



Investigating Positive Play Using OLG Player Survey Data: A Secondary Analysis

Nigel E. Turner, Darren R. Christensen & Amanda Roberts

Table of Contents

Abstract	4
Executive Summary.	6
Psychometric properties of Positive Play	6
Participant profiles	6
Correlates of Positive Play	7
Structural Equation Modeling.....	8
Conclusions	9
Introduction	10
Purpose.....	10
Literature Review and Significance.....	10
Analytical Strategy.....	12
Data Collection	12
Questionnaire	12
Data Cleaning	13
Structural Equation Modelling Data Analysis	13
Sample	13
Analytic Strategy.....	14
Results	14
Part 1: Sample Characteristics and psychometrics of the Positive Play Scale.....	15
Positive Play Subscales	16
Discussion	19
Part 2: Positive Play, Demographics, and Participant Profiles.....	20
Other demographic variables	22
Profiles of people who score High or Low on Positive Play	24
High Scores on Positive Play	24
Profiles of Low Scores	25
Lottery profiles	26
Casino Profiles	27
Online Gaming Profiles.....	27
Charitable Gaming Profiles	27
Discussion of Profiles	28

Part 3: Lottery Players	29
Discussion for Lotteries	39
Part 4: Casino Players	41
Discussion for Casino players	52
Part 5: Online Gamers	55
Discussion for Online Gaming	67
Part 6: Charitable Gaming and Bingo.....	69
Discussion for Charity Gaming	78
Part 7: Structural Equation Modelling	80
Casino Gaming	80
Charitable Bingo	82
Online Gaming	84
Lottery Gaming	86
Discussion for Structural Equation Models	88
General Discussion and Conclusions	89
Limitations	92
Improving Positive Play-based responsible gambling programming	92
Recommendations	93
Research Community	93
Casinos/Gambling Sources	93
Healthcare/Policy Awareness Priorities	93
Consumers	94
References	95

Abstract

This study examined the correlates of Positive Play (i.e., gambling in non-problematic ways) in Ontario player survey data to identify the demographic and gambling profiles of people who engage in Positive Play. It examined the relationships between Positive Play and responsible gambling, and quantified the risk and protective factors of Positive Play. The study analyzed survey data from Ontario Lottery Gaming's (OLG's) four groups of participants: casino gaming, charitable bingo gaming (cGaming), lottery, and online (iGaming). The analyses were conducted for each participant group (also called channels or cells in the survey), and where appropriate, aggregated into combined analyses. The analytical team conducted univariate and multivariate analysis as well as using Structural Equation Modelling (SEM) to examine Positive Play.

The profiles of a person who scores low on one or more of the Positive Play scales is more likely to be young, male, single, have a low or middle range income, have at least some university education, born outside of Canada, and a recent immigrant. People who score low on Positive Play are more likely to play online games or charity games compared to lottery. These findings were largely consistent across game types however due to the small sample sizes for online gamers and charitable gamers, some effects did not reach significance.

A detailed analysis of the Positive Play scales was conducted for each group of participants. In general, the results for the various cells were similar, but differences in the questions for each cell makes generalizing the results somewhat difficult. People who report setting limits and those who engage in other responsible gambling behaviors score higher on Positive Play. On the other hand, people who endorsed items on problem behaviors or erroneous beliefs scored lower on Positive Play. Awareness of responsible gambling resources was positively correlated with Positive Play for casino and online gaming, but negatively correlated for lottery and charitable gaming. Similarly, self reported knowledge of the games was positively related to Positive Play for lotteries but negatively correlated with Positive Play for casino gaming and charitable gaming. A positive perception of the various OLG PlaySmart initiatives was positively correlated to Positive Play for all types of games, however, the relationship was very weak for lotteries. In addition, customer satisfaction with OLG, the venue, and information available at the venue was positively correlated with Positive Play. For lotteries and casino games, awareness of responsible gambling resources appeared to be increasing over time with higher scores in wave three and four compared to waves one and two. The opposite trend was found for charitable gaming and online gaming.

The Structural Equation Models reveal that for all types of gambling surveyed (e.g., casino, charity gaming, lottery, and online gambling) responsible gambling behavior was the strongest significant predictor of Positive Play, although perception of OLG PlaySmart programs was also a significant predictor for online and charitable bingo. There was also a significant negative relationship between awareness of responsible gambling resources and Positive Play for charitable bingo. There was a consistent strong significant positive covariance between awareness of responsible gambling resources and perception of OLG PlaySmart programs across channels. There were also significant predictors of Positive Play for age and gender for lotteries, charitable bingo, and casino gaming.

In summary, the study revealed a number of important findings about the nature of Positive Play. Most of the participants engage in Positive Play. Most of the participants set limits on their gambling and keep to those limits. Older players, females, and people with a positive attitude towards OLG were more likely to engage in Positive Play. The average player reports gambling modest amounts and does not gamble very frequently. Positive Play was highest for lottery players followed by casino players. For casino gaming and charitable bingo only, age and gender were also predictive of total Positive Play. Interestingly, most of the participants had positive perceptions of the responsible gambling efforts of OLG and overall had positive attitudes towards OLG. Those people who score low on Positive Play are more likely to play online games or charity games.

Awareness efforts for Positive Play should be directed at younger males, people who are single and people who are recent immigrants. In addition, more effort on Positive Play needs to be directed at online gamers and charity gamers. Given the positive relationship between Positive Play and attitudes towards OLG, encouraging Positive Play may increase player satisfaction.

Executive Summary

The report is organized into 7 sections: (1) Overall demographics of the sample and psychometrics properties of Positive Play, (2) analysis of profiles of people who score high on Positive Play and low on Positive Play, (3) correlates of Positive Play for lottery players, (4) correlates of Positive Play for casino players, (5) correlates of Positive Play for online gamers, (6) correlates of Positive Play for charity bingo players, (7) Structural Equation Models of the relationship between Positive Play and correlates for each of the 4 channels (groups of participants).

PSYCHOMETRIC PROPERTIES OF POSITIVE PLAY

Analysis of the Positive Play scale found that the scale was reliable overall and for each of the four groups of participants (channels). In addition, three of the four subscales were also found to be adequately reliable across most of the samples. However, the Gambling Literacy scale had a somewhat lower level of reliability than the other scales. This is likely due to the small number of items on the scale (3) and the reverse keying of two of the items. Exploratory and confirmatory factor analysis suggest that a three-factor model combining Honesty and Control and Personal Responsibility and moving one item from Gambling Literacy to Pre-Commitment fits the data better than the original model.

PARTICIPANT PROFILES

To determine the profile of a person who scores high on Positive Play, we defined a high score as people who scored 6.5 or more on all 4 of the Positive Play scales). Overall, 38.0% of the participants scored in the high range of all Positive Play scales. Lottery players (45.0%) were the most likely to have high scores, followed by casino players (33.9%), charitable gaming (31.0%) and online gamers (19.9%). We also looked at people who scored low (less than 6 out of 7) on at least one of the Positive Play scales. Overall, 9.5% of the sample scored in the low score category. Low scores were most common among online gamers (19.6%), and charitable gamers (18.3%), followed by casino players (12.6%), and finally, lottery players (4.2%).

- Females were more likely than males to score high on Positive Play (40.0% vs. 36%) and less likely to have low scores on Positive Play (12.3% vs 6.9%).
- High scores increased with age from 24% for people 18-24 group to 45% for those over 55. Similarly low scores decreased with age from 26.7% for people 18-24 to 5.5% for people over 65.
- People from a smaller community were more likely than those from a city of 100 thousand people or more to score high on Positive Play (41.2%vs. 36.8%) and less likely to score low on one or more scales (6.8% vs. 10.5%).
- People born in Canada (39.6% vs. 33%) or who had lived in Canada 11 years of more were more likely to have high scores. Conversely low scores were more common among people not born in Canada (17.9% vs. 7.0%) or who had been in Canada less than 10 years.

- People who were married were more likely than people who were single to have high scores on Positive Play (39.9% vs. 29.5%) and less likely to have low scores (9.0% vs. 12.7%).
- People with some university education (11.6%) were the most likely to have low scores on Positive Play whereas people who had graduated from a college or technical school (6.6%) were the least likely to score low on the positive scales.
- Low scores significantly decreased over the waves of the study with 11.2% in wave 1, 7.3% in wave 2, 9.9% in wave 3, and 7.2% in wave 4

In summary, people who score high on all of the positive scales are most likely to be older, female, have a higher income, be from a smaller community, born in Canada, or immigrated at least 10 years ago, and not single. In addition, lottery players are the most likely to score high on Positive Play.

The profile of a person who scores low on one or more of the Positive Play scales is more likely to be young, male, single, have a low or middle range income, have at least some university education, not be born in Canada, and more likely to be a recent immigrant. Finally, people who score low on Positive Play are more likely to play online games or charity games. The results of high scoring profiles and low scoring profiles were similar, however the analysis of low profiles revealed additional findings related to education and the wave of the study.

Awareness efforts for Positive Play should be directed at younger males, those who are single, and recent immigrants. In addition, more effort on Positive Play needs to be directed at online gamers and charity gamers. These findings were largely consistent across game types however due to the small sample sizes for online gamers and charitable gamers, some effects did not reach significance.

CORRELATES OF POSITIVE PLAY

In a detailed analysis of the Positive Play scales, the majority of players in all channels reported setting limits on their gambling and engaging in Positive Play. Overall, responsible gambling behaviors were positively correlated with Positive Play. We grouped the responsible gambling items into the following categories based on their content: problem gambling, cutting back, setting limits, responsible attitudes, knowledge of the games, and erroneous beliefs. Different items were used for different games which makes it somewhat difficult to compare the results of the various groups of participants however, in general, items related to setting limits, responsible attitudes, and knowledge of the games were positively correlated with Positive Play and items related to problems, and erroneous beliefs were negatively related to Positive Play. Items related to cutting back produce mixed results. Of particular note, the responsible attitude item “gambling for entertainment only”, was positively correlated with Positive Play for all four groups of participants. Interestingly some of these responsible gambling behavior items produced mixed results, with making smaller bets being positively correlated with Positive Play for casinos and online play but buying less expensive tickets being negatively correlated with Positive Play for lottery play.

Awareness of responsible gambling resources had mixed correlations with Positive Play. For casino and online players, awareness of resources had a few small positive correlations, but for lotteries and charitable gaming, the correlations were generally negative. This is perhaps because only people who are experiencing problems have sought out and utilized the responsible gambling resources.

On the other hand, the perception of OLG's PlaySmart program was mostly positive with a majority of the participants somewhat or strongly agreeing that OLG promotes each of the PlaySmart program efforts listed. In addition, the perception of OLG's PlaySmart program was positively correlated with Positive Play for all groups of participants. That is, people who engage in Positive Play approve of the efforts that OLG is making with their PlaySmart program. The positive attitude towards OLG and the gambling industry in general was also revealed in the questions regarding satisfaction with the venue they attend, and the availability of the information at those venues. Overall, it would appear that OLG is viewed as promoting responsible play by the majority of the participants.

Other variables produced inconsistent results across the groups of participants (or channels). For example, self reported knowledge of the games was positively related to Positive Play for lotteries but negatively correlated with Positive Play for casino gaming and charitable gaming. In addition, for lotteries and casino games, awareness of responsible gambling resources appeared to be increasing over time with higher scores in wave three and four compared to the earlier waves of the survey. The opposite trend however was found for charitable gaming and online gaming.

STRUCTURAL EQUATION MODELING

The Structural Equation Modeling (SEM) was conducted on each group of participants to examine the interrelationship of the variables. These analyses test the direct relationships between the three related responsible gambling variables (i.e., responsible gambling behaviour, awareness of responsible gambling resources, and perception of OLG PlaySmart programs) and gender (female) and age (older) and their relationship to Positive Play. The responsible gambling variables are total scores from the list of questions on each topic. Note that the responsible gambling variables were different for each group of participants because the channels had varying numbers of respondents and had varying numbers of survey questions so the comparisons of paths in different cells needs to be interpreted with that fact in mind. Each channel was examined separately. The analyses revealed a number of relationships in the data. The analyses for the different groups were similar, but for the smaller samples (e.g., online and charity), some of the paths were non-significant. We report standardised regression weights.

For all four types of gambling, the strongest predictor of Positive Play was responsible gambling behaviour. This effect ranges from $r = .32$ for casino games to $r = .16$ for lottery games. Age (older) and perception of OLG PlaySmart programs, and gender (female) were significant predictors for several of the game channels. In addition, there was a strong covariance between awareness of responsible gambling resources and perception of OLG PlaySmart programs.

The Structural Equation Models reveal that for the casino gaming, charitable bingo, and online gambling channels, responsible gambling behaviour had the strongest association with the total Positive Play scales. There were also strong negative covariances for these channels between

awareness of responsible gambling resources and perception of OLG PlaySmart programs. For casino gaming and charitable bingo only, age and gender were also predictive of total Positive Play. These results indicate that responsible gambling behaviour of players reflect Positive Play scores, and that for casino gaming and charitable bingo, demographic factors also have an impact. Future OLG initiatives should focus on behavioural actions as primary preventative harm minimization actions, while awareness campaigns can focus on age and gender as target audience characteristics. The negative covariance between awareness of responsible gambling resources and Positive Play for three of the four participant groups suggests players with higher awareness of responsible gambling resources scores are less likely engage in Positive Play. This is a surprising result, however, it may be the case that people who have gambled excessively may be more aware of these resources because of their gambling experience. The strong positive association of awareness with the perception of the OLG PlaySmart program suggests that people who do find themselves in need of these resources have had a positive experience with these resources. Nonetheless, to facilitate prevention, it is recommended that more effort is needed to improve awareness of these resources for people who do not currently need them.

Conclusions

The results of this study reveal several important findings about Positive Play. The analyses of profiles clearly indicate those variables that need to be addressed in prevention and responsible gambling initiatives. Most of the participants engage in Positive Play. Most of the participants set limits on their gambling and keep to those limits. Older players, females, and people with a positive attitude towards OLG were more likely to engage in Positive Play. The average player reports gambling modest amounts and does not gamble very frequently. Positive Play was highest for lottery players followed by casino players. Interestingly most of the participants had positive perceptions of the responsible gambling efforts of OLG and overall had positive attitudes towards OLG. Those people who score low on Positive Play are more likely to play online games or charity games. Awareness efforts for Positive Play should be directed at younger males, those who are single, and people who are recent immigrants. In addition, more effort on Positive Play needs to be directed at online gamers and charity gamers. These findings were largely consistent across game types. Given the relationship between Positive Play and attitudes towards OLG, encouraging Positive Play may increase player satisfaction.

Introduction

PURPOSE

The purpose of the research was to examine the correlates of Positive Play scale (Wood et al., 2017) and its subscales, to identify the risk and protective factors, and make recommendations for promoting Positive Play across OLG's four gaming channels or groups of participants. The dataset was from a large community sample collected online between August 2019 to May 2020 by "AskingCanadians" on behalf of Ontario Lottery and Gaming, as part of an on-going online panel survey. The original sample included 6,000 participants who took part in an ongoing panel survey. Of these 6,000 people, 3,820 reported engaging in one of the target gambling activities. We used quantitative analyses (i.e., bivariate, and multivariate analyses and SEM) to estimate the size and effect of these correlates on Positive Play. Specifically, the research addressed the following priority issues stated as research questions:

- What are the demographic and gambling profile characteristics of Positive Play?
- What are the relationships between the Positive Play sub-scales and use of/engagement with responsible gambling programming?
- What are the risk and protective factors of Positive Play?
- What are the relationships between Positive Play and responsible gambling program use?
- What are the implications of these results for promoting Positive Play?

LITERATURE REVIEW AND SIGNIFICANCE

'Positive Play' is a term used to describe non-problematic gambling behaviour (Wood & Griffiths, 2015) that avoids the supposed ambiguity with the term 'Responsible Gambling', and the negative connotations associated with 'Problem Gambling' (Turner et al., 2005; Wood et al., 2017; Gainsbury et al., 2018). For example, gamblers typically pay little attention to and report minimal impact from admonitions against problem gambling and exhortations to engage in responsible gambling, despite their gambling status (Lole et al., 2019; Jackson et al., 2016). Therefore, the emphasis on 'Positive Play' is thought to better engage gamblers with responsible gambling messages (Wood & Griffiths, 2015).

Positive Play is thought of as engaging in gambling only as a recreational activity, requires awareness of and regulation of emotion, and the use of limit setting behaviours (Wood & Griffiths, 2015; Wood & Griffiths, 2008; Dixon et al., 2019; Armstrong et al., 2019). Similarly, other researchers who have operationalised Positive Play and tested its predictiveness, frame Positive Players as gamblers who remain in control of their gambling, use harm minimization strategies, have fewer erroneous gambling cognitions, and take responsibility for their gambling (Delfrabbro et al., 2020).

Recently, a 'Positive Play Scale' has been developed (Wood et al., 2017). This scale contains four subscales: two behavioural (Honesty and Control, Pre-Commitment), and two belief (Personal

Responsibility, Gambling Literacy) factors. The scale has 14 items in total. Scores for each item are recorded on Likert scales. Higher scores on each subscale indicates greater Positive Play. The authors conducted a scan of the literature, spoke with players, and consulted with experts. They developed a large group of possible items, reviewed and tested them with players and experts, and conducted an exploratory factor analysis in a second study to determine the factor structure of the subscales ($N = 1551$). The subscales were then also retested one month later, indicating moderate to high reliability, confirming the earlier results ($N = 413$). All the Positive Play subscales had negative relationships with gambling activities often associated with problem gambling. Further, the original authors replicated their earlier study in a separate analysis using an online panel ($N = 5751$), confirming their previous results (Tabri et al., 2020). A similar scale that focuses on protective beliefs has also been developed (Armstrong et al., 2019).

A recent study of the Positive Play scale using panel data ($N = 554$) by another group of researchers found similar results: a negative relationship between Positive Play and gambling harm, where higher levels of Positive Play were associated with lower problem gambling severity scores and gambling harm (Delfrabbro et al., 2020). However, the Positive Play Personal Responsibility subscale was positively correlated with problem gambling severity and harm, and negatively associated with the other Positive Play subscales. These disconfirming results were thought to be caused by discrepancies between what problem gamblers want to do and their behaviour (Delfrabbro et al., 2020).

Further, Gray et al. (2021) assessed the relationship between Positive Play and gambling problems in a survey of MGM loyalty members ($N = 3748$). Using a modified Positive Play scale, they found only low Positive Play gambling behaviour and higher casino responsibility scores were associated with higher gambling problems. This is only a partial endorsement of the earlier Positive Play scale results and is in contrast to the Personal Responsibility results reported by the original researchers (Wood et al., 2017; Tabri et al., 2020), and is in agreement with the Delfrabbro et al. (2020) Personal Responsibility subscale results. These mixed results suggest that the relationship between responsibility and harm is complex and shared across multiple actors.

Nevertheless, there is limited research examining Positive Play, and importantly, how these behaviours might translate to responsible gambling practices. Importantly, intentions for Positive Play and the responsibility for these actions need further examination. Specifically, the relationship between Positive Play, particularly personal or collective responsibility and gambling harm, appears to be more than a simple bivariate association. This complexity suggests a more nuanced understanding is required to make informed and effective responsible gambling policy decisions. Understanding the factors influencing the engagement with responsible gambling measures, specifically the personal and/or diffuse nature with which gamblers view responsibility, is important for policy makers. Correctly framing responsible gambling measures and the impediments for Positive Play engagement are likely to be important factors for future successful educational and awareness campaigns. The possibility of considering Positive Play as a personal and collective responsibility might be an innovative and effective way to market responsible gambling.

The study examined the bivariate and multivariate correlates of Positive Play in a sample of the Ontario gambling population. The analysis identified and quantified the correlates of Positive Play, the moderating and mediating variables, and also the risk and protective factors. These analyses informed a series of recommendations for OLG and the gambling industry.

Analytical Strategy

DATA COLLECTION

The dataset was collected between August 2019 to May 2020 by "AskingCanadians" on behalf of Ontario Lottery and Gaming, as part of an on-going online panel survey. The original sample included 6,000 participants who took part in an ongoing panel survey. Of these 6,000 people, 3,820 reported engaging in one of the target gambling activities.

QUESTIONNAIRE

The survey began with a number of general background questions as well as questions that streamed the participants into specific “channels” or “cells”. Using these questions, the participants were grouped into four channels: Lottery Players, Casino Players, Online Gamers, and Charitable Bingo Players. The survey had separate questions for each of the four game groups (or cells as they are called) in the survey. The questions were somewhat overlapping but were also tailored to the specific game. Each section began with a few general questions about participant gambling (frequency, spending, types of games played, setting limits, and knowledge of the games). These were followed by the Positive Play questions which were the same for all four groups of participants. Following the questions on Positive Play, each group of participants was given a somewhat different set of questions tailored to the specific game they played. These include questions which can be grouped into (1) Responsible Gaming (RG) behaviors and beliefs, (2) information resources, (3) awareness of OLG resources, (4) use of resources, (5) perceptions of OLG’s PlaySmart programs, and (6) satisfaction with gambling site experiences. Because the questions were somewhat unique to each group of participants, they will be dealt with separately for each channel.

For the responsible gambling items, we grouped them into the following categories based on their content: problem gambling, cutting back, setting limits, responsible attitudes, knowledge of the games, and erroneous beliefs. Unfortunately, different items were used for different games however. For example, 6 items on erroneous beliefs were given to lottery players, but only 1 item was given to charitable bingo, and no erroneous beliefs items were given to casino or online players. Two items related to problem gambling were given to all groups, and a third one was given to all groups except casino players. Three items about limits were given to lottery players and casino players, but five questions were given to online and charitable gamers. Two items related to cutting back were given to online and casino players, but only one was given to lottery and charitable players. One item related to knowing the games was given to lottery players, but two were given to the other three groups. In addition, some of these items were negatively keyed (problem and erroneous beliefs) and others were positively keyed (knowledge, limits, cutting back and responsible attitudes). These inconsistencies in the items used make comparing the results of the various channels somewhat challenging.

The same problem was also found for awareness and use of OLG resources or programs, however the resources and programs were more similar between the various channels than the responsible gambling behaviors and they were all keyed in the same direction. In contrast the items on the players perception of OLG PlaySmart programs were the same across channels.

DATA CLEANING

The data from each quarter was merged to form one dataset to conduct the SEM analyses. The merged dataset was examined for potential confounders. Two potential responsible gambling variables (i.e., frequency of responsible gambling behaviours, use of responsible gambling tools) were excluded because endorsement of these items might indicate preventative actions or problematic status (and we were unable to know which the respondents were endorsing), while the gambling spend variables were excluded because of too many missing cells (approximately only 10% responded to these questions). The two Positive Play questions (4b6 & 4b7) that were asked in the opposing direction to the others were reverse scored. We created total scores for the positive scale (4a & 4b), responsible gambling behaviour (5b), OLG awareness (14), and perception of OLG PlaySmart programs (16). Gender was dichotomized into male and gender with 'other/prefer not to answer' excluded from the analyses (these players represent less than .3% of all players). OLG awareness was recoded so 'don't know' became a neutral center value as excluding these responses resulted in losing 30%-50% of cases. We also included two likely predictive demographic variables (age, and gender) in the SEM analysis. The number of questions for the Positive Play subscales was too small to conduct meaningful analyses (e.g., Gambling Literacy included only three questions). All cases with missing data for the SEM variables were excluded from the analyses.

STRUCTURAL EQUATION MODELLING DATA ANALYSIS

We examined each channel (casino gaming, charitable bingo, online, and lottery) separately. The predictive variables were responsible gambling behaviour, awareness of responsible gambling resources, perception of OLG PlaySmart programs, gender, and age. An error term was added to the endogenous variable Positive Play scale. Maximum Likelihood were used to fit the model to the data and the convergence criterion was 1E-05. Means and intercepts were not estimated to better reflect the data. The modelling process began by running all five variables directly predicting Positive Play together, and then the modification indexes were examined for possible improvements to model fit. Covariances were added as appropriate. The additions stopped when the model became non-significantly different from the data (i.e., rather than significantly different from the data). We report standardized estimates.

Sample

The dataset covered 4 periods of data collection between August 2019 to May 2020 (N =3,820). The participants had already contributed data to an ongoing panel survey. The participants were people who engaged in one of 4 types of gambling. The data was collected by "AskingCanadians" on behalf of Ontario Gaming and Lottery.

ANALYTIC STRATEGY

The analytical strategy was to analyse the data from each group of participants (channel) and where appropriate, the aggregated data across groups to meet the stated objectives. First, using bivariate correlations, we examined the relationships between demographic variables, awareness of responsible gambling resources and use, responsible gambling behaviours, gambling profile characteristics, perception of OLG PlaySmart programs, player knowledge, gambling satisfaction, and problem gambling with Positive Play. This resulted in a summary of variable that define profiles for people who score high on Positive Play, and those who score low on Positive Play. This analysis also addressed the sixth objective, identifying the relationships between responsible gambling use and Positive Play. Second, we examined the bivariate relationships between responsible gambling use, engagement, and programming with each of the Positive Play subscales. Third, we used Structural Equation Modelling (SEM), to examine the variables that act as mediating and moderating influences on each Positive Play subscale. The model that best described the data using model comparison calculations (e.g., Comparative Fit Index) was identified as the 'best' structure. These analyses also addressed the fourth objective, identifying the risk and protective factors. Finally, the results were used to make recommendations for promoting Positive Play. Analysis of the structural models were conducted using SPSS v28 and the AMOS v28 add on module; additional analyses examining were conducted using LISREL 11.

