were not enrolled in the VSE program were much more likely to endorse this reason (43 per cent) than those in the Interior (27 per cent) or Lower Mainland (25 per cent).

A third reason for gambled that differed was for an opportunity to socialize. This explanation only significantly differed by location for the VSE sample, x^2 (2) = 14.08, p = .001. VSE participants from the Interior (59 per cent) were much more likely to endorse this reason for gambling than were participants from the Lower Mainland (39 per cent) or Vancouver Island (36 per cent). The remaining explanations for gambling, such as to escape from financial problems, family problems, work problems, health problems, to escape from uncomfortable feelings, and because of boredom, did not differ for either the VSE or non-VSE sample based on the location of the participant.

NEGATIVE EFFECTS OF GAMBLING

Participants were asked to rate any negative effects they had experienced from gambling. Ratings ranged from a 1 (no effect) to a 5 (very large effect). For the entire sample, the options of *Finances* and *Mood* received the highest average ratings; *Work* received the lowest (see Figure 48). Overall, these ratings were at the mid-point range, indicating that their effect was moderate. However, when compared to VSE status using independent samples t-tests[20], there were significant differences in the rating of the effect of each of these areas of life, with VSE participants rating gambling as having a significantly worse impact on each of these six areas of their life.

FIGURE 48: NEGATIVE EFFECTS OF GAMBLING ON ASPECTS OF LIFE FOR VSE VERSUS NON-VSE PARTICIPANTS



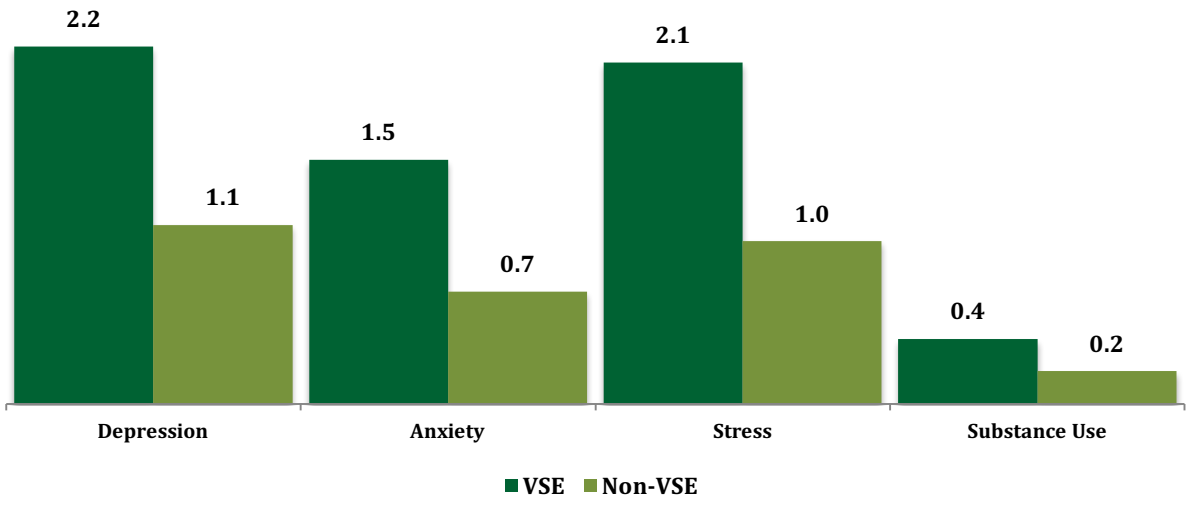
MENTAL HEALTH SCREENS

Four pairs of screening questions were included as an index indicating possible depression, anxiety, stress, or substance abuse issues. As previously described, each individual question ranged from 0 (none of the time) to 3 (all of the time). Two questions related to each mental health issue were summed into an index running from 0 to 6, the means of which were then statistically compared between VSE and non-VSE participants. Once again, using an independent samples *t*-test, the samples differed significantly, with the VSE participants scoring statistically higher on all four

[20] All six *t*-tests violated the Levene's test for equality of means; however, all results with equal variances not assumed remained statistically significant at p = .000.

screening items (see Figure 49).[21] Still, it should be noted that the scores were fairly low on these four screens.

FIGURE 49: MENTAL HEALTH SCREENING AVERAGES AMONG VSE AND NON-VSE PARTICIPANTS



PREDICTING VSE ENROLLMENT

A final analysis was conducted to identify characteristics associated with participation in the VSE program. A logistic regression analysis was conducted where PGSI scores were entered on the first step of analysis, followed by demographic variables. Both steps of the analysis produced a significant model. Model 1 with PGSI score alone explained between 51% (Cox & Snell R Square) and 70% (Nagelkerke R Square) and correctly classified 90% of the cases, while Model 2 with the additional demographic variables explained between 61% (Cox & Snell R Square) and 85% (Nagelkerke R Square) of the variance in VSE membership and correctly classified 95% of the cases (see Table 13).

The PGSI score was a main driver of VSE membership, with an odds ratio of 1.686, which indicates that with each single point increase on the PGSI score, the likelihood of VSE membership increased by 67% (see Table 13). The demographic variables that were relevant to VSE enrollment included being male, having a lower income, having a lower education, and living in the Interior.

