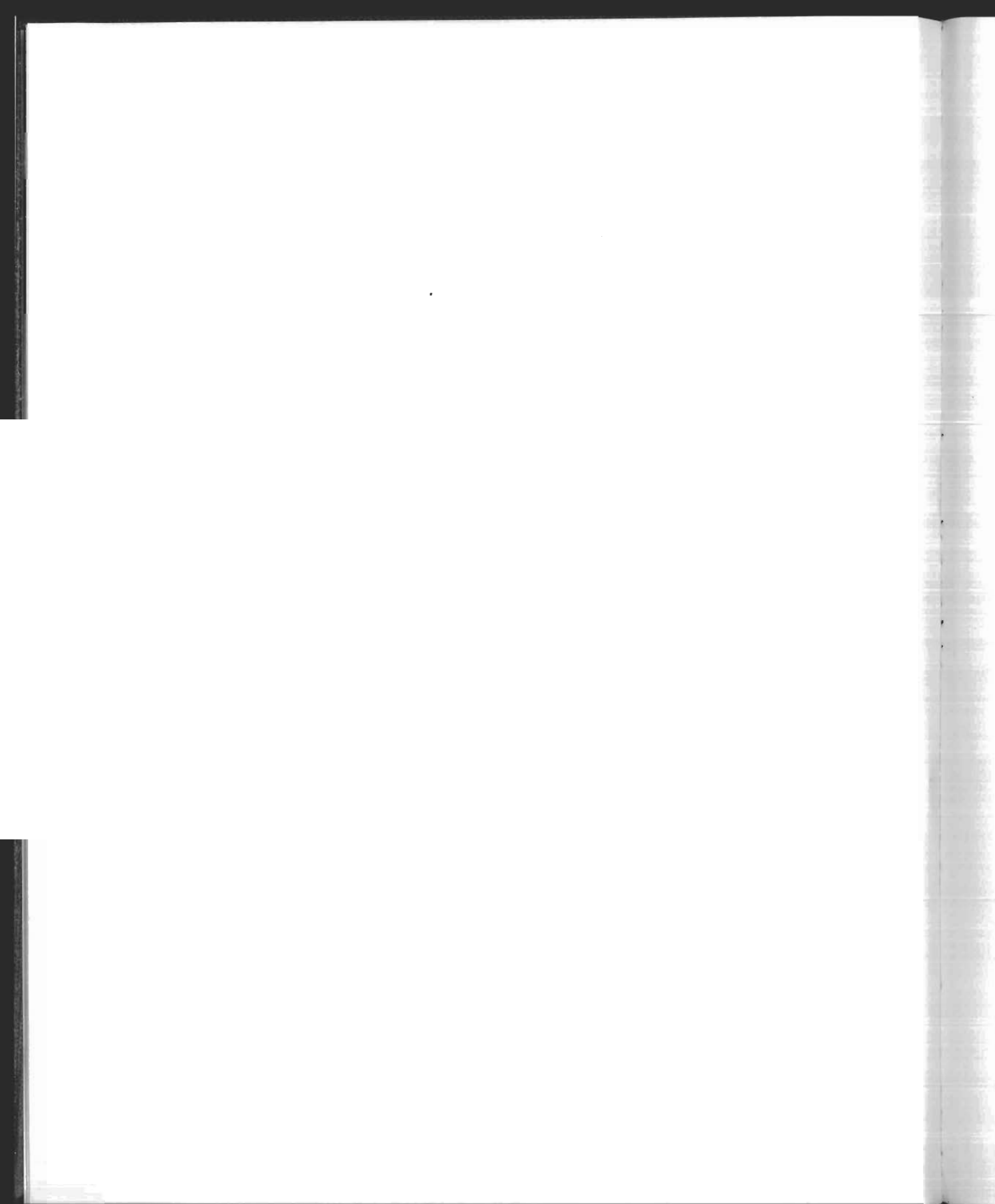This is an authorized facsimile, made from the microfilm master copy of the original dissertation or master thesis published by UMI.