RESULTS

The report is organized into 7 sections: (1) Overall demographics of the sample and the psychometrics of the Positive Play scale, (2) analysis of profiles of people who score high on Positive Play and low on Positive Play, (3) correlates of Positive Play for lottery players, (4) correlates of Positive Play for casino players, (5) correlates of Positive Play for online gamers, (6) correlates of Positive Play for charity bingo players, (7) Structural Equation Models of the relationship between Positive Play and correlates for each of the 4 channels (groups of participants).

The analyses in parts 1 to 6 are exploratory in nature to understand the nature of the relationship in the data. We have not controlled for the experimentwise error rate. We would recommend focusing interpretations on effects with a significance level of .01 at the very least.

Part 1: Sample Characteristics and psychometrics of the Positive Play Scale

Four data sets were provided, wave 1 to wave 4. Table 1.01 provides the total sample sizes of each wave. The data was divided into four participant groups or channels who responded to different questions depending on their game of choice. 49% were lottery players, 34% were casino players, 8.3% were Online Gamblers, and 8.0% were charity casino players. The data set included 145 respondents who had the same respondent ID code, and 3 ID codes were used 3 times. We assumed these were the same people however, upon closer inspection, there was no correlation for any of the key variables between their first and second time using the ID, and in fact participant cell, age group, and gender (female) were all inconsistent. Thus, there does not appear to be any longitudinal data and the analysis treated all the data as a cross sectional data set. The four data sets were combined into a single data set.

Basic demographics are given in Table 1.01. Slightly more than half of the sample was female (52.4%), the participants were distributed across age groups with somewhat larger samples in the oldest three age brackets. Nearly 80% of the sample was born in Canada, and slightly more than two thirds of the sample reported living in cities with more than 100,000 people.

Table 1.01. Sample Characteristics.

Variable	Wave 1	Wave 2	Wave 3	Wave 4
GENDER				
Male	47.5%	51.2%	47.7%	40.8%
Female	52.4%	48.4%	52.1%	49.1%
Other / Prefer not to answer	0.1%	0.3%	0.2%	0.2%
N	1302	616	1294	608
AGE GROUP				
18-24	1.9%	1.3%	2.5%	1.5%
25-34	14.5%	8.9%	15.2%	11.5%
35-44	16.4%	11%	16.5%	12.8%
45-54	23.3%	18.7%	19.8%	19.2%
55-64	20.7%	28.1%	25.1%	30.1%
65+	23.2%	32%	20.9%	25.0%
N	1302	616	1294	608
BORN IN CANADA				
Yes	77.7%	79.3%	75.8%	79.0%
No	21.6%	20.4%	23.4%	20.1%
Prefer not to answer	0.7%	0.3%	0.8%	1.0%
N	1302	616	1294	608
CITY OF MORE THAN 100,000				
Yes	68.8%	68.0%	69.7%	71.5%
No	30.3%	32.0%	30.3%	28.5%
Missing	0.9%	1.2%	1.9%	1.2%
N	1302	616	1294	608

Note: The data was collected in four repeated cross sectional surveys or waves.

POSITIVE PLAY SUBSCALES

The Positive Play scale consists of 14 items that are grouped into 4 subscales (Tabri et al., 2022; Wood et al., 2015; Wood et al., 2017). The items and their respective subscales are given in Table 1.02. Positive Play subscales were computed based on the subscales defined by Tabri et al., (2022). We computed the subscales for each subpopulation (lottery players, casino players, online gamers, and charitable gambling), but also combined them into total variables in order to examine differences between groups. The groups were also distinct in that people were only grouped as one type of gambler and did not answer the questions for other forms of gambling.

Table 1.02. Positive Play items and their subscales.

HONESTY AND CONTROL

- 1 I felt in control of my gambling behaviour.
 - 2 I was honest with my family and/or friends about the amount of MONEY I spent gambling.
 - 3 I was honest with my family and/or friends about the amount of TIME I spent gambling.
 - 4 I only gambled with MONEY that I could afford to lose.
-

PRE-COMMITMENT

- 5 I only spent TIME gambling that I could afford to spend.
 - 6 I considered the amount of MONEY I was willing to lose BEFORE I gambled.
 - 7 I considered the amount of TIME I was willing to spend BEFORE I gambled.
-

PERSONAL RESPONSIBILITY

- 1b I should be able to walk away from gambling at any time.
 - 2b I should be aware of how much MONEY I spend when I gamble.
 - 3b It's my responsibility to spend only money that I can afford to lose.
 - 4b I should only gamble when I have enough money to cover all my bills first.
-

GAMBLING LITERACY

- 5b Gambling is not a good way to make money.
 - 6b My chances of winning get better after I have lost. (R)
 - 7b If I gamble more often, it will help me to win more than I lose. (R)
-

Note: Numbering of the items above is based on how they were numbered in the survey; for example, for casino gambling, the Positive Play items were labelled g4_1 to g4_7 and g4b_1 to g4b_7; (R) indicates items that are reverse keyed.

A reliability analysis was conducted on the 4 positive subscales (see Table 1.03). The overall reliability for the full scale was well above what is considered acceptable (Nunnally & Bernstein, 1994), with the lowest reliability score $\alpha = .82$ for lottery players. The reliability of the subscales is also well above what is considered acceptable for all subscales except for Gambling Literacy. This scale consists of only 3 items and 2 of them are reverse keyed.

Table 1.03. Reliability (Alpha) of the subscales and total scale overall and within each sample.

	PC	GL	HC	PR	Full Scale
Overall	0.89	0.65	0.86	0.75	0.88
Lottery Players	0.83	0.59	0.82	0.69	0.82
Casino Gamers	0.89	0.69	0.88	0.78	0.90
Online Players	0.92	0.64	0.90	0.85	0.90
Charitable Gaming	0.91	0.65	0.90	0.86	0.92

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility.

An exploratory component analysis found that the original four factor model of the questionnaire did not emerge from an exploratory component analysis. As shown in Table 1.04, the third component had loadings of only 2 items from the Gambling Literacy scale. The third item of the Gambling Literacy scale did not load with them. The fourth component only had one item with its highest loading on that component. A three-component model found that all the items from Honesty and Control and Personal Responsibility loaded on one component. The second component included all of the Pre-Commitment items and the first item from Gambling Literacy. The third component consisted of only two items from Gambling Literacy.

Exploratory factor analysis can be distorted by strong bivariate correlations, so we conducted a confirmatory factor analysis to determine how well the four-factor model fit the data, and if a revised three-factor model was a better fit. To compare the fit of these two models, we conducted a confirmatory factor analysis using polychoric correlations with an asymptotic weight matrix and weighted least squares using LISREL 11 (Jöreskog and Sörbom, 1988, 1993). This analysis also suggested that this three-factor model was a better fit to the data than the original model. The four-factor model had a chi-square of 639.4 with 71 degrees of freedom for a ratio of chi-square to degrees of freedom of 9.0. The Non-Normed Fit index (NNFI) was .978, The root mean square residual (RMR) was 0.119, and the Goodness of Fit statistic (GFI) was .993. The three-factor model had a chi-square of 493.7 with 74 degrees of freedom for a ratio of chi-square to degrees of freedom of 6.6. The Non-Normed Fit index was .985, The RMR was 0.094, and the GFI was .994. The fit statistics for both models are good, however the results suggest that the three-factor model is more consistent with the data than the four-factor model (Byrne, 1989; Jöreskog & Sörbom, 1993; Long, 1983; Marsh et al., 1988; Marsh & Hocevar, 1985; Rigdon, 1996). In particular the RMR and the chi-square to degrees of freedom ratio were smaller for the three-factor model, and the GFI, and NNFI were larger for the three-factor model. Furthermore, with the four-factor model, the correlation between Honesty and Control and Pre-Commitment was $r = .96$, indicates that there is very little unique variance separating these two factors suggesting these two factors could be combined into a more parsimonious three-factor model.

Table 1.04. Three and four exploratory component analysis of the Positive Play items.

Item	1	2	3	4	1	2	3
1	0.72	0.37	-0.13	0.08	0.68	0.4	-0.15
2	0.85	0.18	-0.08	0.06	0.8	0.21	-0.11
3	0.84	0.15	-0.06	0.12	0.82	0.18	-0.09
4	0.67	0.41	-0.12	0.13	0.66	0.43	-0.13
5	0.62	0.25	-0.09	0.40	0.71	0.28	-0.09
6	0.59	0.26	-0.08	0.40	0.69	0.28	-0.08
7	0.37	0.00	0.04	0.81	0.64	0.02	0.07
1b	0.34	0.75	-0.12	0.02	0.29	0.77	-0.12
2b	0.31	0.79	-0.16	0.08	0.29	0.80	-0.15
3b	0.27	0.8	-0.13	0.05	0.24	0.81	-0.13
4b	0.28	0.77	-0.12	0.07	0.25	0.79	-0.11
5b	-0.07	0.56	-0.17	0.48	0.09	0.57	-0.13
6b	-0.12	-0.20	0.89	-0.01	-0.08	-0.22	0.89
7b	-0.11	-0.15	0.9	-0.04	-0.10	-0.17	0.90

Note: Numbering of the items above it based on how they were numbered in the survey; for example, for casino gambling, the Positive Play items were labelled g4_1 to g4_7 and g4b_1 to g4b_7; Note that 6b and 7b are reverse keyed for scoring however for the factor analyses they were entered in with their original keying thus there are negative correlations between them and the other items.

Overall Lottery players had the highest score on the positive scale, and online gamblers had the lowest scores. Pairwise contrasts are given in Table 1.05. Bonferroni post hoc tests found that Lottery players scored higher than online and charity gamers on all four scales and higher than casino gamblers on all scales except Pre-Commitment. Casino gamblers scored higher than online gamers on Pre-Commitment, Gambling Literacy, and Personal Responsibility. Casino gamblers scored higher than charity gamblers on Gambling Literacy, and Personal Responsibility. Online gamers scored lower than charity gamers on Honesty and Control.

Repeated Measures analysis of variance revealed that all means of the positive scale were significantly different from each other $F(3, 12457) = 319.4, p < .001$. Personal Responsibility had the highest mean ($M = 6.7$; $SD = 0.8$), followed by Honesty and Control ($M = 6.4$; $SD = 1.1$), Pre-Commitment ($M = 6.2$; $SD = 1.1$), and finally the lowest average scores was for Gambling Literacy ($M = 6.2$; $SD = 1.2$).

Table 1.05. Positive Gambling subscale means and standard deviations by gaming type ($N = 3,820$).

Variable	Lottery Players (LG)	Casino Gamers (CG)	Online Gamers (OG)	Charitable Gaming Players (CH)	Total	Post hoc test
Pre-commitment						
Mean	6.31	6.22	5.88	6.06	6.22	LG > OG;
N	1885	1317	312	306	3820	CG > OG;
SD	1.10	1.01	1.30	1.18	1.10	LG > CG
Gambling literacy						
Mean	6.37	6.07	5.63	5.81	6.16	LG > OG;
N	1885	1317	312	306	3820	LG > CH;
Sd	1.02	1.22	1.38	1.34	1.18	CG > OG
Honesty and control						
Mean	6.59	6.36	5.88	6.16	6.42	LG > OG;
N	1885	1317	312	306	3820	CG > OG;
Sd	1.02	1.09	1.42	1.20	1.12	LG > CH
Personal responsibility						
Mean	6.80	6.60	6.35	6.45	6.66	LG > OG;
N	1885	1317	312	306	3820	LG > CH ;
Sd	0.61	0.82	1.13	0.97	0.79	CG > OG

Note: LG = lottery players; OG = online players; CG = casino gamers; CH = charitable gaming. Post Hoc test used $p < .05$, with Bonferroni adjustment.

DISCUSSION

The survey provides a wealth of data about the Positive Play scales as well as demographics and variables measuring behaviors, attitudes and customer satisfaction. The results of the reliability analysis found that the reliability was satisfactory for all scales except for Gambling Literacy. The factor analysis of the Positive Play scale suggest that the first two scales could be combined into a single factor, and that item 4b may be better on the Personal Responsibility scale. Nonetheless we have used the original scale scoring for the subsequent analyses.

Part 2: Positive Play, Demographics, and Participant Profiles

In this section we describe differences in the scores on the Positive Play scales across waves of the study, attitudes towards OLG, and demographic variables. We then describe profiles of people who score high on the positive scales and profiles of people who score low on the Positive Play scales.

There were some small differences across waves with slightly higher averages in later waves, but these differences were small (see Table 2.01). Oneway analysis of variance indicated that Gambling Literacy, $F(3, 3668) = 3.73, p < .05$, and Personal Responsibility $F(3, 3668) = 3.31, p < .05$, showed significant differences across waves. The post hoc test for Personal Responsibility showed that scores in wave 4 were significantly higher than for wave 1.

Table 2.01. Positive Play across the four waves of the study ($N = 3,820$).

Variable	Wave 1	Wave 2	Wave 3	Wave 4
Personal responsibility				
Mean	6.62	6.69	6.66	6.73 *
SD	0.82	0.75	0.80	0.70
N	1302	616	1294	608
Gambling literacy				
Mean	6.10	6.24	6.13	6.28 *
SD	1.21	1.13	1.22	1.06
N	1302	616	1294	608
Honesty and control				
Mean	6.39	6.45	6.41	6.46
SD	1.12	1.12	1.11	1.15
N	1302	616	1294	608
Pre-commitment				
Mean	6.18	6.20	6.23	6.31
SD	1.10	1.18	1.09	1.06
N	1302	616	1294	608

Note: The data was collected in four repeated cross sectional surveys or waves.

* < .05

Table 2.02 provides a comparison of attitudes towards Ontario Lottery and Gaming by gambling type. As shown in Table 2.02, slightly over 70% of the participants expressed a somewhat or very favourable attitude towards OLG. There was no evidence that this positive attitude varied across game types, $\chi^2(9) = 11.9$, $p = .22$. Similarly, we found no evidence of any significant changes in attitudes across the four waves of the study, $\chi^2(9) = 2.2$, $p = .98$.

Table 2.02. Attitude towards Ontario Lottery and Gaming by type of gambler ($N = 3,820$).

OLG attitude		Lottery Players	Casino Gamers	Online Gamers	Charitable gaming	Total
Not all favourable	N	86	72	22	15	196
	%	4.6%	5.4%	7.1%	4.9%	5.1%
Slightly favorable	N	414	297	64	58	833
	%	22.3%	22.1%	20.5%	18.9%	21.8%
Somewhat favourable	N	1011	687	166	161	2026
	%	54.4%	51.2%	53.6%	52.6%	53.0%
Very favourable	N	349	286	59	72	766
	%	18.7%	21.3%	18.9%	23.6%	20.0%
Total	N	1860	1343	310	306	3820
	%	86	72	22	15	196

In Table 2.03 we display the correlations between the Positive Play subscales, attitudes towards OLG, and some of the demographic variables (gender, age group and born in Canada). The 4 subscales of Positive Play were all correlated with each other with the highest correlation being between Honesty and Control and Pre-Commitment, whereas the weakest correlation was between Pre-Commitment and Gambling Literacy. People with positive attitudes towards OLG also scored significantly higher on the Positive Play scales, except for Gambling Literacy which was not significant. Being born in Canada, female or being relatively older also scored higher on the Positive Play scales. Age (being older) and being born in Canada were also positively associated with having a more positive attitude towards OLG. Males scored significantly lower on all four scales with the largest difference for Honesty and Control ($M 6.3$, $SD 1.2$ vs. $M 6.5$, $SD 1.0$), $t(3692) = -5.3$, $p < .001$. People born in Canada scored higher than those not born in Canada on all of the positive scales, but the strongest effect was for Personal Responsibility ($M 6.7$, $SD 0.7$ vs $M 6.5$, $SD 1.0$). There was a significant correlation of age and the positive scales ranged from $r = .10$, $p < .001$ for Honesty and Control to $r = .23$, $p < .001$ for to Gambling Literacy. Further exploration found that people who had lived in Canada less than 11 years scored lower on all 4 positive scales personal with the largest difference for Gambling Literacy ($M 6.0$, $SD 1.1$ vs. $M 6.5$, $SD 1.0$). In addition, people who lived in cities scored lower than those in smaller communities for all subscales; the strongest effect was for Honesty and Control (6.5 , $SD 1.0$ vs $M 6.4$, $SD 1.2$) $t(2514) = 4.6$, $p < .001$. Effect sizes were small ranging from $d = .09$ for Gambling Literacy to $d = .17$ for Honesty and Control, and $d = .18$ for the scale total. Finally, compared to people who had been married, divorced or widowed, people who were single / never married scored

significantly lower on all four scales with the largest difference being for Gambling Literacy (M 6.2, SD 1.2 vs. M 5.9, SD 1.3).

Table 2.03. Correlations between Positive Play scales and attitudes towards OLG ($N = 3,820$).

	1	2	3	4	5	6	7
Pre-Commitment							
Gambling Literacy	0.29***						
Honesty and Control	0.69***	0.32***					
Personal Responsibility	0.54***	0.49***	0.55***				
OLG attitude	0.09***	0.02	0.11***	0.09***			
BornCanada	0.06***	0.15***	0.10***	0.15***	0.10***		
Female	0.07***	0.04**	0.09***	0.08***	-0.03	0.04*	
Age (older) Group	0.12***	0.23***	0.10***	0.16***	0.10***	0.01	-0.05**

Note: * < .05; ** < .01; *** < .001

Other demographic variables

Income had small correlations with Pre-Commitment, $r = .04$, $p < .05$, Personal Responsibility, $r = .04$, $p < .05$, Gambling Literacy, $r = .06$, $p < .05$, and Honesty and Control, $r = .07$, $p < .01$. Analysis of variance found significant difference across income brackets for all positive scales. As shown in Table 2.04, for all of the positive scales people who reported an income above \$150 thousand had the highest score on all 4 scales. Bonferroni analyses found that people with an income greater than \$150 thousand scored significantly higher on Pre-Commitment than those in the \$75 to \$100 thousand income brackets, and higher on Gambling Literacy than those in the \$35-\$50 thousand, \$50 to \$75 thousand brackets and \$75 to \$100 thousand income brackets. In addition, people who reported an income above \$150 thousand scored higher on Honesty and Control than the \$35-\$50 thousand, the \$50 to \$75 thousand and higher on Personal Responsibility than those in the \$35-\$50 thousand bracket. No other group differences were found.

Analysis of variance found relatively small but significant differences for all 4 positive scales related to education. As shown in Table 2.05, people with a high school education scored significantly lower than people who graduated with a college or technical school education on Pre-Commitment (M 6.07, SD 1.28 vs. M 6.31, SD .99) and Honesty and Control (M 6.3, SD 1.23 vs. M 6.52, SD .98). In addition, people with a college level education scored higher than those with a graduated with a university level education on Personal Responsibility (M 6.73, SD 0.67 vs. M 6.61, SD .85). These effects are small but do suggest that the relationship between education and Positive Play is not a simple relationship.

Table 2.04. Income and Positive Play Scales Means and Standard Deviations.

	N		PC	GL	HC	PR
Less than \$20,000	86	M	6.1	6.1	6.3	6.7
		SD	1.4	1.1	1.2	0.8
\$20,000 to under \$35,000	199	M	6.3	6.2	6.4	6.7
		SD	1.1	1.2	1.3	0.7
\$35,000 to under \$50,000	305	M	6.2	6.0	6.2	6.5
		SD	1.2	1.3	1.3	1.0
\$50,000 to under \$75,000	579	M	6.1	6.1	6.3	6.6
		SD	1.2	1.2	1.2	0.9
\$75,000 to under \$100,000	627	M	6.1	6.1	6.4	6.6
		SD	1.1	1.2	1.0	0.8
\$100,000 to under \$150,000	663	M	6.2	6.2	6.4	6.6
		SD	1.1	1.2	1.1	0.7
\$150,000 or more	613	M	6.3	6.3	6.5	6.8
		SD	1.0	1.1	1.0	0.7

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility.

Table 2.05. Positive Play scales across level of education.

	N		PC	GL	HC	PR
Some high school or less	53	M	6.14	6.24	6.19	6.69
		SD	1.25	1.12	1.44	0.87
High school graduate	350	M	6.07	6.24	6.3	6.62
		SD	1.28	1.07	1.23	0.91
Some college/technical school	338	M	6.31	6.27	6.49	6.74
		SD	0.99	1.1	1.03	0.76
Graduated college/Technical school	808	M	6.31	6.22	6.52	6.73
		SD	0.99	1.13	0.98	0.67
Some university	303	M	6.15	6.2	6.35	6.63
		SD	1.23	1.21	1.27	0.78
Graduated university	1184	M	6.17	6.07	6.37	6.61
		SD	1.12	1.23	1.15	0.85
Post graduate degree or higher	725	M	6.27	6.16	6.43	6.67
		SD	1.05	1.19	1.09	0.72

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility.

PROFILES OF PEOPLE WHO SCORE HIGH OR LOW ON POSITIVE PLAY

To examine the demographic profiles, we computed both high and low scores. The RFP ask us to describe the profile of Positive Play and this was done for the pragmatic reason of identifying which demographics where the most awareness effort is needed (low scores), and those where the least effort is needed (high scores). However, there is no t-score or clinical cut off scores to define people who are of most concern; for example there is no measure of problem gambling to validate a low score on Positive Play, we choose to define high scores as people who consistently scored high across the 4 subscales, a score of 6.5 out of 7 on all 4 subscales, and low scores were defined as people who scored less than 6.0 out of 7 on all 4 subscales. These cut off scores identified 38% of the respondents as having high scores and 9.5% of the respondents as having low scores. Although we expected high and low scores to produce similar but opposite results, we wanted to define both determine if this was in fact the case. While these cut offs were arbitrary, other analysis conducted with the scales produced consistent results.

HIGH SCORES ON POSITIVE PLAY

Overall, 38.0% of the participants scored in the high range on all Positive Play scales. The number of high score participants did not vary significantly across the waves of the study ranging from 35.7% to 41.2%, $\chi^2(3) = 7.0$, ns. High score people were more likely to be female (40.0%) than male (36%), $\chi^2(1) = 6.4$, $p < .05$, more likely to be older with high scores ranging from 24.0% for the 18-24 group, but over 45% for those 55-64, and over 65, $\chi^2(5) = 99.2$, $p < .001$, $r = .15$, $p < .001$, be from a smaller community (41.2%) rather than from a city of 100 thousand people or more (36.8%), $\chi^2(1) = 6.5$, $p < .05$, OR = .83, and born in Canada (39.6% vs. 33%), $\chi^2(1) = 12.0$, $p < .001$. Interestingly scores were also higher for people who had lived in Canada longer with 35% of those who had been in Canada more than 11 years ($n = 684$) scoring in the high range, and only 10.2% of those who had lived in Canada less than 11 years ($n = 98$) scoring in the high range, $\chi^2(1) = 24.64$, $p < .001$. People who are single (29.5%) were less likely to score in the high range than married (39.9%), widowed (38.3%), divorced (44.4%), or separated (39.8%), $\chi^2(3) = 32.7$, $p < .001$. The odds ratio for single vs. married was OR = .62, Wald = 30.0, $p < .001$. High scores were not related to education. As shown in Table 2.06, people in the highest income bracket (\$150 thousand or more) were the most likely to have high scores on the Positive Play scales at 43% ($n = 614$), $\chi^2(6) = 16.8$, $p < .05$, however this relationship was not linear. The lowest rate of high scores was 32.6% among those with an income of less than \$20 thousand, OR = 0.63, $p < 0.06$, which was marginally significant followed by 33.2% for those in the \$75 thousand- to \$100 thousand-income bracket, OR = 0.65, $p < 0.001$. The second highest group was for those with an income between \$20 thousand and \$35 thousand (38.2%). Finally, high scores also varied across participant groups with the highest rate of high scores among lottery players (45.0%), followed by casino (33.9%), charitable gaming (31.0%) and online gamers (19.9%), $\chi^2(3) = 98.1$, $p < .001$.

The profile of people who score high on all of the positive scales is older, female, higher income, from a smaller community, born in Canada, or immigrated at least 10 years ago, and not single. In addition, lottery players are the most likely to score high on Positive Play.

Table 2.06. Income and High Scores.