[21] The Levene's test for equality of variances was rejected for the Anxiety and Substance Use Screens. All four results were significant at p </= .002

TABLE 13: LOGISTIC REGRESSION PREDICTING VSE ENROLLMENT STATUS

Sample Membership (1 = VSE)	B	Odds Ratio	*p* value
Model 1			
PGSI Score (continuous)	***.523***	***1.686***	***.000***
Model 2			
PGSI Score (continuous)	***.522***	***1.686***	***.000***
Female (=1)	***-1.398***	***.247***	***.007***
Age (continuous)	.013	1.014	ns
Single	1.721	5.6	ns
Married/Common Law	1.384	4.0	ns
Separated/Divorced	1.694	5.4	ns
No income	24.773	-	ns
Up to $20k	***4.250***	***70.1***	***.000***
Between $20k-$49k	***4.688***	***108.7***	***.000***
Between $50k-$99k	***2.557***	***12.9***	***.000***
High School or Less	***-3.000***	***.05***	***.013***
College/University	***-2.899***	***.06***	***.012***
Graduate School	***-3.503***	***.03***	***.018***
Employed	2.290	9.9	ns
Unemployed	.559	1.8	ns
Retired	1.285	3.6	ns
Island	-.336	0.7	ns
Lower Mainland	***-1.841***	***0.2***	***.001***
Interior	.531	1.7	ns
English Speaking	-.654	0.5	ns
Chinese Speaking	-.272	0.8	ns
Vietnamese Speaking	18.256	-	ns
Korean Speaking	-0.155	0.9	ns
Caucasian	1.213	3.4	ns
South Asian	1.419	4.1	ns
First Nations	3.288	26.8	ns

Recommendations

In addition to BCLC, several other organizations assume responsibility for policy, programs, and practice related to responsible gaming in the province of British Columbia. BCLC conducts, manages, and operates all provincial gaming across the province, administers and manages the VSE program, and designs and provides the Appropriate Response Training (ART) for casino staff and security. However, it is the individual gaming centres across the province who are primarily responsible for enrolling participants in the VSE program and, through their security staff, for detecting attempted violations of the VSE agreement.

GameSense Advisors are contracted to provide responsible gambling strategies and education through the BC Responsible & Problem Gambling Program. The BC Responsible & Problem Gambling Program is a provincial program operated under the Gaming Policy and Enforcement Branch (GPEB). Treatment and supportive services for problem gambling, including problem gambling counselling, and the toll-free Problem Gambling Help Line, are various services offered through the BC Responsible & Problem Gambling Program. More broadly, GPEB is the regulatory body responsible for maintaining the integrity of gaming across the province. GPEG achieves this by registering companies and people involved in the gaming industry, certifying lottery schemes and

gaming supplies, including electronic gaming equipment, conducting audits for compliance with provincial requirements and standards, and investigating allegations of wrongdoing.

Based on the analysis of the data, there are a number of recommendations that may be considered by these various parties for the voluntary self-exclusion program that should assist in continuing to make it an effective program for BCLC and an extremely helpful tool for gamblers. Although recommendations have been discussed throughout this report, this section highlights 10 main recommendations. These recommendations focus on the principal issues of increasing enrollment in the program, preventing violations and increasing the detection of violators, and connecting participants with counselling options.

THEME 1: INCREASING ENROLLMENT

The VSE program in British Columbia appears well used, with over 6,000 British Columbians enrolled in the program in any given month. However, relative to the size of the gambling at-risk population, only a small minority of moderate/problem gamblers are enrolling in the program. This finding is consistent with most types of programs designed to address, respond, or assist with an addiction or personal challenge. For the VSE program in British Columbia, the enrollment rate is consistent with, and actually at the upper end of the utilization rate identified in other North American jurisdictions. Still, the results of the 2014 BC Problem Gambling Prevalence study suggest that many more people could benefit from and use the VSE program.

The results of the non-VSE sample suggested that one barrier for entry into the VSE program was that some gamblers were not aware that they had a gambling problem, did not self-identify as someone who might have a gambling problem, or they suspected that they might have a problem, but did not want to admit to themselves how serious their problem was. A second barrier may be a general lack of awareness that there are programs that can help and a specific lack of awareness of the VSE program. While many non-VSE participants in the current study indicated that they had heard about the VSE program, they were less likely than VSE participants to understand the various elements of the program. A third set of barriers focus on privacy concerns, and the fear or embarrassment that some people might have with asking for help. To reduce these barriers to enrollment, there are a number of things that BCLC and GPEB could consider.

Recommendation 1: BCLC and GPEB - Use a Problem Gambling Screen Tool to Recruit VSE Program Participants

Given that an existing barrier to self-exclusion can involve a lack of self-awareness about one's realistic level of risk, BCLC and GPEB may want to consider collaborating to adopt a problem gambling screening tool for use by GameSense Advisors at the GameSense booths or online, to allow possible problem gamblers to quickly assess their own level of risk. For instance, the PGSI is a tool that screens for gambling problem symptoms and can very quickly identify whether an individual is at the no-risk, at-risk, moderate risk, or problem gambling level of severity. The screen consists of only nine questions that are easy to self-administer and score. Encouraging gamblers to self-screen using the PGSI may help some to realize the nature and extent of their gambling

problem. A particular benefit of using this tool is that it has been validated in numerous research studies as an accurate screen for level of risk in problem gambling. However, BCLC may want to explore whether other shorter screens, such as the 7-item Centre for Addiction and Mental Health (CAMH) Gambling Screen[22], the 5-item Brief Problem Gambling Screen by Volberg and Williams (2011), or the 3-item Brief Biosocial Gambling Screen (Gebauer, LaBrie, & Shaffer, 2010) may be a better fit for this purpose.