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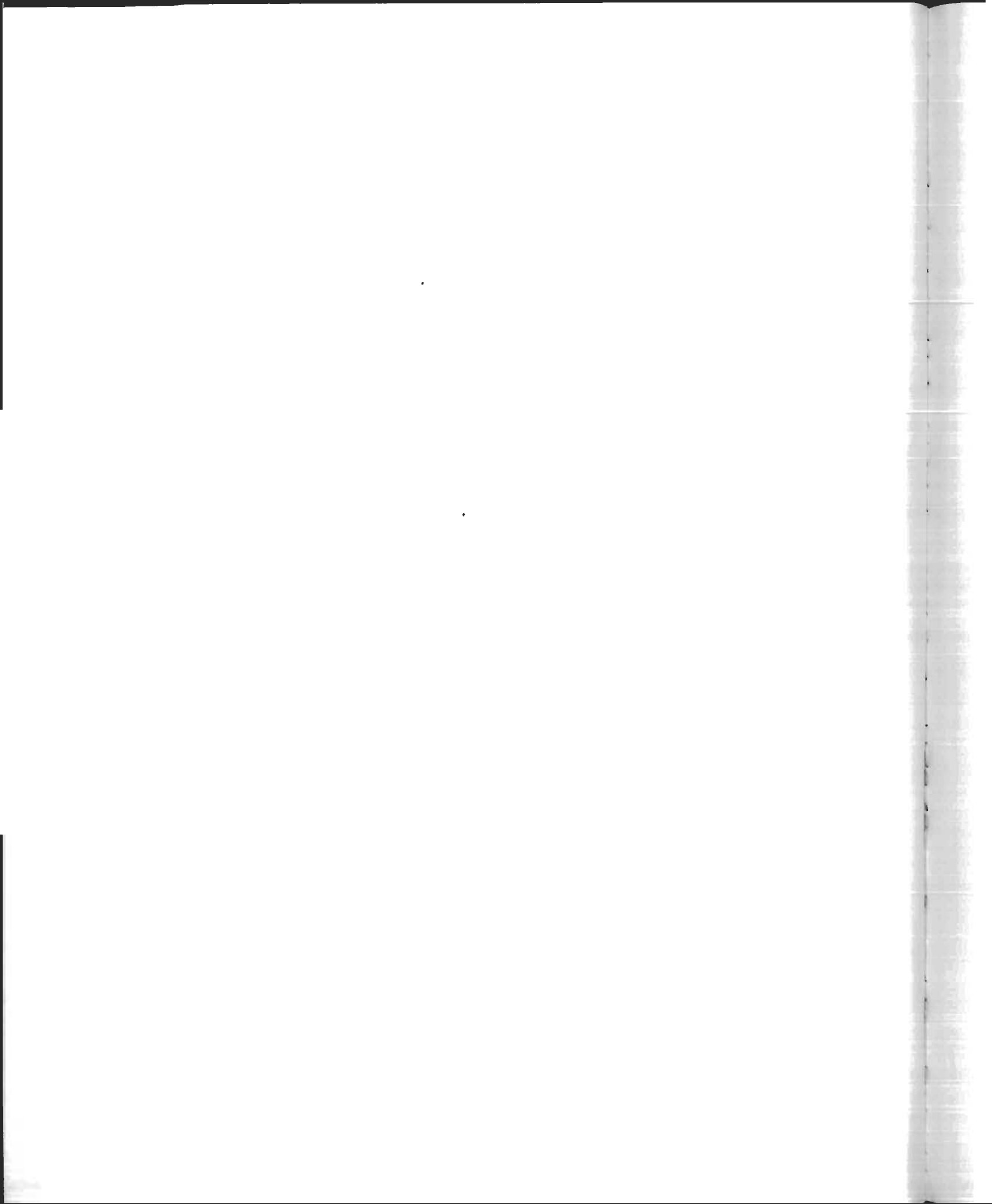
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Canada

A STUDY OF GAMBLING BEHAVIOUR

IN THE CITY OF WINDSOR

by

Richard J. Govoni

BSc University of Toronto, 1969

A Thesis
submitted to the Faculty of Graduate Studies and Research
through the Department of Psychology in Partial
Fulfilment of the Requirements for the
Degree of Master of Arts at
the University of Windsor