Income Bracket	N	%	OR	
Less than \$20,000	58	32.6%	0.63	+
\$20,000 to under \$35,000	123	38.2%	0.81	
\$35,000 to under \$50,000	202	33.6%	0.66	**
\$50,000 to under \$75,000	367	36.6%	0.76	*
\$75,000 to under \$100,000	418	33.2%	0.65	***
\$100,000 to under \$150,000	414	37.7%	0.79	*
\$150,000 or more	348	43.3%	Ref	Ref

Note: * < .05; ** < .01; *** < .001

PROFILES OF LOW SCORES

A little less than ten percent of the sample (9.5%) scored in the low score category. Low scores significantly decreased over the waves with 11.2% in wave 1, 7.3% in wave 2, 9.9% in wave 3, and 7.2% in wave 4, $\chi^2(3) = 11.8$, $p < .01$; $r = .04$, $p < .01$. Males were more likely to have low scores (12.3% vs 6.9%), $\chi^2(1) = 32.0$, $p < .001$; OR = 1.9, Wald(1) = 31.2, $p < .001$. Low scores decreased strongly with age from 26.7% for the 18-24 age group ($n = 75$) to 5.5% for those over 65 ($n = 914$), $\chi^2(5) = 100.3$, $p < .001$; $r = -.15$, $p < .001$. Low scores were more common with people who live in cities over 100 thousand (10.5%) compared to smaller communities (6.8%), OR = 1.6, Wald(1) = 12.5, $p < .001$, more common among people not born in Canada (17.9% vs. 7.0%), $\chi^2(1) = 91.4$, $p < .001$, and for people not born in Canada, low scores were more common for those who have been in Canada less than 10 years (35.7%), compared to those who had been in Canada 11 or more years (16.1%), $\chi^2(6) = 21.9$, $p < .001$. Marital status had an interesting effect with the highest rate of low scores for single (12.7%), followed by married (9.0%), and lowest for divorced (5.4%) $n = 277$, $\chi^2(3) = 17.4$, $p < .01$; For single compared to married, the odds ratio was OR = 1.47, Wald(1) = 8.8, $p < .01$. There was no significant difference between married and divorced. Unlike the high scores, education was positively associated with low scores. That is, people with some university education (11.6%), graduated university (11.6%) or even post graduate education (10.1%) were more likely to have low scores than those who had less education (e.g., high school or less, 7.7%). $\chi^2(6) = 19.2$, $p < .005$. The post hoc contrast of less than university (7.1%) vs. university (11.6%) was significant, $\chi^2(1) = 17.8$, $p < .001$. Finally, income was weakly related to low scores with the lowest number of low scores among people with an income of \$150 thousand or more (6.5%). The pattern was not linear however and the next lowest group was for those between \$20 thousand and \$35 thousand, and the other groups all around 11%. The basic chi-square was significant, $\chi^2(6) = 15.0$, $p < .05$, but the linear-by-linear test was not, $\chi^2(1) = 2.55$, $p = .11$. Low scores were most common among online gamers (19.6%), and charitable gamers (18.3%), followed by casino players (12.6%), and finally, lottery players (4.2%), χ^2

(3) = 136.6, $p < .001$. The profile of a person who scores low on one or more of the Positive Play scales is more likely to be young, male, single, have a low or middle range income, have at least some university educations, not born in Canada, and more likely to be a recent immigrant. Finally, people who score low on Positive Play are more likely to play online games or charity games. The inconsistency between high and low score for education may be due to student status, with the younger participants perhaps being students. The survey did not inquire about employment status.

Awareness efforts for Positive Play should be directed at younger males, those who are single, and at recent immigrants. In addition, more effort on Positive Play needs to be directed at online gamers and charity gamers.

LOTTERY PROFILES

Looking only at lottery players, age was once again strongly related to Positive Play with the older participants more likely to score high on Positive Play, $\chi^2 (6) = 23.7$, $p < .001$. Wave, size of city, gender, and being born in Canada were not significantly related to high scores on Positive Play for lottery players. However, for immigrants, those having been in Canada for more than 10 years (44%; $n = 348$) were significantly more likely to have high scores than more recent immigrants (17.6%; $n = 34$), $\chi^2 (1) = 8.8$, $p < .01$. For lottery players, people who were single were less likely to have high scores (36.5%; $n = 364$) than those who were married (46.6%; $n = 1203$) and again divorced people had the highest rate of high scores (54.2%; $n = 153$), $\chi^2 (3) = 18.2$, $p < .001$. Similarly, level of education was generally positively related to high scores with the lowest rate of high scores among people who had some high school or less ($n = 29.6\%$), but this effect did not reach significance for lottery players, $\chi^2 (6) = 11.0$, $p = .09$.

For low scores, wave was not significant. Gender was significantly associated with low scores, with males more likely to have low scores (6.1%; 863) compared to females (2.6%; $n = 1019$). Low scores decreased with age with 9.5% of those between 18 and 24 scoring low on at least 1 scale, and only 2.5% of those over 65 scoring low. This effect was strongly linear, $\chi^2 (1) = 12.66$, $p < .001$. As with the overall analysis, low scores were more common among people who lived in larger communities, $\chi^2 (1) = 6.4$, $p < .05$. and those born in Canada (3.2%; $n = 1470$) were less likely to score low on one or more of the positive scales compared to people who had immigrated (8.1%; $n = 407$) $\chi^2 (1) = 18.8$, $p < .001$. Moreover, low scores were more common among people who had immigrated in the past 10 years (20.6%; $n = 34$) compared to those who had immigrated more than 10 years prior to the survey (7.25%; $n = 348$). Single people were the most likely to score low on one or more positive scales (7.1%), compared to the other marital status conditions. For example, only 3.7% of married people ($n = 1203$) scored low on one or more of the scales. Education and income were not significant but had similar patterns to the overall analysis reported above.

CASINO PROFILES

For Casino players wave and gender were not significant for high scores. Age was similar to the overall pattern described above and was in general linear with older participants being more likely to score high on all scales. The lowest score was for the 25–34-year-olds (18.6%; $n = 183$) and the highest was for the 55–64 age group (44.4%; $n = 304$). Coming from a larger city, $\chi^2(1) = 9.1$, $p < .01$, and being born in Canada, $\chi^2(1) = 10.3$, $p < .001$, were also related to high scores on all of the positive scales. For immigrants, length of time in Canada did not reach significance but the pattern was the same as the overall data. Marital status had the same pattern as the overall data, but education and income did not reach significance.

In terms of low scores, males were more likely to have low scores on at least one scale (14.8%; $n = 662$) compared to females (10.3%; $n = 653$). Although the patterns were largely the same as the overall data, wave, community size, education, income, and marital status were not significantly associated with low scores on at least 1 of the Positive Play scales. People who were not born in Canada (25.5%; $n = 294$) compared to those born in Canada (8.5%; $n = 1012$), $\chi^2(1) = 61.0$, and in particular recent immigrants within the past 10 years (44.1%; $n = 34$ vs. 23.7%; $n = 245$), were more likely to have low scores on one or more scales, $\chi^2(1) = 6.46$, $p < .05$.

ONLINE GAMING PROFILES

For online gaming the sample size was too small to reach significance on most of the variables for either high scores or low scores. Nonetheless the pattern of results was similar to the overall results. Age was significant with high scores increasing with age, with 19% ($n = 15$) of the 18–24-year-old group having high scores on all scales and 51% ($n = 32$) of those over 65 having high scores on all of the positive scales, $\chi^2(6) = 11.4$, $p < .05$.

CHARITABLE GAMING PROFILES

For charitable gaming the sample size was too small to reach significance on most of the variables for either high scores or low scores. Nonetheless, the pattern of results was similar to the overall results for most of the variables. One variable that did reach significance was the size of the community, with people who live in a community of over 100 thousand people (26.2%; $n = 202$) being less likely to have high scores on Positive Play than those from smaller communities (40.4%; $n = 99$), $\chi^2(1) = 6.2$, $p < .05$. People who had recently immigrated in the past 10 years (0%; $n = 12$) were less likely to have high scores than people who had immigrated more than 10 years prior to the survey (31%; $n = 42$) $\chi^2(1) = 4.7$, $p < .05$.

For low scores, males were more likely to have low scores on at least one of the subscales (27.8%; $n = 126$) than females (11.7%; $n = 180$), $\chi^2(1) = 12.9$, $p < .001$, and people from larger communities (23.3%; $n = 202$) were more likely to have low scores on at least one Positive Play scale compared to those from smaller communities (8.1%; $n = 99$), $\chi^2(1) = 10.3$, $p < .01$. Those born outside of Canada were more likely to have low scores on Positive Play (38.2%; $n = 55$) compared to those born in

Canada (13.3%; $n = 248$), $\chi^2 (1) = 19.0$ $p < .001$. There was also a small effect for education, $\chi^2 (6) = 13.1$, $p < .05$. Interestingly it was people who had some university studies who were most likely to have at least one low score (40.9%, $n = 22$), however this sample was quite small.

DISCUSSION OF PROFILES

In summary, people who score high on all of the positive scales are most likely to be older, female, have a higher income, be from a smaller community, born in Canada, or immigrated at least 10 years ago, and not single. In addition, lottery players are the most likely to score high on Positive Play. Conversely the profile of a person who scores low on one or more of the Positive Play scales is more likely to be young, male, more likely to be single, have a low or middle range income, have at least some university education, not born in Canada, and more likely to be a recent immigrant. Finally, people who score low on Positive Play are more likely to play online games or charity games.

Awareness efforts for Positive Play should be directed at younger males, those who are single, and at recent immigrants. In addition, more effort on Positive Play needs to be directed at online gamers and charity gamers. These findings were largely consistent across game types however due to the small sample sizes for online gamers and charitable gamers, some effects did not reach significance. Overall, it is recommended that the emphasis for awareness programs on Positive Play should be on younger people, single people, males and on people who are recent immigrants.

Part 3: Lottery Players

The lottery cell was the largest group of participants. Table 3.01 provides a breakdown of the frequency of involvement in various types of lottery products. It would appear that national lotteries are the most often purchased, followed by smaller provincial lotteries, then instant lotteries and finally sports lotteries. The average spending by lottery players was \$66.20 ($SD = \432.7) on their most recent lottery purchase. This distribution was skewed however, ranging as high as \$15 thousand, but with 80% of the participants reporting spending less than \$30 on their most recent lottery purchase. Nearly half (44.6%) reported setting a spending limit on their lottery purchases. Of those who set a limit ($n = 840$), 77.7% reported never or rarely exceeding that limit, another 15.2% reported exceeding that limit some of the time (10% to 50% of the time), and only 7% reported exceeding that limit most or all the time. Of those people who do report exceeding their limit ($n = 184$), 72.2% report exceeding it by less than 25%. In terms of knowledge about how lotteries work, 14.1% reported not being knowledgeable about how they work, 27.1% reported being slightly knowledgeable, 41.6% reported being somewhat knowledgeable, and 16.9% reported being very knowledgeable. In terms of knowledge about random chance in lotteries, 17.5% reported not being knowledgeable about how random chance works in lotteries, 26.4% reported being slightly knowledgeable, 38.2% reported being somewhat knowledgeable, and 17.9% reported being very knowledgeable.

Table 3.01. Frequency of engagement with various lottery products ($N = N = 1935$).

	National lotteries	Provincial lotteries	Instant win	Sports lotteries
Never	2.5%	22.9%	12.9%	42.1%
Less often than once every 12 months	3.2%	6.5%	8.6%	3.9%
About once every 6-12 months	5.5%	3.9%	9.2%	1.3%
About once every 3-5 months	6.1%	3.1%	5.8%	0.5%
About once every 2 months	3.9%	1.7%	4.1%	0.2%
About once a month	6.9%	3.1%	4.7%	0.6%
About once every 2 weeks	6.1%	2.2%	1.8%	0.3%
About once a week or more often	15.1%	6.0%	2.2%	0.4%

We computed the correlation between these variables and Positive Play scales. Frequency of play produced very small but significant negative correlations with Positive Play for provincial lotteries, $r = -.117, p < .001$, for sports lotteries, $r = -.155, p < .001$, and for instant lotteries, $r = -.073, p < .01$. Spending also yielded a small negative correlation with Positive Play, $r = -.106, p < .001$. Setting limits was positively correlated with Positive Play scores, $r = .08, p < .001$. Exceeding limits, $r = -.181, p < .001$ ($n = 840$), and how much they were exceeded, $r = -.147, p < .05$ ($n = 187$), were negatively correlated with Positive Play. Interestingly, there were small positive correlations between Positive Play and being knowledgeable about lotteries, $r = .084, p < .001$, and being knowledgeable about random chance in lotteries, $r = .082, p < .001$. This is in stark contrast to some of the other cells where self-assessed knowledge was negatively correlated with Positive Play.

The survey included a number of questions on responsible gambling which were categorized as noted below Table 3.02. These items were scored on a 4-point scale from Never to All the time. Based on a content analysis of these items we grouped them into items related to problem gambling (PG), cutting back (CB), setting limits (LM), responsible attitudes (RA), knowledge of the games (KN) and erroneous beliefs (EB). The lottery survey had more items related to erroneous beliefs than the other cells of the survey.

The results shown in Table 3.02 suggest that problem gambling indicators were rarely endorsed among lottery players. For instance, only 1.7% and just 5.4% endorsed playing to win back losses or feeling unhappy after playing, most of the time or all of the time, respectively. With regard to the other problem gambling indicator, playing lottery to make money, only 12.5% endorsed this being the case most or all of the time. Indeed, a solid majority of lottery players (78%) indicated they played for entertainment only and 66.5% of the players endorsed setting budgetary limits on their lottery gaming some, most, or all of the time. Play management tools to control gambling were not popular among lottery players however, with the vast majority (93.1%) endorsing rarely or never utilizing them. This result may suggest that few lottery players feel they need assistance with controlling their play. Overall, then, lottery players appeared to have few concerns related to uncontrolled or problematic gambling.

Most lottery players did not endorse items related to erroneous beliefs. For example, 83.9% of the participants selected Never for the item “Purchased a lottery game at a store because it had a previous big winner”. Overall, it appears most people do not hold erroneous beliefs about lotteries. The one exception was for “Chose random numbers or tickets to play lottery or instant scratch tickets” for which 28.4% selected Never, and 30.5% selected Always.

As shown in Table 3.03, there were a number of correlations between Positive Play and the problem and responsible gambling behaviours. Significant positive correlations were found with playing for entertainment only, $r = .25, p < .001$, with being aware of the odds of winning, $r = .19, p < .001$, and with setting budgetary and time limits on play. Significant negative correlations were found for playing to win back losses, $r = -.30, p < .001$, and with several erroneous beliefs such as asking the lottery retailer which games won most often, $r = -.25, p < .001$. Negative correlations of erroneous beliefs with Gambling Literacy providing some validation of that subscale. Interestingly, the use of play management tools was negatively related to Positive Play, $r = -.23, p < .001$. It is also of note that choosing random numbers had a very small positive correlation with Positive Play, $r = .08, p < .01$.

Table 3.02. Problematic and responsible gambling behaviours (*N* =1885).

		Rarely/ Never	Some of the time	Most of the time	All the time
PG	Played to win back losses	1743 92.5%	109 5.8%	16 0.8%	17 0.9%
PG	Felt unhappy after playing	1328 70.5%	454 24.1%	74 3.9%	29 1.5%
EB	Purchased a lottery game at a store because it had a previous big winner	1581 83.9%	254 13.5%	35 1.9%	15 0.8%
EB	Used lucky charms and/or rituals that could help you win	1701 90.2%	141 7.5%	27 1.4%	16 0.8%
EB	Picked your own numbers because you are less likely to win with QuickPick numbers	1192 63.2%	451 23.9%	140 7.4%	102 5.4%
EB	Used a system or logic to help you choose numbers that have a better chance of winning	1625 86.2%	200 10.6%	40 2.1%	20 1.1%
EB	Asked the lottery retailer which games won the most	1746 92.6%	103 5.5%	20 1.1%	16 0.8%
PG	Played lottery games to make money	1410 74.8%	239 12.7%	96 5.1%	140 7.4%
LM	Set a budget for how much you spend on lottery games	631 33.5%	163 8.6%	278 14.7%	813 43.1%
LM	Set a time limit for when you play lottery games	902 47.9%	189 10.0%	241 12.8%	553 29.3%
RA	Played lottery for entertainment only	206 10.9%	208 11.0%	411 21.8%	1060 56.2%
LM	Used play management tools to help keep track of or control my lottery play	1755 93.1%	45 2.4%	46 2.4%	39 2.1%
CB	Bought less expensive tickets to play more	1314 69.7%	342 18.1%	134 7.1%	95 5.0%
KN	Was aware of the odds of winning for my lottery games	463 24.6%	314 16.7%	413 21.9%	695 36.9%
EB	Chose random numbers or tickets to play lottery or instant scratch tickets	535 28.4%	414 22.0%	362 19.2%	574 30.5%

Note: PG = problem gambling; CB = cutting back; LM = setting limits; RA = responsible attitudes; KN =knowledge of the game; EB = erroneous beliefs.

Table 3.03 Correlations of Positive Play with problematic and responsible gambling behaviour (*N* =1885)

		PC	GL	HC	PR	Total
PG	Played to win back losses	-.15***	-.27***	-.21***	-.28***	-.30***
PG	Felt unhappy after playing	-.11***	-.13***	-.17***	-.15***	-.19***
EB	Purchased a lottery game at a store because it had a previous big winner	-.10***	-.22***	-.16***	-.21***	-.23***
EB	Used lucky charms and/or rituals that could help you win	-.10***	-.18***	-.13***	-.23***	-.21***
EB	Picked your own numbers because you are less likely to win with QuickPick numbers	-.04	-.07**	-.06**	-.07**	-.08**
EB	Used a system or logic to help you choose numbers that have a better chance of winning	-.09***	-.20***	-.15***	-.20***	-.21***
EB	Asked the lottery retailer which games won the most	-.12***	-.23***	-.16***	-.27***	-.25***
PG	Played lottery games to make money	-.11***	-.15***	-.12***	-.08***	-.16***
LM	Set a budget for how much you spend on lottery games	.19***	.06*	.10***	.04	.14***
LM	Set a time limit for when you play lottery games	.17***	.03	.05*	.02	.10***
RA	Played lottery for entertainment only	.15***	.20***	.21***	.17***	.25***
LM	Used play management tools to help keep track of or control my lottery play	-.07**	-.28***	-.13***	-.24***	-.23***
CB	Bought less expensive tickets to play more	-.08***	-.20***	-.14***	-.14***	-.19***
KN	Was aware of the odds of winning for my lottery games	.19***	.13***	.13***	.06**	.19***
EB	Chose random numbers or tickets to play lottery or instant scratch tickets	.06*	.05*	.07**	.05*	.08**

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05;
 ** < .01; *** < .001

The survey asked participants about resources they would use if they were looking for information on how games work or odds of winning. According to results shown in Table 3.04, over half (57%) of the respondents indicated they would use the OLG.ca website for information about lottery games. Searching Google was the next most popular resource option chosen (43%). PlaySmart.ca was utilized for information far less often with just 13% indicating they would use it, which was equal to the percentage of those responding, “Don’t know”.

Table 3.04. Resources people use for information about lottery games (*N* =1885).

I search Google	43%
I search YouTube	4%
PlaySmart.ca	13%
OLG.ca	57%
I search a non-OLG.ca gambling information site (e.g., Wizard of Odds)	4%
I ask staff at the lottery retailer	8%
Ask a friend	8%
Other	3%
Don’t know	13%

Table 3.05. Awareness and use of OLG resources or programs (*N* =1885).

	Awareness of resource	N	Use of resources by those who were aware of the resource.			
	Heard about it		I have used it	Could not find	No need or interest	Don’t know
Ontario Problem Gambling Helpline/Connex Ontario	40%	761	17 2.2%	12 1.6%	673 88.4%	59 7.8%
Lottery purchase limits on PlayOLG.ca	21%	392	28 7.1%	9 2.3%	313 79.8%	42 10.7%
Information about how the lottery works and how to play lottery games in Ontario	45%	847	149 17.6%	27 3.2%	588 69.4%	83 9.8%
Information on resources about addiction support services or debt and credit counselling	50%	950	18 1.9%	14 1.5%	837 88.1%	81 8.5%
Information on how to pick the right game for your preferred play experience	11%	213	17 8.0%	18 8.5%	155 72.8%	23 10.8%
PlaySmart.ca, a website that hosts facts, tools and advice and explains how OLG lottery games work	38%	717	39 5.4%	17 2.4%	598 83.4%	63 8.8%
Tips or information on using budgets or limits to help manage your lottery play	22%	415	19 4.6%	12 2.9%	345 83.1%	39 9.4%

Note: Use of the service was only asked for people who said they had heard of the resource.

Participants were asked if they were aware of various resources available to them. As shown in Table 3.05, overall awareness ranged from 50% for information and resources for addiction support services, to 11% for awareness of information on how to pick the right game for their preference. Among those who had heard about the resources, reported use of these resources ranged from a low of just 1.9% (information on addiction support services) to a high of 17.6% (information about how lottery games work/how to play). Only 38% of participants reported being aware of the PlaySmart.ca website and just 5.4% reported using it. When people were aware of a resource available to them, the majority (ranging from 69.4% to 88.4%) reported having no need or interest in using it. Although awareness of resources that assist with gambling related problems, such as the Problem Gambling Helpline & addiction support services, was high relative to other resources, reported use of them was lowest among those resources at just 2.2% & 1.9% respectively. This further supports the notion that lottery players have fewer concerns about their potential to develop problematic gambling.

Table 3.06 provides a breakdown of the awareness percentages across the 4 waves of the study. It appears that awareness in general increased across the four waves of the study. For example, awareness of Playsmart.ca increased from 31.1% to 49.0% over the course of the four waves of data collection, suggesting an increase in awareness of those resources.

Table 3.06. Percentage of awareness of resources by survey wave to test for changes over time.

	Wave 1	Wave 2	Wave 3	Wave 4	
Ontario Problem Gambling Helpline/Connex Ontario	37.3%	42.0%	40.4%	44.2%	
Lottery purchase limits on PlayOLG.ca	16.1%	18.3%	20.5%	32.2%	***
Information about how the lottery works and how to play lottery games in Ontario	38.4%	48.3%	45.9%	51.3%	***
Information on resources about addiction support services or debt and credit counselling	46.4%	49.5%	49.0%	60.9%	***
Information on how to pick the right game for your preferred play experience	7.7%	10.2%	12.5%	16.7%	***
PlaySmart.ca, a website that hosts facts, tools and advice and explains how OLG lottery games work	31.1%	35.7%	40.1%	49.0%	***
Tips or information on using budgets or limits to help manage your lottery play	16.8%	19.5%	24.4%	29.6%	***

Note: *** $p < .001$.

We next computed correlations between awareness of these resources and Positive Play. These correlations are presented in Table 3.07. There were a few small negative correlations found between Positive Play and resource awareness. Information on how to pick the right game for preferred play showed a significant negative correlation with Positive Play, $r = -.13$, $p < .001$, while awareness of lottery purchase limits on PlayOLG.ca showed a smaller but still significant negative correlation with Positive Play, $r = -.05$, $p < .05$. Awareness of information on addiction support services had a small but

significant positive correlation with Positive Play, $r = .05$, $p < .05$. Overall there does not appear to be much of a relationship between positive play and awareness of resources, among lottery players.

Table 3.07. Correlations between Positive Play and resource awareness among lottery players (N =1885).

	PC	GL	HC	PR	Total
Ontario Problem Gambling Helpline/Connex Ontario	.02	.01	.02	.02	.02
Lottery purchase limits on PlayOLG.ca	.02	-.09***	-.03*	-.05*	-.05*
Information about how the lottery works and how to play lottery games in Ontario	.07**	-.04	.04	.01	.03
Information on resources about addiction support services or debt and credit counselling	.04	.01	.05*	.05*	.05*
Information on how to pick the right game for your preferred play experience	-.02	-.17***	-.08**	-.12***	-.13***
PlaySmart.ca, a website that hosts facts, tools and advice and explains how OLG lottery games work	.03	.00	.06*	.03	.04
Tips or information on using budgets or limits to help manage your lottery play	.03	-.10***	-.01	-.04	-.03

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05; ** < .01; *** < .001

Next, we looked at the perception of OLG PlaySmart programs as shown in Table 3.08. Participants were asked their opinion of the services offered by the OLG PlaySmart program. Overall, and without exception, far more people agreed (somewhat/strongly agree) than disagreed (somewhat/strongly disagree) with positive statements regarding the efforts and intentions of the OLG PlaySmart program. In terms of agreeing vs disagreeing with particular statements, the largest difference was seen for “Provides useful information about lotteries” (58% agreeing vs 7.8% disagreeing) while the smallest difference was shown for “Trains lottery retailers to recognize the signs of problem gambling and to provide information” (21.2% agreeing vs 15.9% disagreeing). Interestingly, a substantial percentage of lottery survey participants responded “Don’t know” to statements regarding the OLG PlaySmart program (ranging from 34.1% to 62.9%), suggesting that many lottery players were either unaware or ambivalent about the program’s efforts and intentions.

Table 3.08. Perception of OLG PlaySmart program efforts for Lotteries (Sample size and percentage; $N = 1885$).

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Don't know
Promotes smart play habits for lottery play	59 3.1%	165 8.8%	654 34.7%	202 10.7%	805 42.7%
Trains lottery retailers to be knowledgeable about lottery games	88 4.7%	175 9.3%	495 26.3%	141 7.5%	986 52.3%
Trains lottery retailers to recognize the signs of problem gambling and provide information	122 6.5%	177 9.4%	298 15.8%	102 5.4%	1186 62.9%
Provides players with useful tools to help keep lottery play fun	54 2.9%	141 7.5%	637 33.8%	180 9.5%	873 46.3%
Provides support for those who need help with a gambling problem	52 2.8%	138 7.3%	729 38.7%	248 13.2%	718 38.1%
Encourages the use of money budgets for lottery play	87 4.6%	180 9.5%	512 27.2%	166 8.8%	940 49.9%
Promotes ways to help players play lottery without gambling problems	75 4.0%	176 9.3%	616 32.7%	160 8.5%	858 45.5%
Provides useful information about lotteries	42 2.2%	105 5.6%	817 43.3%	278 14.7%	643 34.1%
Cares about the well-being of lottery players	154 8.2%	286 15.2%	583 30.9%	171 9.1%	691 36.7%
Provides useful information for playing lottery games	22 2.3%	68 7.2%	391 41.1%	140 14.7%	330 34.7%

Correlations of the positive statements regarding the OLG PlaySmart program with Positive Play are shown in Table 3.09, indicating there were a few significant positive correlations. Positive Play was found to be most strongly correlated with the statement that PlaySmart “Provides useful information for playing lottery games”, $r = .19$, $p < .001$. This statement was also the only one found to be significantly correlated with all 4 of the subscales of Positive Play. Positive Play was also found to be significantly correlated with the statements “Provides useful information about lotteries”, $r = .13$, $p < .001$, and “Provides players with useful tools to help keep lottery play fun”, $r = .09$, $p < .001$, along with a few other smaller correlations with other statements. On the positive side, PlaySmart program efforts were more strongly correlated with Positive Play than the other resources shown in Table 3.07.