It is recommended that copies of the gambling screen be made available at GameSense booths within casinos, that the gambling screen questions and scoring be included on take-home brochures as part of the Responsible Gambling marketing materials, and that the screening tool be incorporated into the PlayNow.com website. Participants scoring in the moderate to high range should be provided with more information about the VSE program and its demonstrated success in reducing symptoms of problem gambling as measured by the PGSI.

An additional recommendation is that security staff receive training on the administration, scoring, and interpretation of the selected gambling screen in the event that a casino patron self-administers the screen and then requests further information about what their score means or what resources are available. The security staff could advise them of the VSE program, its potential to assist the participant, and encourage the patron to consider trying the program by enrolling for a six-month term. Security staff should then connect the gambler to a support service by connecting them in person to a GameSense Advisor, via phone to the Problem Gambling helpline, connecting them to a Problem Gambling counsellor so they can explain how counselling works, connecting them to online supports, or telephoning a Gamblers Anonymous contact. Research in European countries with self-exclusion programs report higher program utilization rates than in North America, with the main difference in process being that security staff in European countries will proactively approach potential problem gamblers to ask about their interest in enrolling in a VSE-type program. According to Williams and colleagues (2012), offering someone the program directly appears to be more effective in getting people to enrol than just making the program available.

As an example of this, Switzerland has a program based on a “list of unwelcomed patrons” (Grace, 2013). The Social Concept program requires that each casino have a committee, comprised of administrators and employees, who make a decision regarding whether someone is exhibiting the signs of pathological gambling and should be allowed to continue to play at the casino. Additionally, all employees receive extensive training on how to identify the signs of pathological gambling. In this process, there is an opportunity for the gambler to explain to the committee in charge of maintaining the unwelcomed patrons list why he or she should not be added, and the committee only adds the name after receiving sufficient evidence that the person's behavior merits being included on the list. However, this strategy does not actually add the person them to the VSE program, but discourages the patron from coming into the casino. In other words, their approach is one in which pathological gamblers are deemed ‘unwelcome’ at the casino, meaning they would be taken off casino promotion lists, removed from players' clubs, ineligible for casino promotions or

[22] http://www.problemgambling.ca/EN/ResourcesForProfessionals/Pages/CAMHGamblingScreen.aspx

deals that are gambling-related, unable to obtain credit at the casino, have restricted access to credit card machines, and unable to claim any jackpots that required identification.

While we believe that one of the main strengths of the VSE program is that it is a voluntary program, in trying to ensure that the largest number of people who might benefit from the program recognize that the program might be a good fit for them, it is recommended that when BCLC security or staff or GameSense Advisors feel a person might have a gambling problem, they should be encouraged and empowered to complete a gambling screen and, if that score is at the higher end of the scale, the patron should be given both the information about what their PGSI score might imply and the information about VSE program and available counselling or other services. Staff and security should also encourage the patron to try the VSE program and inform them about GamTalk as this also provides opportunities for socialization.

Recommendation 2: BCLC - Market the VSE Program Outside of the Casino

While participants were overwhelmingly satisfied with the VSE program, one of the most common areas for improvement concerned the marketing of the program. The VSE is advertised in gaming facilities; however, there does not appear to be much marketing of the program outside of these facilities. It is recommended that BCLC more aggressively market the program using internet, social media, television, radio, and print advertisements. This is especially important given the length of time between when someone first becomes aware of the program's existence and one's decision to enroll in it.

In addition to increasing the program's marketing, it is recommended that BCLC include some of the main findings from the two longitudinal evaluations of the program in their marketing campaigns; namely that the program can very quickly reduce symptoms of problem gambling, that even a six month enrollment in the program can have positive effects on reducing the amount of time and money spent gambling, such as "six months is all it takes to make a major change in your quality of life", and that only a small minority of participants ever violate their agreement. BCLC could also include some positive success stories of gamblers in the program, such as how they were able to save enough money to pay off their mortgage or take a vacation or how the time away from the casino improved their personal relationships. It is also important the BCLC include messaging around some of the more commonly misunderstood program elements, such as the ability to enroll or re-enroll outside of a casino, the ability to attend events at the casino as long as they are off the casino floor, the inability to claim jackpots while excluded, the fact that counselling is free, but not required, and the wide range of methods and types of counselling available to program participants. Similarly, as mentioned above, BCLC might consider promoting access to GamTalk, the online gambling support site where participants can converse with others experiencing symptoms of problem gambling.

Recommendation 3: BCLC and Service Providers - Increase the Privacy Offered to Enrolling Participants

While many participants felt comfortable during the enrollment process, when asked if they had any recommendations for program improvement, participants suggested changes to the process of how they leave the facility immediately following the enrollment. Following the completion of their

enrollment, participants are typically escorted by security off the premises to the parking lot or public transportation. Many participants found this to be embarrassing and created a situation where their fellow gamblers knew that they had just self-excluded. BCLC should conduct an evaluation specifically of the rooms used for self-exclusion in all casinos across British Columbia and where necessary, encourage or facilitate individual service providers to renovate to ensure all such rooms have either direct access to the outside of the facility or avoid having the participant walk through the casino or the gambling area on their way out of the facility. It is extremely important to ensure that everyone who enrolls in the program have the opportunity to exit the facility privately following an exclusion.

THEME 2: PREVENTING VIOLATIONS

A second set of recommendations focuses on improving the detection of program violators. Consistent with research elsewhere, a large proportion of excluded gamblers who attempted to violate their agreement were able to do so successfully. While some excluded participants take measures that they believe will reduce the ability of service providers to identify them when entering or playing in a casino, such as changing their appearance or their casino of preference, many participants are easily able to re-enter casinos familiar to them without taking any added precautions.