Windsor, Ontario, Canada

1995

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ABSTRACT

A randomized telephone survey of gambling behaviour was carried out in the Metropolitan Windsor (Ontario) area. The survey, which was based on the South Oaks Gambling Screen, captured information on gambling activities, problem gambling behaviours and demographic characteristics. The lifetime prevalence of problem gambling and pathological gambling was found to be 2.6% and 1.6% respectively. The prevalence of problem and pathological gambling in the year previous to the study was found to be 1.4% and 0.8% respectively. Variables, such as attitude towards gambling, gender, family income and membership in a religious group were found to discriminate between gamblers and non-gamblers, but did not discriminate between non-problem gamblers, problem gamblers and pathological gamblers. Activity-related variables, such as percentage of family income spent on gambling and the number of different gambling activities engaged in, were found to discriminate between non-problem gamblers, problem gamblers and pathological gamblers. The number of different gambling activities engaged in declined with age, the percentage of family income spent on gambling activities remained constant with age, and the levels of problem and pathological gambling decreased with age. The decline in the levels of problem and pathological gambling with age appears to be due to increased control over gambling activities that develops with age. The implications of these findings are discussed.

ACKNOWLEDGEMENTS

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CHAPTER 1

INTRODUCTION

Although gambling has long been recognized as a social problem, it was first formally identified as a mental disorder in the DSM III (American Psychiatric Association, 1980). Consequently, research into gambling is a relatively new field. Interest in gambling research has been increasing steadily as governments legalize various forms of gambling as a way of increasing revenues. The present study was inspired by the planned opening of Casino Windsor in May of 1994. The introduction of a major gambling venue into a relatively small community was seen as a natural experiment that would allow the assessment of changes in gambling activities and problem gambling levels with increased gambling availability. The primary goal of the present study was to establish baseline data on gambling activities and on the prevalence of problem gambling prior to the opening of Casino Windsor. The second goal was to identify demographic factors that were associated with problem gambling and to develop a statistical model relating these factors to levels of problem gambling. The Essex County Council on Aging has expressed an interest in the impact of gambling on the older segment of the population. Their interest led to the third goal of the present study, the exploration of changes in gambling behaviour with age.

Subsequent sections of this introduction will deal with the definition and conceptualization of problem gamblers and their characteristics, previous prevalence studies, and gambling across the life span.

Approaches to Problem Gambling

Research in gambling behaviour is in its infancy, and, as a result, no comprehensive models of gambling behaviour or pathological gambling have yet been developed (Blume, 1987). The various approaches developed to date tend to be descriptive, and to focus on limited aspects or characteristics of gamblers. These approaches can be grouped into several categories: the medical model, rational or economic principles, cognitive processes, social factors, individual characteristics, physiological factors, and need state models. These approaches will be reviewed in the following sections.

Medical model. The current definition of pathological gambling, which is used for diagnostic purposes, is contained in the DSM IV (American Psychiatric Association, 1994), which classifies pathological gambling as an impulse control disorder. The main features of an impulse control disorder are: (a) a failure to resist an impulse, (b) increased tension or arousal before committing the act, and (c) the act is ego-syntonic. Pathological gambling is conceptualized as a progressive failure to resist gambling impulses. This failure is considered chronic and results in increased disruptions to various aspects of the gambler's life. The main diagnostic criteria for the disorder are:

a) preoccupation with gambling,

b) need to increase amounts of money spent on gambling,

c) unsuccessful attempts to control gambling,

d) withdrawal symptoms,

e) gambling as a means of escape from problems,

g) attempts to recoup losses by gambling,

h) lies to others to conceal gambling activities,

i) commission of illegal acts to support gambling,

j) risked or lost relationships, jobs or career opportunities, and

k) reliance on others for financial relief of gambling problems

A person exhibiting five or more of the above behaviours is considered a pathological gambler. Although pathological gambling is classified separately from other forms of addiction in the DSM IV, such as psychoactive substance use disorder, the basic diagnostic criteria for these disorders are almost identical, with the exception of the additional criterion of attempting to recoup losses through gambling.

The conceptualization of gambling as a chronic degenerative disorder, whose progress can only be stopped with difficulty and by medical based treatment, is typical of the medical or disease model. This model is also the basis of the Gamblers Anonymous program. The literature does not support the concept of inevitable progressivity of gambling disorders (Blaszcynski, McConaghy & Franknova, 1991; Dickerson, 1987; Rosencrance, 1985-1986). It has also been argued that the medical model is based on more extreme problematic gamblers who are unable to control gambling behaviour (Brown, 1987; Rosencrance, 1985-1986). This position is supported by prevalence studies such as that of Volberg and Steadman

(1989) who showed that Gamblers Anonymous members are significantly different from pathological gamblers in the general population. Nevertheless, the medical model has proven to be useful in identifying and diagnosing the disorder of pathological gambling (Blume, 1987), and in doing so opens the possibility that in the long term a similar range of treatment options and facilities that are available to substance abusers will also become available to gamblers.