Table 3.09. Perception of OLG PlaySmart program efforts.

	N	PC	GL	HC	PR	Total
Promotes smart play habits for lottery play	1080	.08**	-.018	.076*	.059	.065*
Trains lottery retailers to be knowledgeable about lottery games	899	.092**	-.003	.094**	.066*	.082*
Trains lottery retailers to recognize the signs of problem gambling and provide information	699	.026	-.111**	-.002	-.005	-.034
Provides players with useful tools to help keep lottery play fun	1012	.058	.024	.102***	.121***	.096*
Provides support for those who need help with a gambling problem	1167	.049	.007	.074	.103	.073
Encourages the use of money budgets for lottery play	945	.086**	.000	.074*	.067*	.074*
Promotes ways to help players play lottery without gambling problems	1027	.033	-.029	.055	.069*	.037
Provides useful information about lotteries	1242	.104***	.048	.117***	.126***	.129***
Cares about the well-being of lottery players	1194	.037	-.044	.064*	.032	.029
Provides useful information for playing lottery games	621	.13**	.11**	.16***	.18***	.19***

Note: * < .05; ** < .01; *** < .001

As seen in Table 3.10, in terms of participant opinions regarding whether information about how lottery games work was readily available at retailers, only a slightly higher percentage of surveyed players were in general agreement vs disagreement (35.9% vs 32.1%). With respect to lottery player opinions about whether they understood the available information and resources, a greater percentage of participants indicated agreement (42.9%) vs disagreement (27.9%).

Table 3.10. Availability and understandability of information at lottery retailers (N =1885).

	Information about how games work is readily available at lottery retailers	I understand the information and resources
	Percent	Percent
Definitely do not agree	10.0%	9.4%
Disagree	8.8%	7.7%
Somewhat disagree	13.3%	10.8%
Neither agree or disagree	31.9%	29.1%
Somewhat agree	17.3%	17.7%
Agree	10.8%	13.9%
Definitely agree	7.8%	11.2%

The lottery survey ended with several questions on satisfaction with OLG, with the lottery playing experience, and on the availability and understandability of information at lottery retailers. Table 3.11 presents the correlations between the two problem gambling behaviors that were listed in Table 3.02 and participants attitudes towards OLG and the gambling venues they preferred. These questions were then correlated with problem gambling indicators such as playing to win back losses and feeling unhappy after playing. As shown in Table 3.11, significant negative correlations were found between problem gambling indicators and general satisfaction with the lottery playing experience, $r = -.23$, $p < .001$, and between PG indicators and positive attitudes toward OLG, $r = -.12$, $p < .001$. Problem gambling indicators were not significantly correlated with the availability or understandability of information and resources found at lottery retailers. The correlations with feeling unhappy and two of these attitude questions, suggest that more effort is needed to discourage problematic play.

Table 3.11. Correlations of problem gambling behaviours and satisfaction with their lottery retailer and the availability of information (N =1885).

	Played to win back losses	Felt unhappy after playing
Attitude towards OLG	-0.03	-0.12***
Thinking about the past 12 months, how satisfied are you, in general, with your experience when you play a lottery game?	-0.05*	-0.23***
Information about how games work is readily available at lottery retailers	0.04	-0.02
I understand information and resources about gambling that I see at lottery retailers	0.03	-0.03

Note: * < .05; ** < .01; *** < .001

DISCUSSION FOR LOTTERIES

An examination of the results for lottery gamblers suggest that most lottery players engage in Positive Play. In addition, unlike some other game groups (see below), for lottery players, self reported knowledge of the games was positively correlated with Positive Play.

Very few of the participants endorsed the two problem gambling indicators included in the study. Indeed, a solid majority of lottery players (78%) indicated they played for entertainment only and about 2/3 of players (66.5%) endorsed setting budgetary limits on their lottery gaming some, most, or all of the time. Interestingly play management tools to control gambling were not popular among lottery players, with the vast majority (93.1%) endorsing rarely or never utilizing them to control gambling. This result may suggest that few lottery players feel they need assistance with controlling their play. Overall, then, lottery players appeared to have few concerns related to uncontrolled or problematic gambling.

Positive Play was positively correlated with variables on setting limits and gambling for entertainment, and negatively correlated with variables measuring problematic play and erroneous beliefs. Most lottery players did not endorse items related to erroneous beliefs. For example, 83.9% of the participants selected Never for the item “Purchased a lottery game at a store because it had a previous big winner”. The one exception was for “Chose random numbers or tickets to play lottery or instant scratch tickets” for which 28.4% selected Never, and 30.5% selected Always. Interestingly, although the other items on erroneous beliefs were negatively correlated with Positive Play, this item was positively correlated with Positive Play. The item is technically an erroneous belief because it does not matter if you choose a “random number” or any other number since the odds are the same, but it may be a healthy belief because it avoids getting committed to any numbers. Overall, it appears people do not hold erroneous beliefs about lotteries.

One disappointment was the low rate of endorsement for play management tools and its negative correlation with Positive Play. This may be reflective of lottery players only utilizing these tools if they have concerns about controlling their lottery play.

The survey asked participants about resources they would use if they were looking for information on how games work or odds of winning. According to results shown in Table 3.04, over half (57%) of the respondents indicated they would use the OLG.ca website for information about lottery games. Searching Google was the next most popular resource option chosen (43%). PlaySmart.ca was utilized for information far less often with just 13% indicating they would use it.

Participants were asked if they were aware of various resources available to them. Although awareness of resources that assist with gambling related problems, such as the Problem Gambling Helpline & addiction support services, was high relative to other resources, reported use of them was lowest among those resources at just 2.2% & 1.9% respectively. This further supports the notion that lottery players have few concerns about their potential to develop problematic gambling. Of note is the fact that the awareness percentages across the 4 waves of the study suggest an increase in awareness across the four waves of the study. This is good news for OLG in that the message of responsible gambling appears to be on the increase.

In addition, most of the players had a positive view of the efforts that OLG has made regarding resources. A positive view of the various aspects of OLG's PlaySmart program was found to be correlated with Positive Play. In addition, the PlaySmart program efforts were more strongly correlated with Positive Play than the non-OLG resources such as Google.

The lottery survey ended with several questions on satisfaction with OLG, with the lottery playing experience, and on the availability and understandability of information at lottery retailers. Most people reported having favourable views towards OLG and were satisfied with their gambling venues and the availability of resources. Customer satisfaction was negatively correlated with the two variables that measure problematic play. The negative correlation of feeling unhappy and attitude towards OLG and satisfaction with the lottery, suggests that more effort is needed to encourage Positive Play and discourage problematic play.

Part 4: Casino Players

The second group of participants were casino players. Of the participants grouped into the casino cell, 24.6% reported going to a casino once in the past 12-months, 31.2% reported going 2 to 3 times, 21.3% reported going 4 to 5 times, 11.2% reported going 6 to 11 times, and 11.8% reported going 12 or more times. Of the casino patrons, 8% reported playing just table games, 74% reported playing electronic gambling machines (e.g., slot machines or EGMs), and 17.2% reported playing both.

On average, participants reported spending \$154.10 ($SD = \374.01) the last time they visited a casino. This was skewed however as 70% of the participants reported spending \$100 or less.

The vast majority of participants (90.9%) reported setting a limit on their casino gambling. Of those who did set a limit ($n = 1196$), 61.2% reported rarely or never exceeding that limit, and another 28.7% reported exceeding it some of the time (10-50% of the time). Only 10% reported exceeding the limit all or most of the time. For those who reported exceeding the limit ($n = 464$), 61% reported exceeding their budget by less than 25%, a further 27.4% reported exceeding the limit by 26% to 50%, and only 1.3% reported exceeding their limit by more than 100%. These numbers suggest that most of the participants stay in control of their gambling and only exceed their limits to a small degree. People who reported playing slot machines or table games were asked how knowledgeable they were about those games respectively. Just under a third of slot machine players (30.6%) reported not being knowledgeable at all, 28.3% reported being slightly knowledgeable, 32.6% reported being somewhat knowledgeable, and 8.4% reported being very knowledgeable about slot machines. For tables games, 44.0% reported not being knowledgeable at all, 27.1% reported being slightly knowledgeable, 22.2% reported being somewhat knowledgeable and only 6.7% reported being very knowledgeable.

Positive Play was positively correlated with setting a spending limit, $r = .180$, $p < .001$, but negatively correlated with spending $r = -.122$, $p < .001$, frequency of gambling at a casino, $r = -.107$, $p < .001$, frequency of exceeding one's budget, $r = -.344$, $p < .001$, ($n = 1197$), and amount one exceeds one's budget, $r = -.257$, $p < .001$, ($n = 464$). In addition, Positive Play had small negative correlations with self reported knowledge of slot machines, $r = -.079$, $p < .01$, and self reported knowledge of table games, $r = -.127$, $p < .01$,

We also examined the differences between people who played on EGMs only, table games only, and on both table games and EGMs. People who only play table games claimed to know more about table games than those who play on EGMs only ($p < .001$) and those who play on both EGMs and table games ($p < .001$), $F(2, 1314) = 319.3$. People who play both table games and EGMs claimed to know more about EGMs than those who play on EGMs only ($p < .001$), $F(2, 1314) = 12.9$. Positive Play also differed between these groups, and the strongest effect was for the total score. Those who only play EGMs scored higher on Positive Play than those who only play on table games ($p < .001$) and than those who play on both table games and EGMs ($p < .001$) $F(2, 1314) = 12.5$, $p < .001$. There was no difference between the table game only players and table game and EGM players on any of the Positive Play variables. These findings suggest that EGM player on average have a more realistic view of their gambling and are more likely to adhere to Positive Play behaviors.

Table 4.01 provides the response to a series of items on responsible gambling behaviours and also included 2 questions related to problem gambling. We grouped these survey items based on their content into problem gambling (PG), cutting back (CB), setting limits (LM), responsible attitudes (RA), and knowledge of the games (KN). Some of the cells included questions on erroneous beliefs (EB).

These results are shown in Table 4.01. These items were scored on a 4-point scale from Never to All the time. The two items that measured problem gambling were the least frequently endorsed with only 5% endorsing gambling to win back money most or all of the time, and 13% endorsing feeling unhappy after finishing gambling most or all of the time. Regarding responsible gambling behaviours, 86% of the participants endorsed setting a budget limit most or all of the time, 51% endorsed setting a time limit most or all of the time, and 53% endorsed taking breaks most or all of the time. Of particular note, 87% reported gambling for entertainment only most or all of the time. Most of the items on setting limits were endorsed most or all of the time by a majority of the participants. Use of play management tools was rarely endorsed however (13%).

These numbers suggest that most of the participants engage in responsible gambling practices however more effort is needed to increase the use of breaks, setting time limits, and using the management tools. A small percentage of the participants reported using the play management tools for instance, suggesting that more promotion of that resource is needed.

As shown in Table 4.02, there were a number of correlations between Positive Play and the problem and responsible gambling behaviors. The strongest positive correlations were for gambling for entertainment, $r = .52$, $p < .001$, and setting a budget for gambling, $r = .53$. Not surprisingly, the two problem gambling indicators were negatively correlated with Positive Play. Use of management tools was also negatively correlated with Positive Play, perhaps because the tool is only used by people who have experienced a gambling problem. These findings provide additional validation of the Positive Play scales.

Table 4.01. Problematic and responsible gambling behaviours ($N = 1317$).

		Rarely/ Never	Some of the time	Most of the time	All the time
PG	Gambled to win back losses	936 71.1%	309 23.5%	52 3.9%	20 1.5%
CB	Gambled less often	414 31.4%	502 38.1%	217 16.5%	184 14.0%
PG	Felt unhappy after you have finished gambling	582 44.2%	561 42.6%	130 9.9%	44 3.3%
L M	Decided to stop playing sooner than you expected because you won more than you thought you would win	317 24.1%	509 38.6%	304 23.1%	187 14.2%
L M	Set a time limit for how long you gamble	291 22.1%	353 26.8%	367 27.9%	306 23.2%
L M	Set a budget for how much money you spend gambling	67 5.1%	111 8.4%	254 19.3%	885 67.2%
L M	Take breaks from gambling, like going to eat at the venue restaurant or get coffee, while at a casino	251 19.1%	374 28.4%	332 25.2%	360 27.3%
L M	Use play management tools to help keep track of or control my gambling	1021 77.5%	128 9.7%	97 7.4%	71 5.4%
CB	Make smaller bets or play less expensive slot machines to play longer	154 11.7%	369 28.0%	402 30.5%	392 29.8%
KN	Was aware of the odds of winning of my casino games	316 24.0%	338 25.7%	335 25.4%	328 24.9%
KN	Was aware of the payout percentage of my casino games	435 33.0%	373 28.3%	299 22.7%	210 15.9%
RA	Gambled for entertainment only	55 4.2%	121 9.2%	301 22.9%	840 63.8%

Note: PG = problem gambling; CB = cutting back; LM = setting limits; RA = responsible attitudes; KN = knowledge of the games.

Table 4.02. Correlations of Positive Play with problematic and responsible gambling behaviours ($N = 1317$).

		PC	GL	HC	PR	Total
PG	Gambled to win back losses	-.38***	-.37***	-.39***	-.33***	-.46***
CB	Gambled less often	.03	.06*	-.02	.03	.04
PG	Felt unhappy after you have finished gambling	-.27***	-.15***	-.32***	-.21***	-.30***
LM	Decided to stop playing sooner than you expected because you won more than you thought you would win	.07*	.11***	.10**	.07**	.11***
LM	Set a time limit for how long you gamble	.28***	.07**	.16***	.10**	.19***
LM	Set a budget for how much money you spend gambling	.49***	.34***	.46***	.42***	.53***
LM	Take breaks from gambling, like going to eat at the venue restaurant or get coffee, while at a casino	.17***	.10**	.17***	.13***	.18***
LM	Use play management tools to help keep track of or control my gambling	-.11***	-.20***	-.13***	-.20***	-.20***
CB	Make smaller bets or play less expensive slot machines to play longer	.16***	.11***	.16***	.15***	.18***
KN	Was aware of the odds of winning of my casino games	.12***	.13***	.10**	.07**	.14***
KN	Was aware of the payout percentage of my casino games	.02	.02	.02	.00	.02
RA	Gambled for entertainment only	.43***	.38***	.44***	.41***	.52***

Note: PG = problem gambling; CB = cutting back; LM = setting limits; RA = responsible attitudes; KN = knowledge of the games; * < .05; ** < .01; *** < .001.

Next the survey asked the participants about resources they would use if they were looking for information on how games work or odds of winning. As shown in Table 4.03, the most frequently endorsed item was Google (47%), followed by OLG.ca (30%), and then asking a friend (20%). None of these resources were strongly correlated with Positive Play, however there was a small positive correlation of Google with Honesty and Control, $r = .06$, $p < .05$. Gambling Literacy was also negatively correlated with asking a friend, $r = -.07$, $p < .05$ and positively correlated with “Don’t know”, $r = .09$, $p < .01$. Perhaps the effect with Gambling Literacy is that friends can be a good source of information on gambling but can also be a source of *misinformation*. Its clear that more effort needs to be put into promoting the use of the PlaySmart centre, OLG.ca, PlaySmart.ca as well as other non-OLG resources that provide helpful information (e.g., Wizard of Odds).

Table 4.03. Resources people use for information about gambling games ($N = 1317$).

I search Google	47%
I search YouTube	11%
PlaySmart.ca	16%
OLG.ca	30%
I search a non-OLG.ca gambling information site (e.g., Wizard of Odds)	6%
I ask staff at the casino	16%
I go to the PlaySmart Centre for information	11%
Ask a friend	20%
Other	3%
Don't know	18%

Note: Participants were asked "If you were looking for information on how games work or odds of winning, where would you typically look for this information?"

Participants were asked if they were aware of various resources available to them. From Table 4.04, awareness ranged from 53% for information and resources of addiction support services, to 16% for awareness of information on how to pick the right game for their preference. Only 38% of the participants reported being aware of the PlaySmart Centre. Among those who were aware of the resources available to them, the majority (60.5% - 92.1%) reported having no interest or need to use them. Only 36 people reported using the PlaySmart Centre and 23 reported not being able to find the PlaySmart Centre. Interestingly 72 people reported using information on how games work and 60 people reported talking to trained staff about how the games work suggesting perhaps that some people utilized the PlaySmart Centre without being aware that they were utilizing it. The Casinos need to promote the PlaySmart Centres and improve recognition of their name.

In Table 4.05 we examined whether the number of people who were familiar with the resource increased over time. In addition, we included a total score for awareness of resources. A ONEWAY analysis with a trend contrast (-2,-1,1,2) of awareness of resources and the overall awareness of resources across the 12 resources, found that the only resource that increased over time was the Ontario Problem Gambling Helpline/Connex Ontario which increased from 44.3% to 56.7% over the four waves of the survey, $t(1313) = 2.24, p < .05$. Given the number of variables, the finding for the Helpline awareness may simply be random variation. Of all the resources available, encouragements to take breaks seems to be the one that is most often used by the participants.

Table 4.04. Awareness and use of OLG resources or programs.

	Awareness		Use of Resources by those who were aware of the resource.			
	<i>N</i> = 1317	<i>N</i>	Have used	Could not find	No need /Interest	Don't know
PlaySmart Centers located in casinos in Ontario that provide facts, tools, and advice about gambling	38%	499	36 7.2%	23 4.6%	400 80.2%	40 8.0%
The Self-Exclusion program	51%	671	17 2.5%	11 1.6%	618 92.1%	25 3.7%
Trained staff at casinos in Ontario who can help players who may have gambling problems or concerns.	33%	432	20 4.6%	14 3.2%	353 81.7%	45 10.4%
Trained staff at casinos in Ontario who can talk to players about what games to play and how games work.	31%	412	60 14.6%	22 5.3%	289 70.1%	41 10.0%
Information about how games work and how to play various games at casinos in Ontario	35%	459	72 15.7%	28 6.1%	313 68.2%	46 10.0%
Information on resources about addiction support services or debt and credit counselling	53%	695	27 3.9%	14 2.0%	600 86.3%	54 7.8%
My PlaySmart, a tool to help players keep track of their money and time while gambling	22%	296	25 8.4%	20 6.8%	230 77.7%	21 7.1%
Information on how to pick the right game for your preferred play experience	16%	217	26 12.0%	24 11.1%	144 66.4%	23 10.6%
The Ontario Problem Gambling Helpline/Connex Ontario	46%	607	17 2.8%	11 1.8%	526 86.7%	53 8.7%
Tips or information on using budgets or limits to help manage your gambling	33%	431	38 8.8%	24 5.6%	321 74.5%	48 11.1%
PlaySmart.ca, an online resource filled with facts, tools and advice about how OLG games work	40%	530	58 10.9%	24 4.5%	409 77.2%	39 7.4%
Encouragements to take a break while gambling	37%	483	120 24.8%	18 3.7%	292 60.5%	53 11.0%

Note: Participants were asked “Which of the following OLG resources or programs have you used (whether for your personal need or to help a family member/friend)?” Responses were recorded as “I have used it”, “I wanted to use it but could not find or access it”, “I was aware of it but had no need or interest in it” and “Don’t know”.

Table 4.05. Percentage of awareness of resources by survey wave.

	Wave 1 N =501	Wave 2 N =174	Wave 3 N =478	Wave 4 N =164
PlaySmart Centers located in casinos in Ontario that provide facts, tools, and advice about gambling	38.5	37.4	37.9	36.6
The Self-Exclusion program (Which of the following OLG resources or programs have you used	49.7	51.2	51.3	53.7
Trained staff at casinos in Ontario who can help players who may have gambling problems or concerns.	31.5	39.1	32.6	30.5
Trained staff at casinos in Ontario who can talk to players about what games to play and how games work.	32.1	31.0	29.7	33.5
Information about how games work and how to play various games at casinos in Ontario	37.3	33.9	33.9	31.1
Information on resources about addiction support services or debt and credit counselling	51.3	54.0	51.3	60.4
My PlaySmart, a tool to help players keep track of their money and time while gambling	23.2	22.4	22.4	20.7
Information on how to pick the right game for your preferred play experience	15.2	19.0	17.4	15.2
The Ontario Problem Gambling Helpline/Connex Ontario	44.3	46.6	44.1	56.7*
Tips or information on using budgets or limits to help manage your gambling	33.5	32.8	32.2	31.7
PlaySmart.ca, an online resource filled with facts, tools and advice about how OLG games work	40.1	37.9	38.7	47.6
Encouragements to take a break while gambling	35.5	36.2	36.2	42.1
Total awareness	36.0	36.8	35.6	38.3

Note: Note: The data was collected in four repeated cross sectional surveys or waves.

* < .05.

As shown in Table 4.06, there were a few small correlations between resource awareness and Positive Play. People who score higher on Positive Play were more likely to be familiar with the self exclusion program, information on credit counselling, and the Ontario problem gambling helpline. On the other hand, Positive Play was negatively correlated with information on how to pick the right game for you, and with the PlaySmart tool for keeping track of wins and losses. Its not clear why there were negative correlations for Positive Play variables and My PlaySmart and Information on how to pick the right games. It could simply be that the negative correlation is an artefact of the low levels of awareness of these resources. The vast majority of participants scored in the upper range of this variable with nearly half of the participants scoring 7 out of 7. Its possible that people who had sought the information were those who felt they did not have perfect knowledge of the games.

Table 4.06. Correlations between Positive Play and resource awareness among casino players ($N = 1317$).

	PC	GL	HC	PR	Total
PlaySmart Centers located in casinos in Ontario that provide facts, tools, and advice about gambling	0.01	0.01	-0.02	0.04	0.01
The Self-Exclusion program	0.07*	0.11***	0.04	0.12***	.11***
Trained staff at casinos in Ontario who can help players who may have gambling problems or concerns.	0.01	-0.04	0.01	0.02	
Trained staff at casinos in Ontario who can talk to players about what games to play and how games work.	-0.01	-0.06*	-0.01	0.00	-0.03
Information about how games work and how to play various games at casinos in Ontario	0.00	-0.01	0.02	0.03	0.01
Information on resources about addiction support services or debt and credit counselling	0.08*	0.05*	0.08*	0.14***	.10***
My PlaySmart, a tool to help players keep track of their money and time while gambling	-0.05*	0.10***	-0.04	-0.04	-0.08**
Information on how to pick the right game for your preferred play experience	-0.10**	0.17***	-0.06*	0.13***	0.15***
The Ontario Problem Gambling Helpline	0.08*	0.04	0.05	0.13***	.09**
Tips or information on using budgets or limits to help manage your gambling	0.00	-0.06*	0.01	-0.01	-0.02
PlaySmart.ca, an online resource filled with facts, tools and advice about how OLG games work	0.04	0.03	0.04	0.05	0.05
Encouragements to take a break while gambling	0.01	-0.04	0.01	0.03	-0.002
Overall awareness of resources	0.02	-0.02	0.02	0.06*	0.02

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05; ** < .01; *** < .001

The participants opinion of the services offered by the PlaySmart centre was surveyed. The distribution of scores is provided in Table 4.07. The majority of the participants endorsed somewhat or strongly agreeing (59.2% to 78.4%) with each of the statements presented to them. The highest endorsement rate was for providing “support for those who need help or treatment with a gambling problem” (78.4%) and for providing “useful information about gambling” (73.2%). The lowest rating was for “Cares about the well-being of casino players” (59.2%). In addition, we computed the correlations of these statements with Positive Play subscales. As shown in Table 4.08, there were a number of significant positive correlations between the Positive Play subscales and attitudes towards the PlaySmart centre. The strongest correlation was for “provides support for those who need help or treatment”. Gambling Literacy was only significantly related to “support for those who need help or treatment” and otherwise unrelated to the perception questions. Interestingly, Gambling Literacy was not correlated with providing “useful information about gambling” $r = .06$. More promotion of the information resources available at the PlaySmart Centres is needed.

Table 4.07. Perception of OLG PlaySmart program efforts; Sample size and percentage of agreement.