As observed at the start of this report, over 6,000 British Columbians are listed on the exclusion program in any given month. As this is far too many individuals for security to manually screen for, BCLC should consider two approaches to increase the likelihood that they will successfully catch program violators.

Recommendation 4: BCLC and Service Providers - Pilot a Mandatory Identification Check Program

Overwhelmingly, those who violated their VSE agreements stated that the best way to keep them out of the facility while excluded and to deter them from even trying to enter a casino while excluded was to ensure that they had to present some form of valid identification before being granted entry to the facility. This approach offers two main benefits. First, by checking all guests for identification, a much larger proportion of program participants attempting to violate their exclusion would be caught. Second, knowing that there is a mandatory identification check at the door provides self-excluded gamblers with a psychological barrier that should reduce the likelihood that they will attempt to gain entry into a casino since they are aware that the potential to be caught is high.

We recognize the potential logistical and privacy challenges associated with requiring every guest to present their identification to enter a casino. Although many Western countries require that patrons have identification (Williams et al., 2012), they may not actually request proof of identification at the door. In fact, although some casinos in other jurisdictions, such as Singapore (http://www.sandscasino.com/singapore/casino-entry.html) and the Netherlands (Nowatzki & Williams, 2002), state that there is a mandatory identification check at the door, the typical North American practice appears to involve mandatory identification checks only for patrons appearing

under the age of 25 years old, or when a patron is claiming a jackpot. However, requiring that *all* casino guests produce identification at entry points would likely have a significant effect on reducing the number of violators and could also be used to help the casino manage other groups of individuals that should not be in a gaming venue. To be clear, the purpose of the identification check would be to scan the person's identification to compare it to a list of excluded and banned players, but the identification of the individual entering the casino would not be stored. This is similar to the practice used in other scanning applications; for instance, information on license plates scanned by police in British Columbia using Automated License Plate Recognition technology is immediately discarded if the scan does not result in a match (McCormick, Cohen, & Davies, 2016). Still, in order to determine if the benefits of this type of approach outweighs the cost, logistics, and privacy issues, we recommend that BCLC should pilot this strategy with various casinos to see its effect on programs like the VSE and to gauge the public's attitudes towards identification checks. Alternatively, and specifically for the VSE program, BCLC should also consider developing a screening tool or process for use by service provider security and staff to predict and identify likely program violators.

Recommendation 5: BCLC Employees and Service Providers - Be Alert for Violators at High Risk Periods

In this and other studies, several common factors were linked to program violation, with a major factor being PGSI score at time of enrollment. Additional factors include a range of demographic variables. Although two-thirds of program violators reported attempting to re-enter the casino mostly towards the end of their first six months of exclusion, importantly, this was not affected by program enrollment length. In other words, it did not seem to matter whether the participant enrolled in the VSE program for six months, one year, two years, or three years, participants were most at risk for violating their agreement after being in the program for six months. This is an extremely important finding to consider, as, at any given time, over 6,000 participants may be enrolled in the program, and security staff may naturally believe that they need to be most vigilant with those who most recently began their enrollment, rather than those who have been in the program from some time. This information would be useful to integrate into the ART training given to all security staff at BCLC.

Similarly, non-chronic program violators reported that they were much more likely to attempt to re-enter a casino towards the end of their first six months of exclusion, as opposed to immediately following the exclusion or attempting to violate throughout the duration of the exclusion. In order to focus the attention of security staff on those who may be at the highest risk for attempting to violate their agreement, namely those who have been in the program for approximately six months, BCLC should send a "Be On the Look-Out" (BOLO) memo to all staff and security with program participant photographs and personal details approximately five months after that individual's enrollment. To make this process more manageable for staff and security, the memo could be geographically specific because, while some participants attempted to violate at a location other than their usual facility, very few participants chose to travel far out of their geographic location to do so. This recommendation is not intended to suggest that staff and security not also focus on those who have just recently enrolled or those who have been in the program for a long period of time. However, given the large number of people on the program at any given time and the limited

ability of staff to focus on everyone, targeting those who are approaching the six month threshold may improve the detection rate.

Recommendation 6: BCLC - Evaluate the Use of Facial Recognition Technology

It should be noted that only a minority of program participants attempted to violate their self-exclusion agreement by re-entering a casino or gaming centre in British Columbia. As such, a method of identifying this small group of program violators that may be less intrusive than requiring all guests to provide identification is the extended use of facial recognition technology. BCLC has already moved towards the use of facial recognition technology; however, not all casinos use this technology, and it is not clear how effective it is in identifying those enrolled in the VSE program. While the increased use of this technology holds a lot of promise for passively identifying violators, thus taking the human element out of the process and allowing staff and security to focus on other responsibilities, it is currently unknown whether the technology is able to actually improve the detection rate and whether this improvement provides an adequate return on investment. As such, it is recommended that BCLC and individual gaming venues undertake an evaluation of how this technology can be used most efficiently and effectively to detect program violators. Of note, the security division of BCLC is running a pilot study with facial recognition technology in several casinos this fall.