Rational or economic approach. An alternate view of gambling, perhaps inspired by the financial aspects of gambling, is to view the gambler as a rational person who makes gambling decisions based on the utility of the expected outcomes. Eadington (1987) has taken an economic approach to gambling and views gamblers as consumers who are considered to be self-interested, goal oriented, and rational. Their behaviour is governed by two motives: the achievement of high levels of wealth, and the utility derived from actual participation in gambling activities, including entertainment and social interactions. Given this view, economic principles can then be used to model gambling behaviour. For example, if people gamble primarily for wealth creation then the poor will spend a larger fraction of their wealth on gambling activities than will the rich. Also, if people gamble primarily for entertainment, games highest in entertainment value, such as casino games, should predominate over less entertaining games, such as lotteries. Cummings and Corney (1987) also assume that gamblers are rational. They have applied Fishbein's (1979) theory of reasoned action and assume that gamblers make rational decisions based on analysis of

available information. In this approach a gambler's decisions are based on behavioural intentions, attitudes and subjective norms for the behaviour. The behavioural intentions are the result of the gamblers attitudes and subjective norms, and demographic and socio-economic factors influence behaviour by influencing attitudes and subjective norms.

Cognitive approach. Although the above approach assumes that a gambler is basically rational, there is considerable evidence in the literature that gamblers frequently display evidence of irrational thinking, i.e., illusions of control, superstitious thinking, and cognitive distortions about chance outcomes (Brown, 1993). Using the method of thinking aloud, Ladouceur (1993) found that more than 80% of gambling related verbalizations were irrational. In a study of slot machine players, Griffith (1993), using the thinking aloud method, found irrational verbalizations and illusions of control over the slot machines in regular gamblers. It is hypothesized that such irrational cognitions help to maintain gambling behaviour.

Individual characteristics approach. A variety of attempts has been made to identify the characteristics of gamblers. Gender has often been considered a characteristic that influences the amount and type of gambling behaviour, with males being the predominant gamblers (Lindgren et al., 1987). Recent prevalence studies 1990s show a relatively modest difference in participation levels between males and females; in Washington state 51% of gamblers were female and 55% of weekly gamblers were male (Volberg, 1993); and in Texas, 55% of all gamblers were

male (Wallish, 1993). Women are considered more likely to gamble on games such
as bingo and raffles, and men on games such as blackjack and lotteries. In the
Ontario prevalence study (Canadian Foundation on Compulsive Gambling Ont.,
1993), 29% of women and 10% of men played bingo, while 19% of men and 10% of
women played blackjack or casino games. These differences in gambling behaviour
are often attributed to gender role socialization. Lindgren et al. (1987) surveyed
1,964 residents of North Dakota to determine if attitude differences towards
gambling between males and females were consistent with gender role
socialization. They found only limited support for this hypothesis, and attribute
their findings to a reduction in the differences in male and female roles and to a
greater acceptance of gambling that has resulted from increased legalization and
social acceptance.

Some researchers have attempted to develop profiles of the characteristics of
the typical gambler. Martinez-Pina et al. (1991) compared 57 casino pathological
gamblers to 114 controls matched on sex and age. They found pathological
gamblers compared to controls had lower family stability, lower work stability,
more psychiatric illnesses, poorer health, and were poly-addicted to alcohol and
drugs. Intelligence, as measured by the Weschler Adult Intelligence Sacle (Revised)
(WAIS-R), was lower in pathological gamblers. McCormic and Taber (1987), in
their literature review, propose the following salient personality dimensions as
characterizing the pathological gambler: obsessive-compulsive, negative affect
(depression, hypomania and anxiety), trauma and life stressors, and poor

socialization (egotistical, narcissistic, lacking in empathy, and poly-addicted). In contrast, Peck (1986), in his literature review, lists the following personality characteristics to be commonly found in pathological gamblers: above average intelligence, industrious and successful workers, high energy, athletic ability, and good school performance; characteristics that are described as productive hypomania. They are also characterized by seeking challenge, stimulation, and tolerating boredom poorly. Such contrasting views of gamblers suggest that they do not represent a homogeneous group. In a review of the gambling literature, Murray (1993) has concluded that no single psychological test has demonstrated consistent differences between gamblers and non-gamblers.