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	N
Promotes smart play habits for casino gambling	82 9.4%	204 23.3%	429 49.0%	161 18.4%	876
Provides support for those who need help or treatment with a gambling problem	64 6.9%	136 14.7%	495 53.6%	229 24.8%	924
Provides players with useful tools to help keep gambling fun	74 8.9%	169 20.4%	455 54.8%	132 15.9%	830
Encourages the use of money budgets on gambling	102 12.3%	213 25.8%	366 44.3%	146 17.7%	827
Encourages players to take breaks from gambling	112 13.5%	217 26.2%	345 41.7%	153 18.5%	827
Provides ways to keep track of time while gambling	146 18.6%	202 25.7%	324 41.2%	115 14.6%	787
Promotes ways to help players gamble without gambling problems	81 9.6%	197 23.3%	435 51.5%	131 15.5%	844
Provides useful information about gambling	72 8.0%	162 18.1%	482 53.8%	180 20.1%	896
Cares about the well-being of casino players	147 15.4%	242 25.4%	434 45.5%	131 13.7%	954
Provides useful information for gambling at casinos (only in waves 3 and 4)	33 7.7%	82 19.1%	238 55.5%	76 17.7%	429

Note: Participants were asked “From what you know or may have heard, please indicate whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree.”

Table 4.08. Perception of OLG PlaySmart program efforts.

	N	PC	GL	HC	PR	Total
Promotes smart play habits for casino gambling	876	0.21***	0.06	0.20***	0.16***	0.19***
Provides support for those who need help or treatment with a gambling problem	924	0.24***	0.12***	0.21***	0.24***	0.25***
Provides players with useful tools to help keep gambling fun	830	0.23***	0.06	0.24***	0.19***	0.22***
Encourages the use of money budgets on gambling	827	0.17***	0.02	0.17***	0.13***	0.14***
Encourages players to take breaks from gambling	827	0.16***	-0.03	0.11**	0.08*	0.09**
Provides ways to keep track of time while gambling	787	0.15***	-0.06	0.14***	0.04	0.08*
Promotes ways to help players gamble without gambling problems	844	0.22***	0.05	0.20***	0.14***	0.18***
Provides useful information about gambling	896	0.20***	0.06	0.18***	0.18***	0.19***
Cares about the well-being of casino players	954	0.16***	-0.04	0.16***	0.11**	0.12***
Provides useful information for gambling at casinos (wave 3 & 4 only)	429	0.18***	0.04	0.22***	0.26***	0.21***

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05; ** < .01; *** < .001

The casino survey ended with a number of questions on satisfaction of the participants with their casino, staff training, and the availability of information at the casino. A majority of the participants (78.3%) reported being somewhat satisfied or very satisfied with their experience playing at casinos in Ontario. In addition, 83.5% reported being satisfied (total of 5, 6, 7 with 7 being completely satisfied) with the casino they typically go to, and 83.9% reported being likely to return to that casino (5, 6, 7 with 7 as definitely would return). Not surprisingly these three questions were all significantly correlated with attitudes towards OLG, $r = .58, p < .001$, $r = .44, p < .001$, and $r = .36, p < .001$, respectively. People who were satisfied with their experience playing in casinos in Ontario also scored higher on 3 of the 4 Positive Play scales (from $r = .14$ for Pre-Commitment to $r = .20$ for Honesty and Control). This was not significant for Gambling Literacy. The same pattern of correlations was true for the question about being satisfied with the specific location and their likelihood of returning to that casino, with the correlations ranging from $r = .08$ to $r = .18, p < .001$.

From Table 4.09, in terms of staff knowledge, nearly half of the participants (47.6%) agree that the information is readily available, and a slight majority (56%) state that they can understand the information. Furthermore, when asked if the “staff at the casino are trained and knowledgeable enough that you would ask them questions regarding concerns you have about gambling”, 66% of the participants said yes. There were only small correlations between these questions and Positive Play. Personal Responsibility had a $r = .07$, $p < .05$, correlation with being able to understand the information that is available, and Honesty and Control was positively correlated with feeling that the staff are “trained and knowledgeable”, $r = .08$, $p < .01$. Gambling Literacy was negatively correlated with being satisfied with the availability of information in the casino, $r = -.08$, $p < .01$, and negatively correlated with feeling the staff are “trained and knowledgeable”, $r = -.07$, $p < .01$. The findings for Gambling Literacy suggests that people with more literacy about gambling, are not as happy with staff knowledge, however these are very small correlations.

Table 4.09. Availability and understandability of information at the casino.
($N = 1299$)

	Information readily available at the casino	I understand the information and resources
Definitely do not agree	6.9%	5.7%
Disagree	8.2%	5.3%
Somewhat disagree	9.0%	8.2%
Neither agree nor disagree	28.3%	24.8%
Somewhat agree	19.9%	20.7%
Agree	13.5%	17.15
Definitely agree	14.2%	18.2%

Note: only the two ends of this scale were given labels in the survey, so we've filled them in for the table.

Table 4.10. Correlations of problem gambling behaviors and satisfaction with their casino and the availability of information.

	N	Win back losses	Felt Unhappy
Attitude towards OLG	1317	-0.07**	-0.18***
Thinking about the past 12 months, how satisfied are you, in general, with your experience playing at casinos in Ontario?	1317	-0.14***	-0.28***
Information about how games work is readily available	1299	0.003	-0.12***
I understand information and resources about gambling	1299	-0.031	-0.12***
Do you feel that staff at casinos are trained and knowledgeable enough that you would ask them questions regarding concerns you have about gambling?	1317	-0.036	-0.10***
How satisfied are you with your casino	1277	-0.062*	-0.20***
How likely would you be to return to your casino	1299	-0.09**	-0.16***

Note: * < .05; ** < .01; *** < .001

As noted earlier (see Table 4.01) the survey included two questions on problem gambling: gambling to win back losses and feeling unhappy after finishing gambling. As shown in Table 4.10, responses to these two questions were negatively correlated with satisfaction with the casino. However, it should be noted that these are weak correlations. Most of the people who reported being unhappy most of the time after gambling (57.7%) and nearly half (47.7%) of participants who reported always feeling unhappy after gambling, also reported being somewhat or very satisfied with their gambling experience. Nonetheless these correlations suggest OLG needs to put more effort into helping their customers avoid problem gambling so that their experience is more positive.

DISCUSSION FOR CASINO PLAYERS

The vast majority of casino players reported setting limits on their gambling. Overall, most of the items on setting limits were endorsed most or all of the time by a majority of the casino players. Most of those who did set limits also reported never or rarely exceeding them. On the rare occasions when they did exceed their limits, the majority did so to a small degree only. Also notable is the fact that the vast majority of casino players reported gambling for entertainment only, most or all of the time. These numbers suggest that most of the casino players engaged in responsible gambling practices and that most managed to stay in control of their gambling by successfully setting and sticking to their limits. With that said, more effort is still needed to encourage the use of breaks, use of play management tools, and use of time limits among casino players.

Those who played both slot machines and table games typically reported having very little knowledge about those games, with the majority reporting either not being knowledgeable or being only slightly knowledgeable. Table game only players tended to claim more knowledge about games than other types of players (e.g., EGM players). EGM only players appeared to have a more realistic view of their gambling however and adhered to Positive Play behaviours more than table game players.

Among casino players, Positive Play was strongly correlated with such responsible gambling behaviours as gambling for entertainment only and setting a budget. Not surprisingly, both problem gambling indicators (chasing losses and being unhappy after gambling) were negatively correlated with Positive Play. Use of play management tools was also negatively correlated with Positive Play, perhaps because the tools were used primarily by those experiencing gambling problems. Overall, these findings also provide additional validation of the Positive Play scales.

In terms of the resources that casino gamblers indicated they would turn to for information about how games work or odds of winning, Google and OLG.ca were most popular among players, followed by asking a friend. Gambling Literacy was negatively correlated with asking a friend however and positively correlated with the response “Don’t know”. Perhaps the effect with Gambling Literacy is that, while friends can be a good source of information on gambling, they can also be a source of misinformation. Very few people reported using PlaySmart Centres and some players reported not being able to find PlaySmart Centres where they gambled. The results certainly suggest that more effort needs to be put into promoting the use of PlaySmart Centres, PlaySmart.ca, and other non-OLG resources that provide helpful information (e.g., Wizard of Odds). Interestingly a number of people reported talking to trained staff about how the games work, suggesting perhaps that some people utilized the PlaySmart Centre without being aware that they were using it. It is clear the Casinos need to do a better job of promoting the PlaySmart Centres and improving recognition of their name.

People who scored higher on Positive Play were more likely to be familiar with supportive resources such as the self exclusion program, information on credit counselling, and the Ontario Problem Gambling Helpline. On the other hand, Positive Play was negatively correlated with information on how to pick the right game for player preference, and with the PlaySmart tool for keeping track of wins and losses. It is not clear why there were negative correlations for Positive Play variables and My PlaySmart and information on how to pick the right games. It could simply be that the negative correlation is an artefact of generally low levels of awareness of these resources. It is possible that people who had sought out the information were those who felt they did not have perfect knowledge of the games.

When participants were asked their opinion of the services offered by the PlaySmart Centre, the majority were supportive of positive statements made about PlaySmart Centres. Statements such as “provides support for those who need help or treatment with a gambling problem” and “provides useful information about gambling” were highly endorsed by the casino players. Positive attitudes toward PlaySmart Centres were also positively correlated with Positive Play. As mentioned earlier however, awareness about PlaySmart Centres remained quite low and thus more promotion about potentially useful information resources available at PlaySmart Centres is needed.

When asked if “staff at the casino are trained and knowledgeable enough that you would ask them questions regarding concerns you have about gambling”, nearly two-thirds of casino players said yes, suggesting some measure of confidence in the knowledge of casino staff. Gambling Literacy however had a very small negative correlation with player satisfaction with the availability of information at the casino, and with feeling that staff were trained and knowledgeable. The findings for Gambling Literacy suggest that people with more literacy about gambling may be less satisfied with staff knowledge and information available at the casinos.

Finally, the two problem gambling questions were negatively correlated with satisfaction with the casino. Although these were weak correlations, they do suggest that the casino could improve customer relationships by promoting Positive Play. Overall, these correlations suggest OLG could put more effort into helping their customers engage in Positive Play to avoid problem gambling, and to increase customer satisfaction.

Part 5: Online Gamers

The third group of participants were people who gamble mainly online. As shown in Table 5.01, the participants were surveyed about the frequency of their online gambling during the past 12 months (both at PlayOLG.ca and other sites) as well as the amount of money they spent per session. Results shown in Table 5.01 indicate that, on average, participants had gambled twice as often at other sites compared to the PlayOLG site (29.0 times vs 14.5 times) in the past year. The average frequency of gambling for all sites in the past year was computed by adding OLG and non-OLG together, for an average of 24.7 times. With regard to spending on gambling, online gamblers reported spending an average of \$113.10 per gambling session. Spending was skewed however with 80% of the sample reporting they spent less than \$100 in their last session.

Table 5.01. Frequency and money spent gambling online.

	N	Mean	SD
Times played PlayOLG in the past 12 months	182	14.5	35.8
Times played Other Sites in the past 12 months	175	29.0	95.3
Total frequency	312	24.7	76.5
\$ spent per session	312	\$113.10	\$242.71

Players were asked about the types of online gambling they engaged in during the year prior to being surveyed. As shown in Table 5.02 the most popular was purchasing lottery tickets online (39%), followed by playing slots for money (29%), and then placing sports bets (28%). The least popular identified forms of online gambling included playing bingo for money (7%), betting on horse racing (8%), and playing leisure games such as Keno and Spin Win for money (9%).

Table 5.02. Online gambling activities past 12 months (N =312).

Game played	Participation
Played poker online for real money	18%
Played bingo online for real money	7%
Played slots online for real money	29%
Played casino-style table games (e.g., blackjack, roulette, etc.).	19%
Placed a sports bet online	28%
Placed bets on horse racing online	8%
Purchased lotto draw tickets online	39%
Played scratch card style games online for real money	13%
Played leisure games (e.g., Keno, Spin Win, etc.)	9%
Other, please specify	3%
Don't Know	11%

As with other game types, the majority of the participants reported setting spending limits on gambling (76.3%). In addition, of those who did set a limit ($N = 238$), 64.7% rarely or never exceeded their budget and only 12.1% reported exceeding their limit most of the time or always. Of those who exceeded their limit ($N = 84$), 72.6% reported exceeding their limit by less than 25%, and only 11.0% reported exceeding their limit by more than 50% of their budget. Self-reported knowledge of online gambling was fairly evenly distributed across the 4 categories with 21.5% reporting not being knowledgeable, 27.9% being slightly knowledgeable, 32.7% being somewhat knowledgeable and 17.9% being very knowledgeable.

Setting a budget was positively correlated with Positive Play, $r = .205$, $p < .001$, and exceeding that budget was negatively correlated with Positive Play $r = -.239$, $p < .001$. There was no correlation between self-rated knowledge and Positive Play.

Table 5.03 presents a breakdown of the correlations of game participation, money spent on gambling and frequency of play for each of the gambling activities surveyed. With regard to money spent, the only significant correlation found with a particular form of gambling was for online sports betting, $r = .112$, $p < .05$. Several significant positive correlations between particular games and the frequency of play were found. Placing bets on horse racing online, $r = .306$, $p < .001$, placing sports bet online, $r = .223$, $p < .001$, and playing poker online for real money, $r = .125$, $p < .05$, were all significantly correlated with the frequency of play.

Positive Play was not correlated with the frequency of gambling online, nor was it related to the money spent gambling online. With the exception of online purchases of lottery draw tickets, Positive Play was not correlated with most of the games, $r = .167$, $p < .001$. This finding is consistent with the overall finding that Positive Play is higher among lottery players.

Table 5.03. Correlations of games played with money spent and gambling frequency. ($N = 312$).

Correlations	\$ Spent	Frequency of Play
Played poker online for real money	-.003	.125*
Played bingo online for real money	.095	.000
Played slots online for real money	.09	-.007
Played casino-style table games (e.g., blackjack, roulette)	.085	.043
Placed a sports bet online	.112*	.223***
Placed bets on horse racing online	.089	.306***
Purchased lotto draw tickets online	.068	.073
Played scratch card style games online for real money	.005	.046
Played leisure games (such as Keno, Spin Win, etc.)	.026	.014
Other	.005	-.026
Don't Know	-.141*	-.133*

Note: * $< .05$; ** $< .01$; *** $< .001$

As shown in Table 5.04, the survey included a number of questions on responsible gambling which were categorized as noted below Table 5.04. These items were scored on a 4-point scale from Never to All the time. The results shown in Table 5.04 suggest that problem gambling indicators were not greatly endorsed among online players. With regard to problem gambling behaviours among online gamblers, a good percentage of players reported never/rarely engaging in them. 69.6% reported never/rarely gambling to win back losses, 54.8% reported never/rarely gambling to make money, and 44.2% reported never/rarely feeling unhappy after gambling online. Similarly, most online gamblers appeared to view the activity primarily as a form of entertainment, with only a small percentage (14.7%) reporting never/rarely gambling for entertainment only. With the exception of budget setting as a means to limit one's gambling, which was widely reported among online gamblers (71.8% reporting most or all of the time), other limit-setting behaviours did not appear to be nearly as popular. The reported use of other limit-setting strategies most or all of the time was typically on the order of only about 1/3, with the least popular strategy being setting breaks on online accounts, which 61.5% reported never/rarely utilizing. There were no items on erroneous beliefs about online gambling.

As shown in Table 5.05, there were a number of correlations between Positive Play and the problem and responsible gambling behaviours. Positive Play was negatively correlated with problem gambling indicators, with significant correlations found for gambling to win back losses, $r = -.42$, $p < .001$, feeling unhappy after gambling online, $r = -.26$, $p < .001$, and gambling online to make money, $r = -.18$, $p < .01$. Positive Play was positively correlated with several responsible gambling behaviours. For instance, significant positive correlations were found for gambling online for entertainment only, $r = .32$, $p < .001$, with setting a budget for online gambling, $r = .41$, $p < .001$, and with knowledge regarding online gambling such as the odds of winning and payout percentages for preferred games, $r = .24$, $p < .001$. The use of play management tools was not related to Positive Play.

Table 5.06 examines where online gamblers seek information about gambling. By far, the most popular resource for information regarding online gambling was Google (54%), followed by OLG.ca (29%), and then PlayOLG.ca (24%). Interestingly, non-OLG online gambling information websites (e.g., Wizard of Odds) were not all that popular with just 8% of online gamblers indicating their use.

Table 5.04. Problematic and responsible gambling behaviours in past 12 months (*N* =312).

		Rarely/ Never	Some of the time	Most of the time	All the time
PG	Gambled online to win back losses	217 69.6%	72 23.1%	17 5.4%	6 1.9%
CB	Gambled online less often	93 29.8%	105 33.7%	66 21.2%	48 15.4%
PG	Felt unhappy after you have finished gambling online	138 44.2%	122 39.1%	40 12.8%	12 3.8%
PG	Gambled online to make money	171 54.8%	92 29.5%	31 9.9%	18 5.8%
LM	Decided to stop playing sooner than you expected because you won more than you thought you would win	112 35.9%	97 31.1%	62 19.9%	41 13.1%
LM	Set a time limit for how long you gamble online	126 40.4%	78 25.0%	48 15.4%	60 19.2%
LM	Set a budget for how much money you spend gambling online	46 14.7%	42 13.5%	77 24.7%	147 47.1%
LM	Set a break on your online account to prevent you from playing online for a desired period of time	192 61.5%	47 15.1%	38 12.2%	35 11.2%
LM	Use play management tools, like deposit limits or spend limits, to help keep track of or control my gambling	144 46.2%	63 20.2%	39 12.5%	66 21.2%
CB	Made smaller bets or played less expensive games to play longer	68 21.8%	89 28.5%	82 26.3%	73 23.4%
KN	Was aware of the odds of winning my online games	55 17.6%	69 22.1%	92 29.5%	96 30.8%
KN	Was aware of the payout percentage of my online games	65 20.8%	76 24.4%	83 26.6%	88 28.2%
RA	Gambled online for entertainment only	46 14.7%	70 22.4%	94 30.1%	102 32.7%

Note: PG = problem gambling; CB = cutting back; LM = setting limits; RA = responsible attitudes; KN =knowledge of the games.

Table 5.05. Correlations of Positive Play with problematic and responsible gambling behaviour (*N* = 312).

		PC	GL	HC	PR	Total
PG	Gambled online to win back losses	-0.36***	-0.28***	-0.33***	-0.36***	-0.42***
CB	Gambled online less often	0.12*	0.17**	0.04	0.14*	0.15**
PG	Felt unhappy after you have finished gambling online	-0.25***	-0.08	-0.30***	-0.20***	-0.26***
PG	Gambled online to make money	-0.17**	-0.08	-0.19**	-0.10	-0.18**
LM	Decided to stop playing sooner than you expected because you won more than you thought you would win	0.09	0.09	0.09	0.10	0.12*
LM	Set a time limit for how long you gamble online	0.23***	-0.01	0.17**	0.07	0.15**
LM	Set a budget for how much money you spend gambling online	0.40***	0.25***	0.29***	0.34***	0.41***
LM	Set a break on your online account to prevent you from playing online for a desired period of time	0.06	-0.21***	0.04	-0.08	-0.06
LM	Use play management tools, like deposit limits or spend limits, to help keep track of or control my gambling	0.10	-0.06	0.06	0.05	0.04
CB	Made smaller bets or played less expensive games to play longer	0.17**	0.04	0.13*	0.15**	0.16**
KN	Was aware of the odds of winning my online games	0.24***	0.12*	0.21***	0.20***	0.24***
KN	Was aware of the payout percentage of my online games	0.28***	0.07	0.20***	0.20**	0.24***
RA	Gambled online for entertainment only	0.34***	0.16**	0.29***	0.22***	0.32***

Note: PG = problem gambling; CB = cutting back; LM = setting limits; RA = responsible attitudes; KN = knowledge of the games; PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05; ** < .01; *** < .001.

Table 5.06. Resources people use for information about online gambling (*N* =312).

Resource	
I search Google	54%
I search YouTube	13%
PlaySmart.ca	15%
OLG.ca	29%
PlayOLG.ca	24%
A non-OLG online gambling information website (e.g., Wizard of Odds)	8%
Ask a friend	14%
Other	4%
Don't know	9%

As shown in Table 5.07, participants were asked if they were aware of various resources available to them. Overall, awareness ranged from 51% for information and resources for addiction support services, to 29% for awareness of information on how to pick the right game for their preference. Reported use of these resources ranged from a low of 3.9% (the self-exclusion program) to a high of 35.2% (PlayOLG.ca tools that enable setting spending limits on the play). When people were aware of a resource available to them, the majority (ranging from 52.2% to 86.6%) reported having no need or interest in using it. Resources to assist with gambling-related problems for instance (e.g., Problem Gambling Helpline, Self-exclusion program, & addiction support services) were relatively well known to online players but the majority of players (around 86%) reported having no need for them. Very few online players reported wanting to utilize supportive resources and being unable to find them. This suggests that online players knew where to turn for help but had few concerns about their potential to develop problematic gambling.

Table 5.07. Awareness and use of OLG resources or programs (*N* =312).

	Awareness of resource		Use of Resources by those who were aware of the resource.			
	Mean	N	Have used it	Could not find	No need /interest	Don't know
The Self Exclusion program	49%	153	6 3.9%	2 1.3%	132 86.3%	13 8.5%
PlayOLG.ca tools to help you understand your play style, like My Self-Check or My Risk Profile	30%	94	17 18.1%	8 8.5%	54 57.4%	15 16.0%
PlayOLG.ca tools to enable taking breaks from playing on PlayOLG.ca account from one day up to three months at a time	36%	112	14 12.5%	10 8.9%	81 72.3%	7 6.3%
Information about how games work and how to play various games on PlayOLG.ca	50%	157	53 33.8%	10 6.4%	82 52.2%	12 7.6%
Information on resources about addiction support services or debt and credit counselling	51%	160	13 8.1%	6 3.8%	138 86.3%	3 1.9%
The Ontario Problem Gambling Helpline/Connex Ontario	43%	134	7 5.2%	4 3.0%	116 86.6%	7 5.2%
Tips or Information on using budgets or limits to help manage your gambling	46%	145	21 14.5%	7 4.8%	100 69.0%	17 11.7%
PlaySmart.ca, a website that hosts facts, tools and advice and explains how OLG online games work	45%	139	30 21.6%	9 6.5%	89 64.0%	11 7.9%
Information on how to pick the right game for your preferred play experience	29%	92	18 19.6%	8 8.7%	57 62.0%	9 9.8%
Encouragements to take breaks while gambling	46%	142	21 14.8%	6 4.2%	102 71.8%	13 9.2%
PlayOLG.ca tools that enable setting spending limits on your play	46%	71	25 35.2%	2 2.8%	41 57.7%	3 4.2%

The awareness of these resources over the 4 waves of the study are shown in Table 5.08. There was no significant wave effect based on a chi-square, however, there was one small linear correlation. Overall, it appears that awareness of these resources decreased over time. The only significant correlation was a negative correlation of wave with awareness of PlayOLG.ca.

Table 5.08. Percentage of awareness of resources by survey wave to test for changes over time.

	Wave 1	Wave 2	Wave 3	Wave 4
The Self Exclusion program	56.0%	44.6%	43.0%	51.8%
PlayOLG.ca tools to enable taking breaks from playing on PlayOLG.ca account from one day up to three months at a time	38.0%	30.4%	27.0%	21.4% *
Information about how games work and how to play various games on PlayOLG.ca	41.0%	37.5%	31.0%	33.9%
Information on resources about addiction support services or debt and credit counselling	56.0%	51.8%	44.0%	50.0%
The Ontario Problem Gambling Helpline/Connex Ontario	57.0%	42.9%	51.0%	50.0%
Tips or Information on using budgets or limits to help manage your gambling	46.0%	42.9%	40.0%	42.9%
PlaySmart.ca, a website that hosts facts, tools and advice and explains how OLG online games works	52.0%	37.5%	45.0%	48.2%
Information on how to pick the right game for your preferred play experience	34.0%	32.1%	26.0%	25.0%
Encouragements to take breaks while gambling.	49.0%	46.4%	44.0%	41.1%
PlayOLG.ca tools that enable setting spending limits on your play			40.0%	55.4%

Note: * < .05. The last question was only included in Waves 3 and 4.

As seen in Table 5.09, some positive correlations were found between Positive Play and resource awareness. Awareness about information and resources related to setting limits was significantly positively correlated with Positive Play in most cases. For instance, awareness of PlayOLG.ca spending limit tools, $r = .25$, $p < .01$, of tips on using budgets, $r = .16$, $p < .01$, and of encouragements to take breaks while gambling, $r = .11$, $p < .05$, was significantly correlated with Positive Play. Awareness of resources aimed at assisting those with problematic gambling was significantly positively correlated with Positive Play in all cases. For example, awareness of the self-exclusion program, $r = .17$, $p < .01$, of the Ontario Problem Gambling Helpline/Connex Ontario, $r = .13$, $p < .05$, and of addiction support services, $r = .12$, $p < .05$, was significantly positively correlated with Positive Play. In general, the online player awareness about resources aimed at either preventing or treating problematic gambling was positively correlated with Positive Play behaviours.

Table 5.09. Correlations between Positive Play and resource awareness among online players (*N* =312).