Recommendation 7: GPEB and BCLC - To Prevent Violations, Introduce a Sliding Scale for Violators

Under the BC Gaming Control Act, a possible penalty for violating a VSE agreement is a $5,000 fine. However, when caught, violators of the VSE agreement are typically reminded of their agreement and escorted off the premises by security. This is apparently enough for many program violators, as the majority of those who attempted to violate their agreement reported doing so only one or two times. Still, a small proportion of participants attempted to violate their agreements more regularly. GPEB, who is responsible for enforcing the Gaming Control Act, should consider utilizing a sliding scale of penalty enforcement, whereby for the first several detections, the policy directs that security from the service provider takes the excluded participant to the security office to provide them with another VSE kit, warn the participant of the increasing intensity of response if they are caught again, and to connect them with the GameSense Advisors when they are available onsite so they can speak to the excluded patron about their motivations for attempting to violate their agreement.

If the excluded participant continues to violate, GPEB should progress to a “wraparound” style of response whereby a service plan is initiated that seeks to connect the individual to problem gambling counselling, as well as counselling for other services the client is in need of, including mental health, financial, family, or substance abuse counselling. At this time, GPEB should move the participant off of BCLCs self-exclusion list and onto an unwelcomed patron list, where they are essentially denied access to gaming facilities until they are able to demonstrate that they have actively taken steps to reduce their problem gambling. Given the number of times that VSE participants attempt to violate their agreement, we would recommend that the wraparound style response be initiated after the third violation. Of course, this only works if the previous

recommendations are considered so as to increase the chances that someone attempting to violate their agreement is caught. If the situation is such that most people who try to violate their agreement are able to do so, a sliding scale for violators is unlikely to have the intended outcome.

THEME 3: CONNECTING WITH COUNSELLING

As summarized in the review within the previous study (Cohen et al., 2011), access to counselling provides additional benefits to self-exclusion participants (e.g. Gomes & Pascual-Leone, 2009; Nelson et al., 2010; Palleson, Mitsem, Kvale, Johnsen, & Molde, 2005; Tremblay et al., 2008). Unfortunately, consistent with the literature on problem gambling counselling, very few program participants elected to access counseling. Many felt that the VSE program was sufficient to help them deal with their gambling issues, or that they could manage their problem gambling symptoms with the combination of the VSE and their own personal levels of self-control. Again, this is consistent with research findings in other jurisdictions, where the most common barriers to accessing treatment include a belief that one can manage the situation on their own, embarrassment/shame/pride, fear of stigma, a perception that they do not have a serious problem, and a perception that treatment will not help (McCormick & Cohen, 2006). Essentially, it appears that there are three main categories explaining why a problem gambler does not take up treatment. First, they may be **unaware** of the various options associated with counselling. For instance, in the first study on BCLCs VSE program, many participants did not know that counselling was free, that it was offered in multiple languages, or that it could occur at a location of their choice. Greater marketing and education is required to reduce this barrier to treatment. In the current study, the vast majority of participants indicated that they were familiar with the conditions under which problem gambling treatment was offered; thus, beyond promoting greater access to online counselling or forums, this barrier does not appear to describe current respondents.

The second category reflects those who are **unable** to access problem gambling counselling. Again, as problem gambling counselling is offered free of charge in British Columbia, and as counsellors will meet participants in a location or at a time of their choosing, this barrier does not seem to be present in the current sample. Still, access to online counselling or forums where one can discuss their experiences with problem gambling would be a helpful resource for those who wish to remain relatively anonymous while receiving services. In this regard, it is important to note that GPEB is reportedly developing online counselling opportunities.

The third category appears to describe the bulk of the respondents in the current sample, and reflects those who are **unwilling** to access problem gambling treatment. This category not only describes the majority of the respondents in the current sample, but also those in the broader problem gambling population, as research shows that most participants choose not to access treatment (e.g. Hodgins & el-Guebaly, 2000; Olfson, Guardino, Struening, Schneier, Hellman, & Klein, 2000; Sobell, Ellingstad, & Sobell,, 2000; Tavares, Martins, Zilberman, & el-Guebaly, 2002). Strategies to reduce this barrier aim to simply "get the client in the door" with the goal of removing any associated stigma of counselling uptake or fears around what the counselling might involve.

Connecting program participants to counselling is critical for the long-term reduction of problem gambling symptoms, as while many participants appeared to be able to successfully manage their

problem gambling symptoms during the time they are enrolled in the program, the results in this study demonstrated that post-exclusion, those who returned to gambling began again to demonstrate elevated PGSI symptoms. Access to counseling while enrolled in the VSE program may help participants to either recognize that gambling is not a healthy activity for them to partake in, or may learn strategies to use in the future to minimize the negative effects that gambling has on their lives, should they choose to begin gambling again post-exclusion. Thus, through collaborating with GPEB, BCLC should strive to connect more VSE participants to a counselling option.

Recommendation 8: GPEB - Incentivize Counselling Uptake

Although counselling is offered through the Gaming Policy and Enforcement Branch, as with the first evaluation of BCLC's VSE program by these researchers (Cohen et al., 2011), uptake of counselling opportunities was very low. Given this, GPEB should consider facilitating counselling uptake for self-exclusion clients through the provision of incentives that encourage participants to connect with counselling. This method is consistent with the principles of operant conditioning (Skinner, 1953), where desired behaviours are encouraged through positive (rewards for participating in the desired behavior, such as financial compensation) or negative (punishment for not participating in the desired behavior, such as a fine or loss of freedom) reinforcement.

For instance, those who enroll in the counselling options provided through GPEB could apply to BCLC have their exclusion period reduced after successfully completing a counselling program and with the consent of the service provider. Alternatively, financial incentives could be used to encourage participants to attend counselling, such as a gift card that is provided after attending a certain number of sessions. This strategy could be used with all participants of the VSE program or focused on those with high PGSI scores. For example, participants could complete a PGSI at the time of their enrollment and incentives to access counselling could be used specifically with those scoring in the moderate and problem gambling range to encourage participation in counselling. While it is not ideal to provide participants with a financial inducement to attend counselling, as success is typically linked more closely to an individual's motivation to change, this method would have the benefit of increasing the proportion of problem gamblers who initially make contact with counselling, and, after attending several sessions, may led a larger number of participant to become more familiar with the various methods by which counselling is offered and come to see the benefit of continuing on with the services available.

Recommendation 9: GPEB - Provide Online Counselling

British Columbia funds access to problem gambling counselors for anyone who feels in need of the services, regardless of whether they are enrolled in the VSE program. Currently, it is unknown what the overlap is between problem gambling counseling access and VSE program enrollment, although the results of this study suggest that only a small proportion of those attempting to control their gambling through the VSE also access problem gambling counseling. While some of the reasons for not accessing counselling focused on a desire to deal with the problem gambling symptoms personally, other reasons included concerns around privacy and potential embarrassment, as well as the notion that one did not have time to commit to counselling services. One response to both

these barriers would be to offer online problem gambling counselling. Currently, British Columbians can request telephone access to a problem gambling counsellor (https://www.bcresponsiblegambling.ca), but there is not currently an option for online counselling in British Columbia. While sites like GamTalk (http://www.gamtalk.org/) and the Problem Gambling Institute of Ontario's online community forum (https://www.problemgambling.ca/gambling-help/forum/) provide opportunities for those struggling with gambling to meet online, they do not directly provide counselling services. Thus, British Columbia may want to consider piloting an online counselling program to determine whether it increases access to counselling services, using the recommendations by Monaghan and Blaszczynski (2009) as a guideline for program development. Of note, providing online gambling counselling would reduce barriers to problem gambling treatment uptake for two categories of respondents; namely those who are unable to access counselling and those who are unwilling due to negative feelings, such as shame or embarrassment. Reportedly, the GPEB is currently in the process of developing this programming.

Recommendation 10: GPEB and BCLC - Enhance the Marketing on Counselling Services

Although the VSE program enrollment includes information on counselling, some participants reported still being unaware that counselling would be provided for free, that is available at a time and location of the participant's choosing, that it is available for a variety of issues, not just for gambling, and that it can could take several different forms, such as individual sessions or in a group therapy structure. Thus, to reduce the "unaware" barrier to problem gambling treatment, BCLC should include more marketing about how counselling works as part of its VSE information package and information at the GameSense stands. Furthermore, while participants were equally as satisfied with the enrollment process when the security staff conducted it alone as when a GameSense staff member was present, there was a significantly increased likelihood that counselling would be recommended when GameSense staff were present. As such, it is recommended that GameSense advisors be present in the casino at those peak times when patrons are most likely to request to be excluded and that they attend all enrollments, if possible. This would require BCLC to first monitor the peak times when exclusions occur, and possibly hire more GameSense advisors to provide added coverage. Moreover, security and staff should all receive additional training about the benefits and methods of counselling and they should be required to explain this to all participants during the exclusion process.

Conclusion

The results of this longitudinal study with participants of BCLC's self-exclusion program revealed continued high levels of satisfaction with the program's enrollment process and a general effectiveness in reducing opportunities to participate in formal gambling. A major finding from this report is the relatively low rate of violation attempts across the three time periods of the study. Overall, only one-quarter of gamblers ever attempted to violate their agreement by re-entering a casino in British Columbia, and, typically, attempts at violating the agreement only occurred once or twice while enrolled, with only a handful of participants (n = 20) attempting to violate their

agreements four or more times. Previous research has observed much higher rates of violations. Ladouceur's research in Quebec identified that between 11% and 55% of excluded participants attempted to violate their agreements, and did so, on average, six times while enrolled in the program (Ladouceur et al., 2000, 2007). A subsequent study on an improved version of the VSE in Quebec found that 46% of participants attempted to violate their agreement (Tremblay, Boutin, & Ladouceur, 2008). Verlik's (2008) study with 300 self-exclusion participants across Canada found that over half had attempted to violate their agreement, and did so fairly regularly. Elsewhere, a study with 135 self-excluded gamblers in Australia found that nearly half of male participants (45 per cent) and one-third of female participants gambled at the location they were excluded from, and did so around ten different times while enrolled in the program (Croucher, Croucher, & Leslie, 2006). In our previous research on BCLC's VSE program, 35% of program participants tried to re-enter the casino while excluded (Cohen et al., 2011). It appears then, that the percentage of participants attempting to violate their agreement has dropped by 10% in British Columbia, and is much lower than the rates identified in other research in Canada and internationally. One potential explanation for this finding may be the introduction of the jackpot rule, which requires gamblers to provide identification to claim jackpot wins, and which will withhold the jackpot payout to currently self-excluded gamblers.

In both the 2011 and current studies, access to counselling was low. This is consistent with prior research. For instance, evaluations on the self-exclusion program in Quebec identified that only between 10% and 15% of self-excluded gamblers ever accessed counselling (Ladouceur et al., 2000; Tremblay et al., 2008). Analyses of self-excluded gamblers in three European countries (Germany, Austria, and Switzerland) found that only one-third accessed professional support (Hayer & Meyer, 2011).