	PC	GL	HC	PR	Total
The Self Exclusion program	0.13*	0.17**	0.08	0.18**	0.17**
PlayOLG.ca tools to help you understand your play style, like My Self-Check or My Risk Profile	0.04	-0.10	0.03	0.03	0.00
PlayOLG.ca tools to enable taking breaks from playing on PlayOLG.ca account from one day up to three months at a time	0.00	-0.01	0.01	0.04	0.01
Information about how games work and how to play various games on PlayOLG.ca	0.08	0.08	0.05	0.13*	0.11
Information on resources about addiction support services or debt and credit counselling	0.10	0.11*	0.03	0.14*	0.12*
The Ontario Problem Gambling Helpline/Connex Ontario	0.11	0.18**	0.04	0.07	0.13*
Tips or Information on using budgets or limits to help manage your gambling	0.14*	0.10	0.12*	0.14*	0.16**
PlaySmart.ca, a website that hosts facts, tools and advice and explains how OLG online games works	0.10	0.05	0.10	0.09	0.11
Information on how to pick the right game for your preferred play experience	-0.04	-0.16**	-0.05	-0.02	-0.09
Encouragements to take breaks while gambling	0.13*	0.03	0.11	0.09	0.11*
PlayOLG.ca tools that enable setting spending limits on your play	0.15	0.25**	0.16*	0.22**	0.25**
Total Awareness	.13***	.09	.09	.15**	.14*

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05; ** < .01; *** < .001.

Agreement with statements regarding OLG's responsible gambling practices is given in Table 5.10. Participants were asked their opinion of the services offered by the OLG PlaySmart program. Overall, and without exception, far more people agreed (somewhat/strongly agree) than disagreed (somewhat/strongly disagree) with positive statements regarding the efforts and intentions of the OLG PlaySmart program. In terms of agreeing vs disagreeing with particular statements, the largest difference was seen for "Provides useful information about online gambling" (60% agreeing vs 15% disagreeing) while the smallest difference was shown for "Cares for the well-being of online players" (48.1% agreeing vs 22.1% disagreeing). Interestingly, a sizable percentage of online gambling survey participants (23.4% to 31.7%) responded "Don't know" to statements regarding the OLG PlaySmart program, suggesting that many online players were either unaware or ambivalent about the program's efforts and intentions. Overall, online players had a positive attitude towards OLG's responsible gambling efforts.

Table 5.10. Perception of OLG PlaySmart program efforts (*N* =312).

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Don't know
Promotes smart play habits for online gambling	10 3.2%	39 12.5%	123 39.4%	63 20.2%	77 24.4%
Provides support for those who need help or treatment with a gambling problem	7 2.2%	34 10.9%	129 41.3%	57 18.3%	85 27.2%
Provides players with useful tools to help keep online gambling fun	8 2.6%	41 13.1%	132 42.3%	50 16.0%	81 26.0%
Encourages the use of money budgets for online gambling	9 2.9%	40 12.8%	120 38.5%	49 15.7%	94 30.1%
Encourages players to take breaks while gambling online	8 2.6%	38 12.2%	120 38.5%	47 15.1%	99 31.7%
Provides ways to keep track of time while gambling online	10 3.2%	36 11.5%	109 34.9%	58 18.6%	99 31.7%
Promotes ways to help players gamble online without gambling problems	13 4.2%	38 12.2%	125 40.1%	42 13.5%	94 30.1%
Provides useful information about online gambling	9 2.9%	37 11.9%	128 41.0%	65 20.8%	73 23.4%
Cares for the well-being of online players	16 5.1%	53 17.0%	107 34.3%	43 13.8%	93 29.8%
Provides useful information for online gambling	5 3.2%	18 11.5%	61 39.1%	32 20.5%	40 25.6%

As shown in Table 5.11, there were a number of significant correlations between the perception of the OLG PlaySmart program, and the Positive Play statements. The strongest correlations were for being encouraged to take breaks, $r = .28$, $p < .001$, support for those who need help $r = .26$, $p < .001$, and providing ways to keep track of time while gambling, $r = .26$, $p < .001$. The weakest correlations were for Gambling Literacy which revealed no significant correlations.

Table 5.11. Correlation of Positive Play with perception of OLG PlaySmart program efforts ($N = 312$).

	N	PC	GL	HC	PR	Total
Promotes smart play habits for online gambling	235	0.27***	0.06	0.26***	0.21***	0.25***
Provides support for those who need help or treatment with a gambling problem	227	0.27***	0.12	0.22***	0.23***	0.26***
Provides players with useful tools to help keep online gambling fun	231	0.24***	0.05	0.22***	0.24***	0.23***
Encourages the use of money budgets for online gambling	218	0.28***	0.05	0.25***	0.24***	0.25***
Encourages players to take breaks while gambling online	213	0.32***	0.02	0.34***	0.22***	0.28***
Provides ways to keep track of time while gambling online	213	0.21**	0.14	0.25***	0.24***	0.26***
Promotes ways to help players gamble online without gambling problems	218	0.20**	0.00	0.23***	0.17*	0.19**
Provides useful information about online gambling	239	0.23***	0.07	0.22***	0.23***	0.23***
Cares for the well-being of online players	219	0.23***	0.03	0.20**	0.15*	0.19**
Provides useful information for online gambling	156	.26**	0.03	.23*	.22*	.22*

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05; ** < .01; *** < .001.

Table 5.12 presents a summary of participants opinion on the availability of information and resources at PlayOLG. Regarding whether information about how games work was readily available at PlayOLG.ca, a much larger percentage of surveyed players were in general agreement vs disagreement (63.2% vs 6.6%). Similarly, with respect to online player opinions about whether they understood the available information and resources, a substantially higher percentage of participants indicated agreement (69.8%) vs disagreement (7.1%).

Table 5.12. Availability and understandability of information at PlayOLG.ca (*N* =182).

	Information about how games work is readily available on PlayOLG.ca	I understand information and resources about gambling that I see on PlayOLG.ca
	Percent	Percent
Definitely do not agree	1.1%	1.1%
Disagree	2.2%	1.1%
Somewhat disagree	3.3%	4.9%
Neither agree or disagree	30.2%	23.1%
Somewhat agree	26.4%	29.7%
Agree	16.5%	19.8%
Definitely agree	20.3%	20.3%

Table 5.13. Correlations of problem gambling behaviours and satisfaction with PlayOLG.ca and the availability of information.

	Problems		Positive Play				
	Win back losses	Felt unhappy	PC	GL	HC	PR	Total
OLG attitude (n =312)	-0.14*	-0.12*	0.16**	0.07	0.09	0.14	0.14*
Satisfied with your experience on PlayOLG.ca? (n =182)	-0.23**	-0.17*	0.27***	0.13	0.32***	0.29***	0.31***
Information about how games work is readily available (n =182)	-0.19**	-0.15	0.17*	0.21**	0.20**	0.14	0.22**
Understand information and resources on PlayOLG.ca (n =182)	-0.17*	-0.05	0.19*	0.17*	0.24***	0.16*	0.24***

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05; ** < .01; *** < .001.

As noted previously, two items that measure problem gambling were included in all four of the cell surveys. Table 5.13 provides the correlations of these two items with various measures of customer satisfaction with OLG, including satisfaction with PlayOLG.ca, with the online playing experience, and the availability and understandability of information at PlayOLG.ca. These questions were then correlated with problem gambling indicators such as playing to win back losses and feeling unhappy after playing. As shown in Table 5.13, significant negative correlations were found between the problem gambling indicators and positive attitudes toward the OLG, as well as with general

satisfaction with the PlayOLG.ca online experience. Availability and understandability of PlayOLG.ca resources were both significantly negatively correlated with gambling online to win back losses but were not significantly correlated with feeling unhappy after gambling online. These findings suggest that people who are satisfied with OLG are less likely to engage in these two particular problematic behaviours. On the other hand, attitudes towards OLG, and satisfaction were positively correlated with the various Positive Play scales. As shown in Table 5.13, people who score higher on the Positive Play also had more positive attitudes towards OLG, were satisfied with their gambling experience, reported that information was readily available and that they were able to understand the information.

DISCUSSION FOR ONLINE GAMING

The results indicate that most of the participants gamble on average about twice a month, and most spend less than \$100 per session on gambling. The most common online gambling activity was lottery draw tickets, followed by sports, slot machines, and poker. Higher levels of spending were positively correlated with betting on horses, sports betting, and poker. The majority of respondents report setting a limit and of those who set a limit, most keep to that limit. Positive Play was positively correlated with setting a limit and negatively correlated with exceeding that limit. Like lottery and casino games, setting limits was related to higher scores on Positive Play and exceeding those limits was related to lower scores on the Positive Play. Unlike the results with casino and lottery play, where self-reported knowledge was not associated with Positive Play, self-reported knowledge of online gambling was positively correlated with Positive Play. This is an interesting contrast with casino and charity gambling where knowledge is negatively correlated with Positive Play.

As with the lottery and casino players, the Positive Play was negatively associated with the three items related to problem gambling (trying to win back losses, feeling unhappy after gambling, and playing to make money), however, items related to setting limits and knowledge were generally positively associated with Positive Play. One of the setting limits items though, taking a break, was negatively correlated with Gambling Literacy. This is perhaps similar to the results with management tools with the lottery players where only people who had problems needed to take a break. More research is needed on this particular item.

Awareness of resources for help ranged from 29% to 51%, however among those who were aware, only a minority had utilized the resource. A small number had not been able to find the resource, but most simply did not feel they were in any need of the resources. This suggests that online players knew where to turn for help but had few concerns about their potential to develop problematic gambling.

Overall, it appears that, awareness of these resources decreased over time, however this reached significance only with one item, awareness that PlayOLG enables taking breaks. Nonetheless, this contrasts with lottery data which revealed increases over time. There were some positive correlations found between Positive Play and resource awareness. Awareness about information and resources related to setting limits for instance (e.g., PlayOLG.ca spending limit tools, tips on using budgets, and encouragements to take breaks) was significantly positively correlated with Positive Play in most

cases. Similarly, awareness of resources aimed at assisting those with problematic gambling (e.g., self-exclusion program, Ontario Problem Gambling Helpline/Connex Ontario, and addiction support services) was also significantly positively correlated with Positive Play. In general, online player awareness about resources aimed at either preventing or treating problematic gambling was significantly positively correlated with Positive Play behaviours.

We then turned our attention to the perception of OLG PlaySmart program efforts. Far more people agreed (somewhat/strongly agree) than disagreed (somewhat/strongly disagree) with positive statements regarding the efforts and intentions of the OLG PlaySmart program. In addition, Positive Play was correlated with every single one of the PlaySmart program efforts. The largest correlations were with statements regarding the OLG providing useful information for online gamblers, and OLG providing support for people who need help or treatment.

The survey section ended with a number of questions on satisfaction of participants with OLG, the venue, and the information available. The majority of the participants agreed that OLG provides information on how the games work and that they are able to understand the information. These results suggest then that PlayOLG.ca resources were found to be both readily available and easily understood by the online players. A positive attitude towards OLG was negatively correlated with the problematic items of winning back losses and feeling unhappy after gambling. This suggests that problem gambling is associated with a less positive attitude towards OLG, and the online venues people play in. On the other hand, Positive Play was positively correlated with a positive attitude towards OLG, being satisfied with one's venue, feeling that information was readily available and being able to understand the information. Overall, it would appear that Positive Play attitudes are associated with a positive attitude towards OLG and their specific online gambling venue.

Part 6: Charitable Gaming and Bingo

The final cell to examine was charity gambling. There are over 70 bingo gaming centres in the province. The majority of the participants (76.0%) reported playing at bingo halls less than once a month, with 15.6% reported playing every week or more often. According to the participants they had spent on average \$209 ($SD = 1296$) on their last visit. This distribution was highly skewed however and 80% of the participants reported spending \$100 or less on their last visit. These venues mostly focus on bingo but in recent years have incorporated a number of type 2 gaming machines called TapTix which are essentially like slot machines but do not include a random number generator. Instead, the random numbers are provided by cards inside the machine such that the machines are classed as automated instant lotteries. Of the participants in the survey, 16.7% reported playing on the TapTix machines, 34.6% reported seeing them, but not playing them, and the rest either did not know of them or had not seen them. It should be noted that not all bingo venues include TapTix machines. When asked if they set a limit, the majority (82%) said they set a limit. Furthermore, of those who set a limit ($n = 152$), 55.8% report never or rarely exceeding the limit, 27.5% report sometimes exceeding that limit, 13.7% report exceeding that limit most of the time, and 4.0% report always exceeding that limit. For those who report exceeding that limit ($n = 111$), 55.9% reported exceeding that limit by less than 25%, 28.8% reported exceeding that limit by 26% to 50%, 1.4% reported exceeding it by 50% to 100%, and only one person (0.9%) reported exceeding it by more than 100%.

When asked how knowledgeable they were about the games, 16.3% said they were not knowledgeable at all, 34.0% said they were slightly knowledgeable, 35.6% said they were somewhat knowledgeable and 15.0% said they were very knowledgeable. Self-rated knowledge however was negatively correlated with Gambling Literacy, $r = -.119, p < .05$, Personal Responsibility, $r = -.172, p < .01$, and the total score of Positive Play, $r = .144, p < .05$. Positive Play was also negatively correlated with gambling frequency, $r = -.317, p < .001$, and money spent, $r = -.190, p < .01$. In addition, people who play TapTix tend to score lower on Positive Play, $r = -.214, p < .001$. Finally, people who reported setting a limit on their gambling scored higher on Positive Play, $r = .143, p < .05$, and of those who set a limit, there was a strong negative correlation between exceeding that limit and Positive Play, $r = -.490, p < .001$, and of those who exceed it, a negative correlation of the amount they exceed it by and Positive Play, $r = -.259, p < .01$.

TapTix players also reported spending more on gambling, $r = .186, p < .01$, gambling more often, $r = .345, p < .001$, exceeding their limit, $r = .137, p < .05$, and having more self-reported knowledge about gambling, $r = .274, p < .001$.

Table 6.01 presents the endorsement frequencies of responsible gambling behaviours. As with other cells, the three items that measure problem gambling behaviours were most often not endorsed. There was one item that was related to erroneous beliefs (lucky charms) that was also rarely endorsed. In addition, one of the limits items, the use of play management tools, was rarely endorsed. The most often endorsed items were setting a budget and gambling for entertainment where more than 50% of the participants reported doing it all the time. The correlations for the three PG items and the EB item were significantly negative (r s from $-.40$ to $-.61$) indicating that people who score high on Positive Play do not engage in these behaviours. In addition, the use of play management tools was negatively

related to Positive Play The two strongest positive correlations with Positive Play were for setting a budget, $r = .46$, $p < .001$, and gambling for entertainment only, $r = .50$, $p < .001$.

Table 6.01. Problematic and responsible gambling behaviours in past 12 months ($N = 306$).

		Rarely/ Never	Some of the time	Most of the time	All the time
PG	Gambled to win back losses	189 61.8%	81 26.5%	27 8.8%	9 2.9%
CB	Gambled less often	76 24.8%	135 44.1%	59 19.3%	36 11.8%
PG	Felt unhappy after you finished gambling	113 36.9%	141 46.1%	40 13.1%	12 3.9%
PG	Gambled to make money	178 58.2%	72 23.5%	37 12.1%	19 6.2%
LM	Decided to stop playing sooner than you expected because you won more than you thought you would win	82 26.8%	116 37.9%	78 25.5%	30 9.8%
EB	Used lucky charms or rituals that would help you win	192 62.7%	73 23.9%	29 9.5%	12 3.9%
LM	Set a time limit for how long you gamble	58 19.0%	70 22.9%	95 31.0%	83 27.1%
LM	Set a budget for how much money you would spend gambling	22 7.2%	41 13.4%	81 26.5%	162 52.9%
LM	Took breaks from gambling to prevent you from playing more than a desired period of time	58 19.0%	93 30.4%	81 26.5%	74 24.2%
LM	Use play management tools, like deposit limits or spend limits, to help keep track of or control my gambling	197 64.4%	51 16.7%	40 13.1%	18 5.9%
KN	Was aware of the odds of winning my games	47 15.4%	99 32.4%	86 28.1%	74 24.2%
KN	Was aware of the payout percentage of my games	61 19.9%	88 28.8%	90 29.4%	67 21.9%
RA	Gambled for entertainment only	10 3.3%	45 14.7%	98 32.0%	153 50.0%

Note: PG = problem gambling; CB = cutting back; LM = setting limits; RA = responsible attitudes; KN = knowledge of the games

Table 6.02. Correlations of Positive Play with problematic and responsible gambling behavior ($N = 306$).

		PC	GL	HC	PR	Total
PG	Gambled to win back losses	-.46***	-.50***	-.50***	-.56***	-.61***
CB	Gambled less often	-.10	.03	-.08	-.11	-.07
PG	Felt unhappy after you have finished gambling	-.32***	-.29***	-.39***	-.35***	-.41***
PG	Gambled to make money	-.39***	-.40***	-.38***	-.35***	-.46***
LM	Decided to stop playing sooner than you expected because you won more than you thought you would win	.01	-.01	.00	-.01	-.00
EB	Used lucky charms or rituals that would help you win	-.39***	-.42***	-.40***	-.46***	-.50***
LM	Set a time limit for how long you gamble	.23***	.13*	.12*	.20**	.20***
LM	Set a budget for how much money you spend gambling	.41***	.36***	.34***	.41***	.46***
LM	Took a break to prevent you from playing more than a desired period of time	.12*	.07	.10	.13*	.12*
LM	Use play management tools, like deposit limits or spend limits, to help keep track of or control my gambling	-.20***	-.31***	-.21***	-.29***	-.31***
KN	Was aware of the odds of winning my games	.14*	.06	.04	.07	.09
KN	Was aware of the payout percentage of my games	.10*	-.05	.03	.01	.02
RA	Gambled for entertainment only	.42***	.39***	.40***	.44***	.50***

Note: PG = problem gambling; CB = cutting back; LM = setting limits; RA = responsible attitudes; KN = knowledge of the games; * < .05; ** < .01; *** < .001

In terms of utilizing public resources for information, the most frequently endorsed item was for searching the web and the OLG.ca website (see Table 6.03). There were only two small correlations between Positive Play and the source of information on charity gaming. In particular, people who searched the web for information scored higher on Positive Play, $r = .129$, $p < .05$, and people who asked a friend scored marginally lower on the Positive Play, $r = .112$, $p = .05$.

Table 6.03. Resources people use for information about Charity Gaming (N =306).

		Total Positive Play
I search on the Web	45.0%	0.129*
PlaySmart.ca	29.0%	0.027
OLG.ca	45.0%	0.062
Staff at Charitable Bingo and Gaming Centres	25.0%	0.06
PlaySmart Centre Kiosk information site (e.g., Wizard of Odds)	16.0%	0.024
Ask a friend	18.0%	-0.112*
Other	3.0%	0.008
Don't know	11.0%	0.008

* < .05; + = .05

Table 6.04 shows how often people reported being aware of various resources for information about gambling at charity venues in Ontario. On average, around 50% of the participants reported being aware of these resources. The greatest awareness was for addiction support services, the Ontario problem Gambling Helpline, and the PlaySmart.ca website (57%-59%). The lowest level of awareness was for information on how to pick the right game for oneself (34%). Of those who were aware of these resources, only a small number reported using the resource, with the highest use for information about how the games work (27.3%). Only 4.9% of the participants who were aware of self-exclusion reported using it. It is notable that between 5% and 17% of the respondents reported not being able to find the resources.

Table 6.04. Awareness and use of OLG resources or programs (*N* =306).

Resource	Awareness of resource	Use of Resources by those who were aware of the resource				
		Heard about it	N	I have used it	Could not find ¹	No need /interest ² Don't know
PlaySmart Centre Kiosks	49%	151	23	20	102	6
			15.2%	13.2%	67.5%	4.0%
The Self-Exclusion Program	53%	162	8	14	133	7
			4.9%	8.6%	82.1%	4.3%
Trained staff at Charitable Bingo and Gaming Centres / on gambling problems	42%	130	11	13	94	12
			8.5%	10.0%	72.3%	9.2%
Trained staff at Charitable Bingo and Gaming Centres / on how games work.	47%	145	32	16	92	5
			22.1%	11.0%	63.4%	3.4%
Information about how games work	50%	154	42	17	89	6
			27.3%	11.0%	57.8%	3.9%
Information on addiction support / credit counselling resources	59%	182	10	10	148	14
			5.5%	5.5%	81.3%	7.7%
Information on how to pick the right game for your preference	34%	105	17	18	61	9
			16.2%	17.1%	58.1%	8.6%
The Ontario Problem Gambling Helpline/ Connex Ontario	57%	175	7	9	143	16
			4.0%	5.1%	81.7%	9.1%
Tips or information on using budgets or limits	47%	145	16	15	104	10
			11.0%	10.3%	71.7%	6.9%
PlaySmart.ca, a website that hosts facts, tools and advice	58%	176	32	11	126	7
			18.2%	6.3%	71.6%	4.0%
Encouragements to take breaks while gambling	50%	154	49	10	91	4
			31.8%	6.5%	59.1%	2.6%

Note

1 full text: "I wanted to use but could not find or access it"

2. full text: "I was aware of it but had no need or interest in it"

Table 6.05. Percentage of awareness of resources by survey wave to test for changes over time.

	Wave 1	Wave 2	Wave 3	Wave 4	
PlaySmart Centre Kiosks	50.0%	56.6%	47.0%	45.3%	
The Self-Exclusion Program	60.0%	58.5%	45.0%	49.1%	*
Trained staff /on gambling concerns	48.0%	52.8%	36.0%	34.0%	*
Trained staff / on how games work.	51.0%	50.9%	42.0%	47.2%	
Information on how games work	56.0%	52.8%	48.0%	41.5%	
Information on resources about addiction	61.0%	66.0%	53.0%	62.3%	
Information on picking the right game	34.0%	32.10%	39.0%	28.3%	
The Ontario Problem Gambling Helpline	53.0%	62.30%	61.0%	52.8%	
Tips on budgets or limits	46.0%	58.50%	43.0%	47.2%	
PlaySmart.ca	56.0%	54.70%	67.0%	45.3%	
Encouragements to take breaks	59.0%	45.30%	49.0%	41.5%	*

Note: The data was collected in four repeated cross sectional surveys or waves; Significance was tested using correlations between wave and awareness to test for linear changes. ; * < .05.

Next, we examined the awareness of these resources across the waves of the study (see Table 6.05). The chi-square of these resources and wave was not significant, but there were three small linear correlations between wave and awareness. Awareness appears to have decreased over time from wave 1 to wave 4 and this reached significance for the self-exclusion program, staff trained on dealing with problems, and encouragement to take breaks.

There were only a few small correlations between Positive Play variables and resource (see Table 6.06). Ironically awareness of information on picking the right game was negatively correlated with Gambling Literacy. There were also some negative correlations between the total Positive Play score and awareness of PlaySmart centre, trained staff, and information on the right games, but these were very small correlations.

Table 6.06. Correlations between Positive Play and resource awareness among charitable gaming players (N =306).

	PC	GL	HC	PR	Total
PlaySmart Centre Kiosks	-.079	-.135*	-.047	-.125*	-.117*
The Self-Exclusion Program	-.037	-.046	-.044	-.065	-.057
Trained staff /on gambling concerns	-.088	-.11	-.061	-.114	-.112*
Trained staff / on how games work.	-.06	-.065	-.003	-.043	-.053
Information on how games work	-.012	-.111	.011	-.007	-.04
Information on resources about addiction	.096	.103	.123*	.072	.121
Information on picking the right game	-.041	-.247**	-.016	-.145*	-.14*
The Ontario Problem Gambling Helpline	-.014	-.041	-.023	.009	-.023
Tips on budgets or limits	.082	-.012	.056	.000	.038
PlaySmart.ca	-.048	-.043	-.031	-.03	-.047
Encouragements to take breaks	-.004	-.05	-.013	-.029	-.03
Total awareness	-.029	-.107	-.006	-.067	-.065

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05; ** < .01; *** < .001

Table 6.07 provides an overview of the agreement with various responsible gambling efforts of OLG's PlaySmart program. On all these items, a majority of the respondents selected agree or strongly agree suggesting that people are largely happy with the OLG's PlaySmart program efforts on responsible gambling.

Table 6.07. Perception of OLG PlaySmart program efforts at Charitable Bingo and Gaming Centres (Sample size and percentage $N = 306$).

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	Don't know
Promotes smart play habits	13 4.2%	39 12.7%	113 36.9%	59 19.3%	82 26.8%
Support for those who need help or treatment	14 4.6%	38 12.4%	102 33.3%	80 26.1%	72 23.5%
Useful tools to help keep gambling fun	12 3.9%	43 14.1%	112 36.6%	60 19.6%	79 25.8%
Encourages budgets on gambling	13 4.2%	52 17.0%	102 33.3%	58 19.0%	81 26.5%
Encourages players to take breaks	15 4.9%	43 14.1%	111 36.3%	63 20.6%	74 24.2%
Provides ways to keep track of time	16 5.2%	47 15.4%	104 34.0%	42 13.7%	97 31.7%
Promotes ways to help players play	6 2.0%	42 13.7%	119 38.9%	61 19.9%	78 25.5%
Provides useful information	12 3.9%	30 9.8%	122 39.9%	66 21.6%	76 24.8%
Cares about the well-being of players	14 4.6%	59 19.3%	113 36.9%	53 17.3%	67 21.9%
Provides useful information for playing	4 3.6%	16 14.4%	60 54.1%	31 27.9%	0 0.0%

Table 6.08. Correlations between perception of OLG PlaySmart program efforts at Charitable Bingo and Gaming Centres (Sample size and percentage $N = 306$).