Yet, despite the small proportion of participants who accessed counselling services, the VSE program appeared to have substantial and immediate effects on problem gambling symptoms. Participants enrolling in the VSE program reported a very high average PGSI score during the Time 1 survey; yet, by Time 2, these scores had dropped significantly and substantially. Similar effects have been observed in other Canadian studies (e.g. Ladouceur et al., 2007; Tremblay et al., 2008) and the European study by Hayer and Meyer (2011) identified reductions to problem gambling symptoms within four weeks of enrollment. Interestingly, Hayer and Meyer (2011) observed that the immediate relief felt by gamblers following the signing of their exclusion agreement might actually contribute to the low rate of treatment access, as the reduction in problem gambling symptoms might leave the excluded patron feeling as though the issue has been and is being successfully managed. Still, in the current study, as participants began to return to gambling over time following the end of their exclusion period, it appeared that PGSI scores began to increase again. In addition, some participants did not appear to benefit from the same substantial reduction in problem gambling symptoms observed by other participants, as their scores remained in the upper end of the moderate and into the problem gambling symptom range. For these participants, gambling continued to exert strong negative effects on their daily lives, which was reflected in their tendency to be more likely to report attempting to violate their agreement. Given this, it is important to identify strategies that increase the uptake of counselling among self-excluded gamblers.

As identified in the previous study (Cohen et al., 2011), detection of excluded program participants violating their agreement by re-entering the casino continued to be low, with a relatively large group of participants reporting that they always or almost always successfully entered the casino while excluded. Still, this is consistent with the research literature. For instance, in a small evaluation of a self-exclusion program in Nova Scotia, Schrans, Schellinck, and Grace (2004) found that only 23% of program violators were detected. In Nelson, Kleschinsky, LaBrie, Kaplan, and Shaffer's (2010) study on self-exclusion participants in Missouri, half of those who attempted to violate their agreement were able to do so. Verlik's (2008) study with 300 excluded participants across Canada found that less than half (48 per cent) of program violators were recognized by security when attempting to enter a casino while excluded. In this study, two-thirds (68 per cent) of participants supported the use of facial recognition technology and mandatory identification checks as a way to deter and detect violators. In addition, over half (61 per cent) of the participants supported withholding the jackpot winnings of excluded participants, something that BCLC introduced towards the end of the previous study and which may be a driving factor in the reduction in violation attempts made by excluded participants in the current study.

In conclusion, based on the sample used for this study, it seems clear that BCLC's Voluntary Self-Exclusion program is working for most participants and most participants are extremely satisfied with the program. Although more can always be done to better detect that small proportion of participants who attempt to violate the conditions of their agreement, and more can be done to deter participants from attempting to violate their agreement in the first place, the program appears to be enrolling those with more serious gambling problems, the program has an immediate effect on decreasing PGSI scores, over time the program reduces participants' levels of depression, anxiety, and stress, and the program is achieving its general purpose. While we strongly suggest that BCLC consider and implement all of the recommendations in this report, it is clear, from the perspective of the sample of participants obtained for this study, that the VSE remains an excellent program.

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References

Cohen, I.M., McCormick, A.V., & Corrado, R.R. (2011). *BCLC's Voluntary Self-Exclusion Program: Perceptions and Experiences of a Sample of Program Participants.* Abbotsford, BC: BC Centre for Social Responsibility.

Croucher, J.S., Croucher, R.F., & Leslie, J.R. (2006). *Report of the Pilot Study on the Self-Exclusion Program conducted by GameChange (NSW).*

Currie, S.R., Hodgins, D.C, & Casey, D.M. (2013). Validity of the Problem Gambling Severity Index Interpretive Categories. *Journal of Gambling Studies, 29*: 311-327.

Doiron, J. P., & Nicki, R. M. (2001). Epidemiology of problem gambling in Prince Edward Island: A Canadian microcosm. *Canadian Journal Psychiatry, 46*(5), 413-417.

Ferris, J. & Wynne, H.J. (2001). *The Canadian Problem Gambling Index Final Report*. Ottawa, ON: Canadian Centre on Substance Abuse.

Gainsbury, S.M. (2014). Review of self-exclusion from gambling venues as an intervention for problem gambling. *Journal of Gambling Studies, 30*: 229-251. DOI 10.1007/s10899-013-9362-0

Gebauer, L., LaBrie, R., & Shaffer, H.J. (2010). Optimizing DSM-IV-TR classification accuracy: A brief biosocial screen for detecting current gambling disorders among gamblers in the general household population. *Canadian Journal of Psychiatry, 55*(2): 82-90. doi: 10.1177/070674371005500204

Gomes, K. & Pascual-Leone, A. (2009). Primed for change: Facilitating factors in problem gambling treatment. *Journal of Gambling Studies, 25*: 1-17.

Grace, (2013). Why one size doesn't fit all: A critique of casino voluntary self-exclusion programs and recommendations for improvement. *UMKC Law Review, 82*(1): 233-254.

Hayer, T. & Meyer, G. (2011). Self-exclusion as a harm minimization strategy: Evidence for the casino sector from selected European countries. *Journal of Gambling Studies, 27*: 685-700.

Hing, N., Tolchard, B., Nuskey, E., Holdsworth, L., & Tiyce, M. (2014). A process evaluation of a self-exclusion program: A qualitative investigation from the perspective of excluders and non-excluders. *International Journal of Mental Health and Addiction, 12*: 509-523. DOI 10.1007/s11469-014-9482-5

HLT Advisory. (2006). *VLT Gaming in Canada*. Prepared for the Canadian Gaming Association. Retrieved from http://www.hlta.ca/reports/FINAL%20VLT%20Report%20-%20color.pdf.

Hodgins, D.C. & el-Guebaly, N. (2000). Natural and treatment-assisted recovery from gambling problems: A comparison of resolved and active gamblers. *Addiction, 95*(5): 777-789.

Ladouceur, R., Jacques, C., Giroux, I., Ferland, F., & Leblond, J. (2000). Brief communications: Analysis of a casino's self-exclusion program. *Journal of Gambling Studies, 16*: 453-460.

Ladouceur, R., Sylvain, C., & Gosselin, P. (2007). Self-exclusion program: A longitudinal evaluation study. *Journal of Gambling Studies, 23*: 85-94.

McCormick, A.V. & Cohen, I.M. (2006). *Barriers to Accessing Treatment for Problem Gambling*. Abbotsford, BC: BC Centre for Social Responsibility.

McCormick, A.V., Cohen, I.M., & Davies, G. (2016). Assessing the deployment of automated license plate recognition technology: Strategies to improve public safety. In L. Moriarty (Ed.), *Criminal Justice Technology in the 21st Century (3rd edition)*. Springfield, ILL: Charles C. Thomas Publishing.

Monaghan, S. & Blaszczynski, A. (2009). *Internet-Based Interventions for the Treatment of Problem Gambling.* Toronto: Centre for Addiction and Mental Health.

Morgan, T., Kofoed, L., Buchkoski, J., and Carr , R.D. 1996. Video lottery gambling: Effects on pathological gamblers seeking treatment in South Dakota. *Journal of Gambling Studies*, 12: 451–460.

Nelson, S.E., Kleschinsky, J.H., LaBrie, R.A., Kaplan, S., & Shaffer, H.J. (2010). One decade of self-exclusion: Missouri casino self-excluders four to ten years after enrolment. *Journal of Gambling Studies, 26*: 129-144. DOI 10.1007/s10899-009-9157-5

Nowatzki, N.R. & Williams, R.J. (2002). Casino self-exclusion programmes: A review of the issues. *International Gambling Studies, 2*: 3-26.

Olfson, M., Guardino, M., Struening, E., Schneier, F.R., Hellman, F., & Klein, D.F. (2000). Barriers to the treatment of social anxiety. *American Journal of Psychiatry, 157*: 521-527.

Palleson, S., Mitsem, M., Kvale, G., Johnsen, B., & Molde, H. (2005). Outcome of psychological treatments of pathological gambling: A review and meta-analysis. *Addiction, 100*: 1412-1422.

Pulford, J., Bellringer, M., Abbott, M., Clarke, D., Hodgins, D., & Williams, J. (2009). Barriers to help-seeking for a gambling problem: The experiences of gamblers who have sought specialist assistance and the perceptions of those who have not. *Journal of Gambling Studies, 25*: 33-48.

R.A. Malatest & Associates Ltd. (2014). *2014 British Columbia Problem Gambling Prevalence Study*. Submitted to the Gaming Policy and Enforcement Branch, Ministry of Finance: British Columbia.

Schrans, T., Schellinck, T., & Grace, J. (2004). *2004 NS VL Self Exclusion Program Process Test: Final Report*. Report submitted to the Nova Scotia Gaming Corporation.

Skinner, B.F. (1953). *Science and Human Behavior*. Cambridge, UK.

Sobell, L.C., Ellingstad, T.P., & Sobell, M.B. (2000). Natural recovery from alcohol and drug problems: Methodological review of the research with suggestions for future directions. *Addiction, 95*(5): 749-764.

Suurvali, H., Hodgins, D.C., & Cunningham, J.A. (2010). Motivators for resolving or seeking help for gambling problems: A review of the empirical literature. *Journal of Gambling Studies, 2010*: 1-33.

Tavares, H., Martins, S.S., Zilberman, M.L., & el-Guebaly, N. (2002). Gamblers seeking treatment: Why haven't they come earlier? *Addictive Disorders & Their Treatment, 1*: 65-69.

Tremblay, N., Boutin, C., & Ladouceur, R. (2008). Improved self-exclusion program: Preliminary results. *Journal of Gambling Studies, 24*: 505-518.

Verlik, K. (2008). Casino and racing entertainment centre voluntary self-exclusion program evaluation. Paper presented at the 7th *European Conference on Gambling Studies and Policy Issues*, Nova Gorica, Slovenia, July 1-4, 2008. Retrieved from: http://www.easg.org/media/file/conferences/novagorica2008/thursday/1400-ses3/verlik_kent.pdf.

Volberg, R.A. & Williams, R.J. (2011). *Developing a Brief Problem Gambling Screen Using Clinically Validated Samples of At-Risk, Problem and Pathological Gamblers*. Report to the Alberta Gaming Research Institute. Gemini Research.

Williams, R.J., West, B.L., & Simpson, R.I. (2007). *Prevention of Problem Gambling: A Comprehensive Review of the Evidence*. Report prepared for the Ontario Problem Gambling Research Centre, Guelph, Ontario, Canada.

Williams, R.J., West, B.L., & Simpson, R.I. (2012). *Prevention of Problem Gambling: A Comprehensive Review of the Evidence and Identified Best Practices*. Report prepared for the Ontario Problem Gambling Research Centre and the Ontario Ministry of Health and Long Term Care, Guelph, Ontario, Canada. http://hdl.handle.net/10133/3121

Wood, R.T. & Williams, R.J. (2007). "How much money do you spend on gambling?" The comparative validity of question wording used to assess gambling expenditure. *International Journal of Social Research Methodology: Theory and Practice, 10*(1): 63-77.

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