	N	PC	GL	HC	PR	Total
Promotes smart play habits for gambling	224	0.27***	0.16*	0.26***	0.28***	0.28***
Provides support for those who need help or treatment with a gambling problem	234	0.29***	0.24***	0.31***	0.35***	0.35***
Provides players with useful tools to help keep gambling fun	227	0.26***	0.119	0.29***	0.27***	0.27***
Encourages the use of money budgets for gambling	225	0.25***	0.108	0.208**	0.26***	0.24***
Encourages players to take breaks while gambling	232	0.23***	0.095	0.23***	0.22***	0.22***
Provides ways to keep track of time while gambling	209	0.18*	0.041	0.16*	0.15*	0.15*
Promotes ways to help players gamble without gambling problems	228	0.19*	0.16*	0.23***	0.24***	0.24***
Provides useful information about gambling	230	0.24***	0.116	0.27***	0.30***	0.27***
Cares for the well-being of players	239	0.15*	0.083	0.19*	0.23***	0.19*
Provides useful information for gambling (wave 3 & 4 only)	111	0.34***	0.15	0.39***	0.43***	0.38***

Note: PC = Pre-Commitment, GL = Gambling Literacy; HC = Honesty and Control; PR = Personal Responsibility; * < .05; ** < .01; *** < .001.

Table 6.08 provides the correlations between participant agreement with items regarding perception of OLG's responsible gambling efforts and the Positive Play scales and the total. For the perception of OLG PlaySmart program efforts at Charitable Bingo and Gaming Centres, all items were positively correlated with Positive Play. That is people who believe that OLG makes an effort to encourage responsible play, are more likely to score higher on the Positive Play variables. The strongest correlations were for encouraging players to take breaks, $r = .35$, $p < .001$ and providing useful information online to players, $r = .38$, $p < .001$ (but note smaller sample size).

As shown in Table 6.09, the majority of the respondents have a positive attitude towards their preferred gambling venue. As shown in Table 6.10, we correlated attitudes with scores on the two items that measured problem gambling (gambling to win back losses and feeling unhappy after gambling) as well as the total score on the Positive Play. Feeling unhappy with what happens after gambling was negatively correlated with attitudes towards OLG and towards the venue that they gamble at. Chasing had small negative correlations with being satisfied with the venue and planning on returning. For Positive Play, people who felt that that information was available, and those who were satisfied with their preferred venue, scored higher on the Positive Play scale.

Table 6.09. Attitudes towards gambling venue.

Scale value	Information readily available	I understand the resources	Satisfied	Will return
1	3.7%	4.4%	1.1%	1.8%
2	2.9%	2.9%	0.4%	0.7%
3	8.8%	5.5%	2.2%	2.6%
4	20.5%	20.9%	6.6%	13.6%
5	24.5%	21.2%	23.8%	19.4%
6	17.6%	21.6%	28.6%	25.3%
7	22.0%	23.4%	31.1%	36.6%

Note: Questions are as follows: 1. Information about how games work is readily available at [venue], 2. I understand information and resources about gambling that I see at [venue], 3. How satisfied are you with [venue], 4. How likely would you be to return to [venue]. These were rated on a 7-point scale with the following levels 1. From Definitely do not agree to Definitely agree, 2. From Definitely do not agree to Definitely agree, 3. Not at all satisfied to completely satisfied, 4. From Definitely would not return to Definitely would return.

Table 6.10. Correlations with consumer satisfaction with two indicators of problem gambling, and the total score on the Positive Play scale.

	Gambled to win back losses	Felt unhappy after gambling	Positive Play
Attitude towards OLG	-.03	-.149**	.013
Information readily available	-.083	-.117	.143*
I understand the resources	-.072	-.103	.16*
Satisfied	-.125*	-.209***	.199***
Will return	-.143*	-.155*	.222***
Staff are knowledgeable	-.033	-.124*	.021

Note: * < .05; ** < .01; *** < .001.

DISCUSSION FOR CHARITY GAMING

As with the other three cells, most of the participants reported setting limits and sticking to those limits while playing at charitable gaming and bingo venues. Only a minority of the participants reported playing on TapTix machines. About half of the participants said they were somewhat or very knowledgeable about the games. Self-reported knowledge negatively correlated with Gambling Literacy and Positive Play in general. The Positive Play was positively correlated with setting limits but negatively correlated with gambling frequency, money spent at the last gambling session, exceeding their limit, and the amount they exceeded their budget by. These findings provide additional validation of the Positive Player scales. The negative correlation between Positive Play and self-reported knowledge is similar to casino gambling, but not similar to lottery and online gambling,

where the correlation was positive. It's also worth noting that TapTix players scored lower on the Positive Play, reported gambling more often, and reported spending more.

Three items related to problematic play were negatively correlated with Positive Play scores. In addition, the use of lucky charms was also negatively correlated with Positive Play. Responsible gambling behaviours such as playing for entertainment and setting limits were positively correlated with Positive Play. Interestingly one item, the use of play management tools, was negatively related to Positive Play. Initially this seemed somewhat odd, however we suspect that only people who have problems have tried to use the play management tools. It does not mean that the play management tool is harmful but rather that some people are trying to help themselves by using the play management tool.

Awareness of OLG's responsible gambling efforts ranged from 34% to 53%. The most often used responsible gambling tools were to take breaks (32%), and to look up information on how the games work (27%). Unlike the lottery where awareness had increased over the waves of the study, awareness decreased on three of the available resources.

Interestingly there were a few small negative correlations between awareness of OLG resources and Positive Play. These correlations are very small, but one item was somewhat alarming, in that Gambling Literacy was negatively correlated with information on picking the right game. Perhaps the information on picking the right game needs to be examined to see if it encourages erroneous beliefs accidentally. A negative correlation was also found for lottery players, but for casino and online players, awareness of information on picking a game was positively correlated with Positive Play.

The survey also asked the participants about their perception of OLG program efforts. On all these items, a majority of the respondents selected "Agree" or "Strongly agree", suggesting that people are largely happy with the OLG's PlaySmart program efforts on responsible gambling. The participants' perception of the OLG's efforts was positively correlated with Positive Play as well suggesting that people who score high on the Positive Play appreciate the responsible gambling efforts made by OLG.

In addition, the majority of respondents had a positive attitude towards OLG and their preferred gambling venue. They were also happy with the information that was available and reported being able to understand the information. Customer satisfaction with the gambling venue was negatively correlated with two problem gambling indicators suggesting that dealing with problem gambling may improve customer satisfaction. And finally, the rating on these variables was also correlated with Positive Play, suggesting that Positive Play is related to customer satisfaction and that promoting Positive Play may increase customer loyalty.

Part 7: Structural Equation Modelling

We conducted a structural equation analysis of the data to understand the interrelationship of the variables. The SEM analyses are presented below. These analyses test the direct relationships between the three related responsible gambling variables (i.e., responsible gambling behaviour, awareness of responsible gambling resources, and perception of OLG PlaySmart programs) and gender (female) and age (older) on the total score of the Positive Play scale. The responsible gambling variables are total scores from the list of questions on each topic. There were two other possible responsible gambling variables (frequency of responsible gambling behaviours, use of responsible gambling tools), but as endorsement might indicate opposing situations (i.e., to prevent problem gambling or to stop it), these were excluded from the analysis. We also examined the spend data, but because only a small number (approximately 10%) answered these questions, we decided to exclude them as well. In addition, the Positive Play score included two items in each channel that were reverse scored. All missing cases were excluded from the analysis and quarters were merged. Each channel (casino gaming, charitable bingo, online, and lottery) was examined separately. The modelling process began by running all five variables directly predicting Positive Play together, and then the modification indexes were examined for possible improvements to model fit. Covariances were added as appropriate. The additions stopped when the model became non-significantly different from the data indicating a close fit between the model and the data (i.e., that is rather than testing for significant difference, a SEM analysis tests for model fit and the optimal model is one that is not significantly different from the data).

CASINO GAMING

Figure 7.01 shows the final path diagram for Casino Gaming respondents. The numerical values represent the standardized estimates between variables. The Positive Play Scale total score is the endogenous variable ($n = 1141$). As shown in Table 7.01, the chi-square statistic for the model was $\chi^2(5) = 6.521$, $p = .259$. In addition, the goodness of fit statistic (GFI) was .998, and the comparative fit index (CFI) for the model was .996, both suggesting that the model was a very good fit to the data (Byrne, 1989; Jöreskog & Sörbom, 1993; Marsh et al., 1988; Rigdon, 1996). As shown in Figure 7.01 and Table 7.02, the strongest predictor of Positive Play was responsible gambling behaviour (RG behaviour), $\beta = .315$. The strongest covariance was between awareness of responsible gambling resources (RG awareness) and perception of OLG PlaySmart programs (OLG perception), $r = .30$. There were statistically significant regression weights for age, $p < .001$; gender, $p < .002$; RG behaviour, $p < .0001$; and OLG perception, $p < .0001$; with the Positive Play scale. There was a non-significant regression weight between awareness of responsible gambling resources, $p = .160$, with the Positive Play scale. There were statistically significant covariances between RG awareness and OLG perception, RG behaviour and OLG perception, RG behaviour and RG awareness, and gender and RG awareness, all $p < .001$. Age and RG behaviour was as significant, $p < .001$.

Table 7.01. Model Fit for Casino Gaming.

Model	Npar	Cmin	DF	P	Ratio	RMR	GFI	AGFI	NFI	CFI
Model	16	6.5	5.0	0.259	1.3	1.76	0.998	0.992	0.983	0.996
Saturated	21	0.0	0.0			0.00	1.000		1.000	1.000
Independence	6	376.4	15.0	0.000	25.1	9.55	0.898	0.857	0.000	0.000

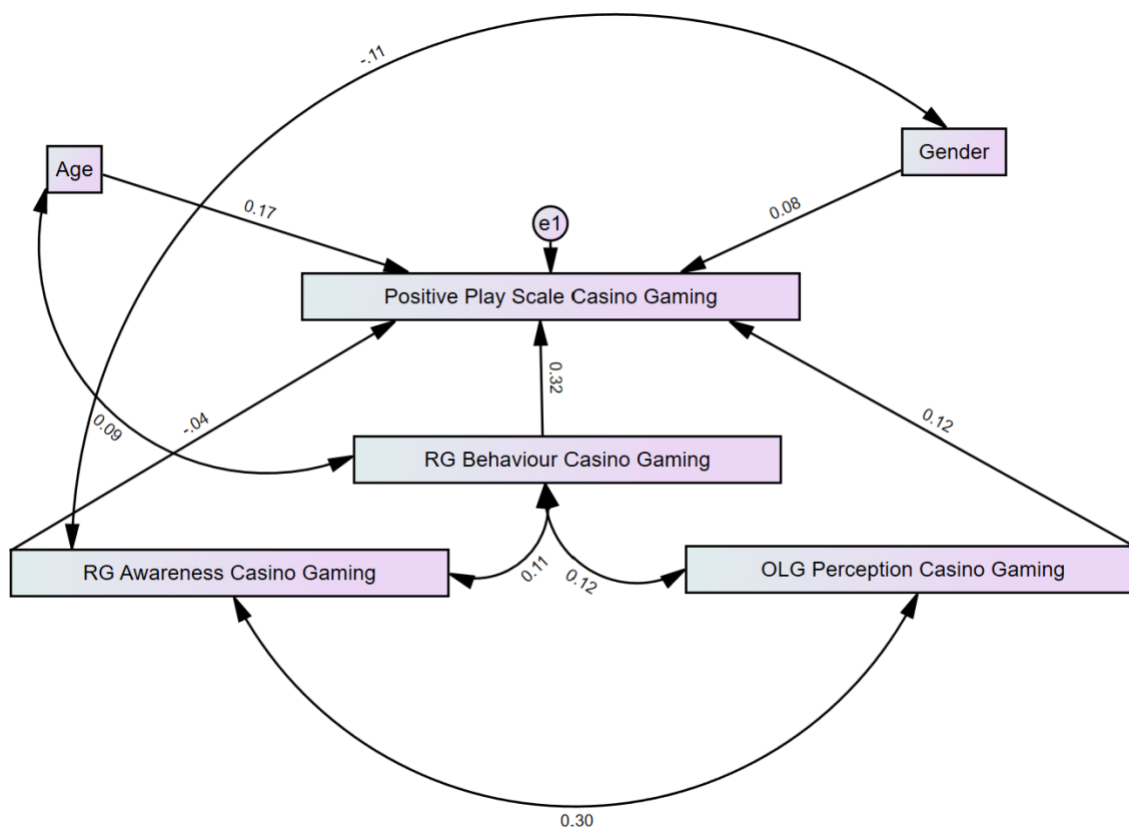
Npar = number of parameters; Cmin = Chi-square min; DF = degrees of freedom, P = probability; ratio = ratio of chi-square to degrees of freedom; RMR = root mean residual; GFI = goodness of fit index; AGFI = adjusted goodness of fit index; NFI = Non-normed fit index; CFI = comparative fit index.

Table 7.02. Scalar and standardized regression weights for the total score of Positive Play and covariances for Casino Gaming.

	Regression			Covariances			
	Regression	Standardized		Behaviour	Awareness	Perception	
Age	0.34	0.168	***	5.90	***		
Gender	1.96	0.084	**		-0.20	***	4.08
Behaviour	0.86	0.315	***		1.72	***	8.30
Awareness	-0.13	-0.04	ns				
Perception	0.18	0.116	***				

Note: Perception = perception of OLG PlaySmart programs; Awareness = responsible gambling resource awareness; Behaviour = responsible gambling behaviors total; * < .05; ** < .01; *** < .001.

Figure 7.01. SEM path diagram for Casino Gaming.



CHARITABLE BINGO

Figure 7.02 shows the final path diagram for Charitable Bingo respondents. The numerical values represent the standardized estimates between variables. The Positive Play Scale total score is the endogenous variable ($n = 306$). As shown in Table 7.03, the chi-square statistic for the model was $\chi^2(5) = 6.220$, $p = .285$. In addition, the GFI was .993, and the CFI for the model was .992, both suggesting that the model was a very good fit to the data (Byrne, 1989; Jöreskog & Sörbom, 1993; Marsh et al., 1988; Rigdon, 1996). As shown in Figure 7.02 and Table 7.04, the strongest predictor of Positive Play was RG behaviour, $\beta = .233$. The strongest covariance was between RG awareness and OLG perception, $r = .40$. There were statistically significant regression weights for age, gender, RG behaviour, RG awareness, and OLG perception, all $p < .0001$; with the Positive Play scale. There were statistically significant covariances between RG awareness and OLG perception, $p < .0001$; RG behaviour and RG awareness, $p < .0001$; RG behaviour and OLG perception, $p < .0001$; age and RG behaviour, $p < .01$; and age and OLG perception, $p < .005$.

Table 7.03. Model Fit for Charitable Bingo.

Model	Npar	Cmin	DF	P	Ratio	RMR	GFI	AGFI	NFI	CFI
Model	16	6.2	5.0	0.285	1.2	0.57	0.993	0.973	0.963	0.992
Saturated	21	0.0	0.0			0.00	1.000		1.000	1.000
Independence	6	168.3	15.0	0.000	11.2	13.31	0.845	0.783	0.000	0.000

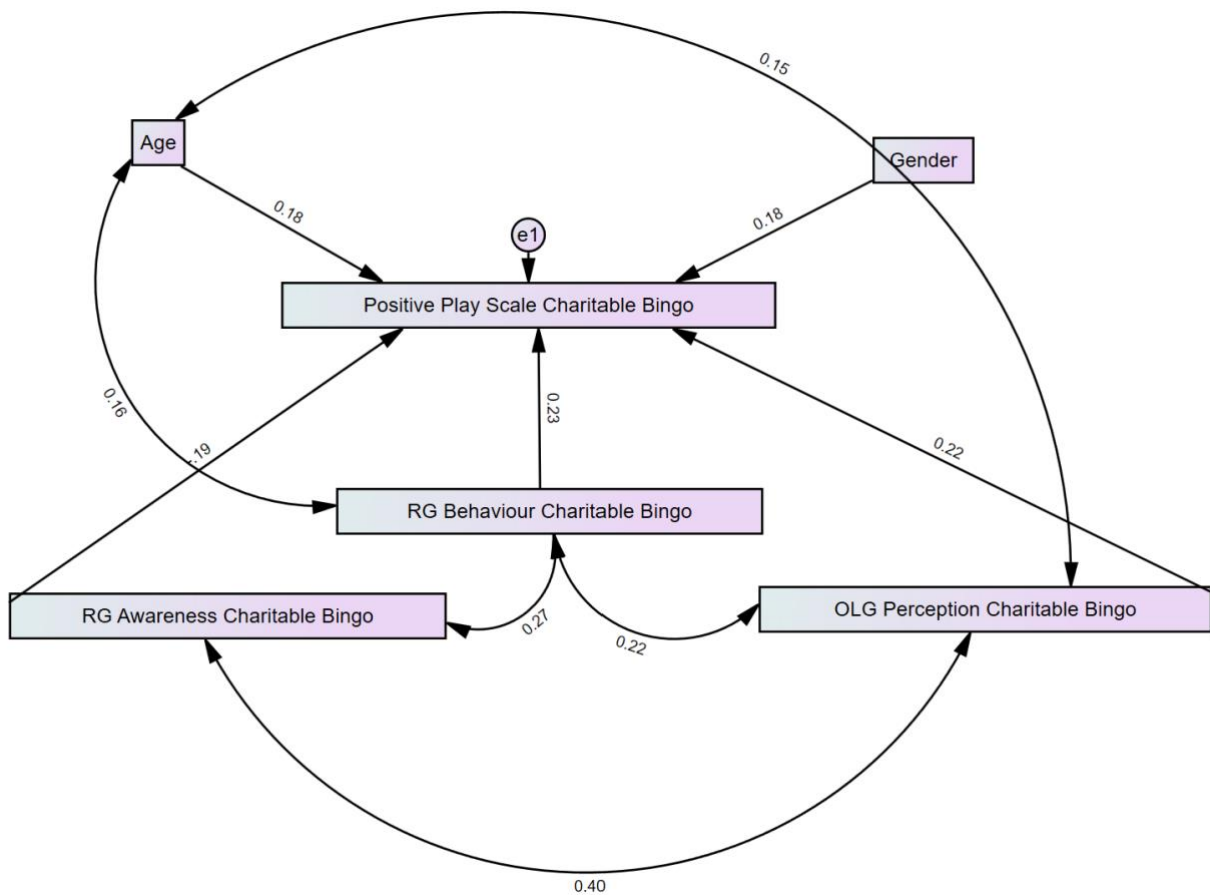
Npar = number of parameters in the model; Cmin = Chi-square min; DF = degrees of freedom, P = probability; ratio = ratio of chi-square to degrees of freedom; RMR = root mean residual; GFI = goodness of fit index; AGFI = adjusted goodness of fit index; NFI = Non-normed fit index; CFI = comparative fit index.

Table 7.04. Scalar and standardized regression weights for the total score of Positive Play and covariances for Charitable Bingo.

	Regression		Covariances			
	Regression	Standardized	Behaviour	Awareness	Perception	
Age	0.160	0.18	***	10.07	**	17.50 ***
Gender	4.869	0.178	**			
Behaviour	0.756	0.233	***	3.95	***	6.98 ***
Awareness	-0.733	-0.190	***			10.79 ***
Perception	0.380	0.33	***			

Note: * $< .05$; ** $< .01$; *** $< .001$.

Note: Perception = perception of OLG PlaySmart programs; Awareness = responsible gambling resource awareness; Behaviour = responsible gambling behaviors total.

Figure 7.02. SEM path diagram for Charitable Bingo.

ONLINE GAMING

Figure 7.03 shows the final path diagram for Online respondents. The numerical values represent the standardized estimates between variables. The Positive Play Scale total score is the endogenous variable ($n = 310$). The model fit statistics are given in Table 7.05. The chi-square statistic for the default model was $\chi^2 = 6.552 (7)$, $p = .477$ which is non-significant indicating that the model fits the data well. In addition, GFI was .993, and the CFI for the default model was 1.00, both suggesting that the model was a very good fit to the data (Byrne, 1989; Jöreskog & Sörbom, 1993; Marsh et al., 1988; Rigdon, 1996). As shown in Figure 7.03 and Table 7.06, the strongest predictor of Positive Play was RG behaviour, $\beta = .242$. The strongest covariance was between RG awareness and OLG perception, $r = .41$. There were statistically significant regression weights between RG behaviour and OLG perception, both $p < .0001$; with the Positive Play scale. There were non-significant relationships between age, $p = .215$; gender, $p = .350$; and RG awareness, $p = .825$; with the Positive Play scale. There were statistically significant covariances between RG awareness and OLG perception, between RG behaviour and RG awareness, and between RG behaviour and OLG perception, all $p < .0001$.

Table 7.05. Model Fit for Online Gaming.

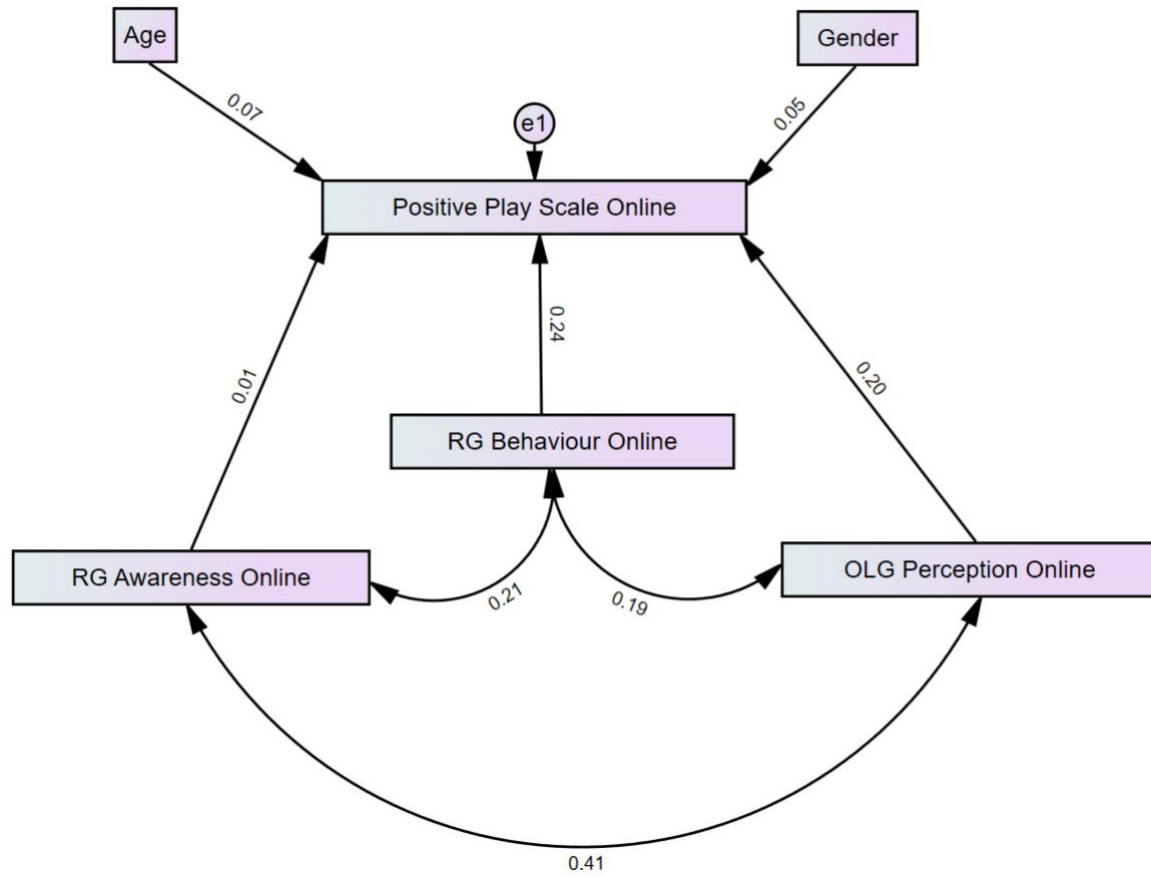
Model	Npar	Cmin	DF	P	Ratio	RMR	GFI	AGFI	NFI	CFI
Default	16	6.6	7.0	0.477	0.9	2.09	0.993	0.979	0.947	1.000
Saturated	21	0.0	0.0			0.00	1.000		1.000	1.000
Independence	6	124.7	15.0	0.000	8.3	9.63	0.871	0.819	0.000	0.000

Npar = number of parameters in the model; Cmin - Chi-square min; DF = degrees of freedom, P = probability; ratio = ratio of chi-square to degrees of freedom; RMR = root mean residual; GFI = goodness of fit index; AGFI adjusted goodness of fit index; NFI = Non-normed fit index; CFI comparative fit index.

Table 7.06. Scalar and standardized regression weights for the total score of Positive Play and covariances for Online Gaming.

	Regression		Covariances			
	Regression	Standardized	Behaviour	Awareness	Perception	
Age	0.069	0.066				
Gender	1.487	0.050				
Behaviour	0.598	0.242	***	4.18	***	8.30
Awareness	0.054	0.013				10.33
Perception	0.397	0.204	***			

Note: Perception = perception of OLG PlaySmart programs; Awareness = responsible gambling resource awareness; Behaviour = responsible gambling behaviors total; * < .05; ** < .01; *** < .001.

Figure 7.03. SEM path diagram for Online.

LOTTERY GAMING

Figure 7.04 shows the final path diagram for Lottery respondents. The numerical values represent the standardized estimates between variables. The Positive Play Scale total score is the endogenous variable ($n = 1882$). The chi-square statistic for the default model was $\chi^2 = .060$ (2), $p = .971$, which is non-significant indicating that the model fits the data well. In addition, the GFI was .1.000, and the CFI for the default model was 1.000, both suggesting that the model was a very good fit to the data (Byrne, 1989; Jöreskog & Sörbom, 1993; Marsh et al., 1988; Rigdon, 1996). As shown in Table 7.08 and Figure 7.04, the strongest predictor of Positive Play was RG behaviour, $\beta = .156$. The strongest covariance was between RG awareness and OLG perception, $r = .33$. The comparative fit index for the default model was 1.00. There were statistically significant regression weights between RG behaviour, age, and gender, with the Positive Play scale, all $p < .001$. There were non-significant relationships between RG awareness, $p = .351$; and OLG perception, $p = .170$ with the Positive Play scale. There were statistically significant covariances between RG awareness and OLG perception, RG behaviour and RG awareness, RG behaviour and OLG perception, gender and RG awareness, age and RG awareness, and age and gender, all $p < .0001$. There were also statistically significant covariances between responsible gambling behavior and gender, $p < .005$; and RG behaviour and age, $p < .005$.

Table 7.07. Model Fit for Online Gaming.

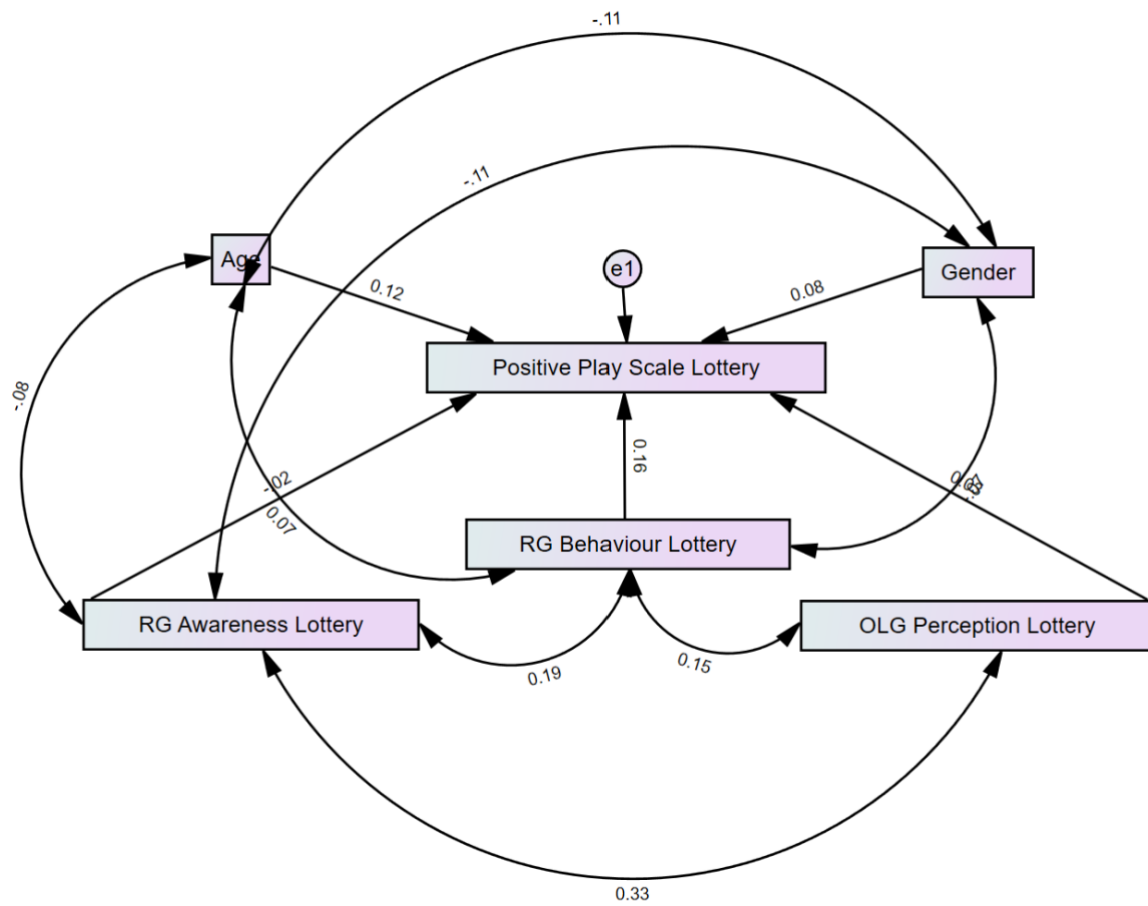
Model	Npar	Cmin	DF	P	Ratio	RMR	GFI	AGFI	NFI	CFI
Model	19	6.1	2.0	0.971	0.03	0.06	1.000	0.971	1.000	1.000
Saturated	21	0.0	0.0			0.00	1.000		1.000	1.000
Independence	6	470.2	15.0	0.000	31.3	4.08	0.922	0.891	0.000	0.000

Npar = number of parameters in the model; Cmin = Chi-square min; DF = degrees of freedom, P = probability; ratio = ratio of chi-square to degrees of freedom; RMR = root mean residual; GFI = goodness of fit index; AGFI = adjusted goodness of fit index; NFI = Non-normed fit index; CFI = comparative fit index.

Table 7.08. Scalar and standardized regression weights for the total score of Positive Play and covariances for Lottery Gaming.

	Regression			Covariances					
	Regression	Standardized		Gender	Behaviour	Awareness	Perceptions		
Age	0.084	0.119	***	-0.76	***	3.67	**	-2.02	***
Gender	1.507	0.079	***		-0.13	**	-0.11	***	
Behaviour	0.373	0.156	***			1.63	***	3.70	***
Awareness	-0.103	-0.023						10.33	***
Perceptions	0.051	0.033							

Note: Perception = perception of OLG PlaySmart programs; Awareness = responsible gambling resource awareness; Behaviour = responsible gambling behaviors total; * < .05; ** < .01; *** < .001.

Figure 7.04. SEM path diagram for Lottery Gaming.

DISCUSSION FOR STRUCTURAL EQUATION MODELS

In summary, the Structural Equation Models of the data revealed a number of important findings about the data. For Casino Gaming the strongest predictor of Positive Play was RG behaviour. In addition, age (older), perception of OLG PlaySmart programs, and gender (female) were significant predictors of Positive Play. The strongest covariance was between RG awareness and perception of OLG PlaySmart programs.

For Charitable Bingo the strongest predictor of Positive Play was RG behaviour $r = .23$. The perception of OLG responsible gambling resources also had a strong effect of $r = .22$, and Responsible Gambling awareness was negatively associated with Positive Play $r = -.19$. In addition, age (older) and gender (female) were also significant. The strongest covariance was between RG awareness and perception of OLG PlaySmart programs (.40)

For Online Gaming, the strongest predictor of Positive Play was RG behaviour .24 (perception of OLG PlaySmart programs .20). There were no other significant predictors of Positive Play. The small number of predictors may be due to the small sample size for Online players. The strongest covariance was between RG awareness and perception of OLG PlaySmart programs (.41).

For Lottery, the strongest predictor of Positive Play was RG behaviour .16. In addition, other significant predictors of Positive Play are age (older) gender (female). The strongest covariance was between RG awareness and perception of OLG PlaySmart programs (.33).

The Structural Equation Models reveal that for all channels, responsible gambling behavior was the strongest predictor of Positive Play. Additional variance was accounted for by perception of OLG PlaySmart programs (charitable bingo, casino gaming, and online), and a negative relationship by RG awareness. Gender and age were statistically predictive of Positive Play for most channels (lottery, charitable bingo, and casino gaming).

General Discussion and Conclusions

In this study, the Positive Play scales and their relationship to other measures of gambling behavior were examined in detail. Most of the Positive Play scales were found to be reliable overall and for each of the four groups of participants (channels). However, the Gambling Literacy scale had a somewhat lower level of reliability than the other scales. This is likely due to the small number of items on the scale (3) and the reverse keying of two of the items. Exploratory and confirmatory factor analysis suggest that a three-factor model combining Honesty and Control and Personal Responsibility and moving one item from Gambling Literacy to Pre-Commitment fits the data better than the original model. Further EFA/CFA analyses are warranted with the item-set for the Positive Play scale.

Positive Play was found to vary significantly between the four channels. Lottery players scored higher on the positive scale, followed by casino players and charity players, and online gamblers had the lowest scores. Lottery players scored higher than online and charity gamers on all four scales and higher than casino gamblers on all scales except Pre-Commitment. Interestingly, Gambling Literacy had the lowest score for casino, online, and charity gamers. For lottery players, the lowest score was for Pre-Commitment.

Gender (being female), older age, and being born in Canada were all significantly correlated with higher scores on Positive Play. Positive Play scores also varied across levels of income and education, but the effects were non-linear. For income, higher income participants had the highest scores on Positive Play, but the second highest scores were from people who reported a relatively low income.

The study also found that the majority of the participants (70%) have a somewhat or very favourable attitude towards Ontario Lottery and Gaming. Furthermore, the positive attitude towards OLG was true for all groups of participants. A positive attitude towards OLG was significantly correlated with the Positive Play subscales except for Gambling Literacy.

The analysis of the profiles of people who score high on Positive Play and those who score low on Positive Play revealed several important findings. These two analyses produced similar results however education was significantly related to low scores, but not high scores. The profile of a person who scores low on one or more of the Positive Play scales is more likely to be young, male, more likely to be single, have a low or middle range income, have at least some university education, not born in Canada, and more likely to be a recent immigrant. In addition, we found that people who play lotteries were the least likely to score low on Positive Play, and people who play online games or charity games were more likely to score low on Positive Play. Awareness efforts for Positive Play should be directed at younger males, those who are single, and recent immigrants. In addition, more effort on Positive Play needs to be directed at online gamers and charity gamers. These findings were largely consistent across game types however due to the small sample sizes for online gamers and charitable gamers, some effects did not reach significance.

The Structural Equation Modeling (SEM) was conducted on each group of participants to examine the interrelationship of the variables. These analyses test the direct relationships between the three related responsible gambling variables (i.e., responsible gambling behaviour, awareness of responsible gambling resources, and perception of OLG PlaySmart programs) and gender (female) and age (older)

and their relationship to Positive Play. For casino gamblers the strongest predictor of Positive Play was responsible gambling behaviour. In addition, age (older), perception of OLG, and gender (female) were also significant predictors of Positive Play. For charitable bingo, responsible gambling behaviour was also the strongest predictor of Positive Play. In addition, age (older), perception of OLG, gender (female), and awareness of responsible gambling resources were also significant predictors of Positive Play. With online gambling, the strongest predictor of Positive Play was responsible gambling behaviour, with perception of OLG PlaySmart programs also being significant. For lottery play, responsible gambling behaviour was the strongest predictor of Positive Play, while age and gender were also significant predictors. Thus, for all 4 channels, responsible gambling behavior was the strongest predictor of Positive Play. Additional variance was accounted for by perception of OLG PlaySmart programs (charitable bingo, casino gaming, and online), and a negative relationship by RG awareness. Gender and age were statistically predictive of Positive Play for most channels (lottery, charitable bingo, and casino gaming).

A detailed analysis of the Positive Play scales was conducted for each group of participants (also called channels or cells in the survey). The majority of players in all channels reported setting limits on their gambling and engaging in Positive Play. Overall, responsible gambling behaviors were positively correlated with Positive Play, a fact that was confirmed using the Structural Equation Modelling. For the detailed analysis, we grouped the responsible gambling items into the following categories based on their content: problem gambling, cutting back, setting limits, responsible attitudes, knowledge of the games, and erroneous beliefs. Unfortunately, different items were used for different games which makes it somewhat difficult to compare the results of the various groups of participants. For example, 6 items on erroneous beliefs were given to lottery players, and 1 item on erroneous beliefs was given to charitable bingo, and no erroneous beliefs items were given to casino or online players. Two items related to problem gambling were given to all groups, and a third one was given to all groups except casino players.

Analysis of these items found that responsible gambling items related to problem gambling and erroneous beliefs were negatively correlated with the Positive Play scales, while items related to setting limits, cutting back, responsible attitudes, and knowledge were generally positively related to the Positive Play scales. These findings validate the Positive Play scale.

Of note the one item we have labelled responsible attitude, “gambling for entertainment only” was positively correlated with Positive Play for all four groups of participants.

Some of these responsible gambling behavior items produced mixed results however. The items we grouped as cutting back produced mixed results. “Make smaller bets or play less expensive slot machines to play longer” was positively correlated with Positive Play for casinos and online play, but a similar item for lotteries “Bought less expensive tickets to play more” was negatively correlated with Positive Play. However, it is difficult to compare many of these responsible gambling effects because many of the questions for lottery, casino, online and charity gaming were not the same. Similarly, although the erroneous beliefs items were generally negatively correlated with Positive Play, one item “Chose random numbers or tickets to play lottery or instant scratch tickets” was positively correlated with Positive Play. The item is technically an erroneous belief because it does not matter if you choose a “random number” or any other number since the odds of winning are the same, but it may be a

healthy belief because it avoids getting committed to any numbers. As noted above items related to setting limits were generally positively correlated with Positive Play, but for lottery, casino, and charitable game players, Positive Play was negatively correlated to “play management tools”. This result may be reflective of the players only utilizing these tools if they have concerns about controlling their gambling.

Awareness of responsible gambling resources had mixed correlations with Positive Play. For casino and online players, awareness of resources had a few small positive correlations, but for lotteries and charitable gaming, the correlations were generally negative. This was also shown in the Structural Equation Modelling in which awareness had a significant positive regression weight for online gaming and a significant negative weight for charitable gaming. The relationship between awareness and Positive Play was non-significant for lotteries and casinos. Awareness of those resources however was only positively related to Positive Play for online gamers. In the Structural Equation Modelling, the only significant awareness effect was a negative association with Positive Play for charitable bingo players. It would appear that, overall, Positive Play is not related to awareness of the responsible gambling resources. This is perhaps because only people who are experiencing problems have sought out and utilized the responsible gambling resources. To test this possibility, we computed aggregates for awareness and the responses to the two responsible gambling items that measured gambling problems (“Felt unhappy after playing” and “Played to win back losses”) and found that across samples there was a small positive correlation between response to these two items and awareness, $r = .08$, $p < .01$. This is not surprising as it is unlikely that someone who has never experienced any gambling problem would be aware of the resources to help them if they do have a problem. It may be helpful as a prevention strategy however if we improve awareness of these resources for people who do not have any gambling problems to reduce their risk of developing future problems. In addition, raising awareness of these resources may be helpful for friends or family members of people who are experiencing problems with gambling so that they could direct them to these resources.

Perception of OLG’s PlaySmart program was mostly positive with a majority of the participants somewhat or strongly agreeing that OLG promotes each of the PlaySmart program efforts listed. In addition, the perception of OLG’s PlaySmart program was positively correlated with Positive Play for all groups of participants. That is, people who engage in Positive Play approve of the efforts that OLG is making with their PlaySmart program. The positive attitude towards OLG and the gambling industry in general, was also revealed in the questions regarding satisfaction with the venue they attend, and the availability of the information at those venues. Overall, it would appear that OLG is viewed as promoting responsible play by the majority of the participants. A positive perception of the various OLG PlaySmart initiatives was positively correlated to Positive Play for all types of games, however the relationship was very weak for lotteries. Regarding customer satisfaction with OLG, the venue and the available information at the venue was positively correlated with Positive Play for all types of games.

Other variables produced inconsistent results across the groups of participants (or channels). For example, self reported knowledge of the games was positively related to Positive Play for lotteries but negatively correlated with Positive Play for casino gaming and charitable gaming. Similarly, for lotteries and casino games, awareness of responsible gambling resources appeared to be increasing

over time with higher scores in wave three and four compared to the earlier waves of the survey. The opposite trend however was found for charitable gaming and online gaming. Interestingly there were a few small negative correlations between awareness of OLG resources and Positive Play. These correlations are very small, but one item was somewhat alarming. Namely, for lottery players, there was a negative correlation for lottery players between Gambling Literacy and awareness of information on picking the right game for them. For casino and online players however, awareness of information on picking a game was positively correlated with Positive Play.

Limitations

There are a number of limitations on the findings reported in this paper. First the inconsistencies between the responsible gambling variable measured for the different types of games makes comparison between the results of different games somewhat difficult. One particular problem was the fact that under responsible gambling behaviours, erroneous beliefs were only included for the lottery players even though many of those beliefs are found among all types of gamblers. It's a pity that no erroneous beliefs were tested for casino or online gambling given the resources that are available in casinos at the PlaySmart Centres to help reduce such beliefs. In addition, the smaller sample sizes for Charity Bingo and Online Gambling mean that some of the variables may not have reached significance. Other limitations are that the survey had a relatively small number of demographic variables, no variables measuring personality, affect or other risk factors, and a very limited set of variables measure problem gambling.

Furthermore, as noted above, the analysis for parts 1 to 6 for the most part did not control for experiment-wise error rates. We would recommend focusing interpretations on effects with a significance level of .01 at the very least.

Improving Positive Play-based responsible gambling programming

The results of the study do highlight some important areas where OLG could potentially improve Positive Play amongst its patrons. OLG's customers appear to be supportive of the current efforts on responsible gambling, however the low rates of awareness for many of these resources suggests that more effort is needed to inform the players in all four channels of the availability of these resources. For example, only 21% of the lottery players had heard of purchase limits and of those only 7.1% had used them. For casino gambling only 46% of the participants had heard of the Ontario Problem Gambling Helpline and only 38% of casino patrons had heard of the PlaySmart Centres. It is clear that there is much room to improve awareness of these resources.

Even among those people who have heard of these resources, most people do not feel any need or interest in accessing them. This means that people perceive these resources as aimed at helping people

deal with existing problems rather than as a prevention resource. Greater awareness of the fact that these resources, especially the PlaySmart centre, are largely intended to prevent problem gambling is needed, rather than viewing them only as a resource for dealing with existing problems.

For lottery players the survey had asked a number of questions about behaviour based on erroneous beliefs. For most of these behaviours, the majority of gamblers reported rarely or never engaging in them. This shows that for lottery players, OLG information efforts to discourage these beliefs for lotteries have been successful. The one erroneous belief that was more often endorsed, choosing random numbers, may in fact be protective against obsessive play, even though it is still based on an erroneous belief. It is notable that Gambling Literacy was also highest among lottery players. It is therefore a pity that no erroneous beliefs were tested for casino or online gambling given the resources that are available in casinos at the PlaySmart Centres to help reduce such beliefs. It would be helpful to know if use of the PlaySmart Centres actually reduces erroneous beliefs.

Recommendations

Research Community

- The Positive Play scales were found to be reliable for the overall sample, but the reliability of the Gambling Literacy scale could be improved with additional items.
- The Honesty and Control and Personal Responsibility could be combined into a single scale.
- Inclusion of erroneous beliefs for the other samples could test the possibility of whether use of the PlaySmart Centres reduces erroneous beliefs.

Casinos/Gambling Sources

- Overall, it would appear that OLG is viewed as promoting responsible play. In addition, Positive Play behaviour was associated with a more positive attitude towards OLG which demonstrates that encouraging Positive Play is not only socially responsible, but also potentially good for business.

Healthcare/Policy Awareness Priorities

- Awareness efforts for Positive Play should be directed at younger males, people who are single, or recent immigrants. These findings were largely consistent across game types however due to the small sample sizes for online gamers and charitable gamers, some effects did not reach significance.
- The results for income and education were not linear, with some highly educated people scoring low on Positive Play, suggesting a need for improved awareness of Positive Play for university educated people. Furthermore, middle income (\$75K-\$100K) and very low-income (< \$20K) people should also be targeted for awareness on the importance of Positive Play.
- There is a need for improved awareness of OLG resources. This would be helpful for people who do experience problems. In addition, for those not experiencing problems, it may reduce

their risk of developing problems and could also allow them to guide others who are experiencing problems to these resources.

- Awareness of help resources is generally fairly low (less than 50%). Raising awareness of help resources could reduce their risk of developing problems in the future. In addition, raising awareness of these resources may be helpful for friends or family members of people who are experiencing problems with gambling so that they could direct them to these resources.

Consumers

- The low rates of awareness for many of these resources suggests that more effort is needed to inform the players in all four channels of the availability of these resources.
- Among those people who have heard of these resources, most people do not feel any need or interest in accessing these resources. More effort is needed to encourage people to see these resources as a means of preventing excessive gambling, rather than just a resource for dealing with problems.
- Results with the lottery sample suggest that most lottery players do not hold erroneous beliefs. Lottery players also had the highest score on Gambling Literacy. Future surveys should include measures of erroneous beliefs for the other channels such as casino patrons.

References

- Armstrong, T., Rockloff, M., Browne, M., & Blaszczynski, A. (2019). Development and validation of the protective gambling beliefs scale (PGBS). *International Gambling Studies*, 19(1), 36-53.
- Byrne, B. M. (1989). A primer of LISREL. Basic applications and programming for confirmatory factor analytic models. Springer.
- Delfabbro, P., King, D. L., & Georgiou, N. (2020). Positive Play and its relationship with gambling harms and benefits, *Journal of Behavioral Addictions*, 9(2), 363-370. Retrieved Dec 27, 2021, from <https://akjournals.com/view/journals/2006/9/2/article-p363.xml>
- Dixon, M. J., Gutierrez, J., Stange, M., Larche, C. J., Graydon, C., Vintan, S., & Kruger, T. B. (2019). Mindfulness problems and depression symptoms in everyday life predict dark flow during slots play: Implications for gambling as a form of escape. *Psychology of Addictive Behaviors*, 33(1), 81–90. <https://doi.org/10.1037/adb0000435>
- Gainsbury, S.M., Abarbanel, B.L.L., Philander, K.S. & Butler, J. V. (2018). Strategies to customize responsible gambling messages: a review and focus group study. *BMC Public Health*, 18, 1381. <https://doi.org/10.1186/s12889-018-6281-0>
- Gray, H. M., LaPlante, D. A., Abarbanel, B. & Bernhard, B. J. (2021). Gamblers’ perceptions of stakeholder responsibility for minimizing gambling harm. *Int J Ment Health Addiction* 19, 891–907 <https://doi.org/10.1007/s11469-019-0056-4>
- Jackson, A. C., Christensen, D. R., Francis, K. L., & Dowling, N. A. (2016). Consumer perspectives on gambling harm minimisation measures in an Australian jurisdiction. *Journal of Gambling Studies*, 32, 801-822.
- Jöreskog, K. G., & Sörbom, D. (1993). LISREL 8. User’s reference guide. Scientific Software International.
- Long, J. S. (1983). Confirmatory factor analysis. Sage.
- Lole, L., Li, E., Russell, A. M., Greer, N., Thorne, H., & Hing, N. (2019). Are sports bettors looking at responsible gambling messages? An eye-tracking study on wagering advertisements. *Journal of behavioral addictions*, 8(3), 499–507. <https://doi.org/10.1556/2006.8.2019.37>
- Marsh, H. W., Balla, J. R., & McDonald, R. P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size. *Psychological Bulletin*, 103(3), 391–410. <https://doi.org/10.1037/0033-2909.103.3.391>
- Marsh, H. W., & Hocevar, D. (1985). Application of confirmatory factor analysis to the study of self-concept: First and higher-order factor models and their invariance across groups. *Psychological Bulletin*, 97(3), 562–582. <https://doi.org/10.1037/0033-2909.97.3.562>
- Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). McGraw-Hill.
- Rigdon, E. E. (1996). CFI versus RMSEA: A comparison of two fit indexes for structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 3(4), 369–379. <https://doi.org/10.1080/10705519609540052>
- Tabri, N., Wood, R. T. A., Philander, K., & Wohl, M. J. A. (2020) An examination of the validity and reliability of the Positive Play Scale: findings from a Canadian national study, *International Gambling Studies*, 20:2, 282-295, DOI: 10.1080/14459795.2020.1732442

- Turner, N.E., Wiebe, J., Falkowski-Ham, A., Kelly, J., Skinner, W. (2005). Public awareness of responsible gambling and gambling behaviours in Ontario. *International Gambling Studies*, 5(1), 95-112.
- Williams, R. J., Leonard, C. A., Belanger, Y. D., Christensen, D. R., el-Guebaly, N., Hodgins, D. C., McGrath, D. G., Nicoll, F., Smith, G., & Stevens, R. M. G. (2021). Gambling and Problem Gambling in Canada 2018. *Canadian Journal of Psychiatry*, 66, 485-494.
- Wood, R. T. A., & Griffiths, M. D. (2008). Why Swedish people play online poker and factors that can increase or decrease trust in poker websites: A qualitative investigation, *Journal of Gambling Issues*, 21. <http://www.camh.net/egambling/issue21/pdfs/06wood.pdf>.
- Wood, R., T., & Griffiths, M., D. (2015). Understanding Positive Play: An Exploration of Playing Experiences and Responsible Gambling Practices, *Journal of Gambling Studies*, 31, 1715-34.
- Wood, R. T., Wohl, M. J., Tabri, N., & Philander, K. (2017). Measuring Responsible Gambling amongst Players: Development of the Positive Play Scale. *Frontiers in Psychology*, 8, 227. <https://doi.org/10.3389/fpsyg.2017.00227>