It has also been suggested that demographic characteristics, such as education, income, marital status, income, religion and occupational status, can characterize gamblers (Sommers, 1988). However, when demographic characteristics are analysed statistically most of them do not significantly differentiate gamblers and non-gamblers (Nova Scotia Department of Health, 1993; Volberg & Steadman, 1992).

Social factors approach. Sociologically based gambling researchers challenge the medical model of gambling. They view the DSM IV conceptualization as based on gamblers who are in treatment and trying to quit, as opposed to typical gamblers in the general population, or problem gamblers who have reduced or stopped gambling. This position is supported by prevalence studies, such as that of Volberg and Steadman (1989) who showed that Gamblers Anonymous members are

significantly different from pathological gamblers in the general population. Observations of gamblers in natural gambling settings suggest that most problem gamblers, i.e., those that lose excessive amounts of money, maintain equilibrium rather than experience an inexorable downward progression in gambling behaviour (Rosecrance, 1985-86). The sociological approach emphasizes environmental factors, rather than disease, as important causal factors in pathological gambling. Ocean and Smith (1993), in their analysis of casino gambling, see the casino as representing Goffman's (1961) total institution which satisfies three main spheres of life: dwelling, playing, and working. The casino, by offering a complete environment in which gamblers can develop a network of friends, experience the excitement of gambling and the illusion of financial gain, creates an situation in which gamblers can develop a sense of achievement and obtain social status. These factors provide sources of self esteem and reinforce and maintain the gambling behaviour. Social constructionists extend the sociological approach to cultural values and belief systems which define the roles of an activity, such as gambling in a society. Abt and McGurrin (1992) suggest that gambling is a symbolic ritual that represents the chance and risky events that naturally occur in our world and allows us to experience, in a safe manner, the risks of life, its losses, and, for a time at least, successes. In this way we learn to deal with risks in a socially controlled manner. The pathological gambler, from this perspective, is actually incurring real risks and is not playing according to the cultural rules and values.

Physiological factors approach. Gamblers have been consistently shown to

report higher childhood attention deficit hyperactivity disorder (ADHD)-like symptoms than controls. For example, Rugle and Melamed (1993) compared 33 non-substance abusing pathological gamblers to 33 non-addicted controls on attention measures and a questionnaire on childhood behaviours. Gamblers showed attention deficits in executive functions, such as concept formation, and also reported more childhood behaviours indicative of ADHD. The authors conclude that the results show that gamblers have long term attention deficits and that such deficits place individuals at risk for addictive disorders. Subtle EEG differences, similar to those in ADHD patients, are also found in gamblers (Carlton & Manowits, 1987, 1992). Unlike alcoholics, who also have high levels of reported ADHD-like behaviour in childhood, gamblers do not consistently show lower levels of behavioural restraint. Instead, gamblers fall into two categories: either less controlled as compared to alcoholics, or over controlled as compared to a normal control group (Carlton & Manowits, 1992). These results suggest that gamblers may have an abnormal hypo or hyper active resting state.

Relatively few studies of neurotransmitter levels in gamblers have been made. Roy et al. (1988) studied 24 pathological gamblers for indicators of neurotransmitter deficits. No evidence was found for low levels of 5-HT in cerebral spinal fluid (CSF) despite the fact that the disorder is conceptualized as an impulse control disorder and has an extremely high suicide rate, both of which areassociated with low CFS levels of 5-HT. However, low CFS levels of 3-methoxy-4-hydroxyphenylglycol (MHPG) and high urinary levels of norepinephrine were

found, suggesting a deficit in the noradrenergic system. This finding is consistent with the conceptualization of gambling as a sensation seeking activity.

Need state approach. Gambling has also been viewed as an activity that allows the gambler to modify an internal state. England and Götestam (1991) suggest that gamblers may well gamble to lift their mood (79% of gamblers entering treatment gamble to forget their troubles). McCormic (1987) has also proposed a need state model in which gamblers gamble because of chronic under-stimulation or depression. The most comprehensive need state model that has been proposed is Jacobs' (1986) general theory of addictions. In this approach addiction is a dependent state that is acquired to relieve stress. Two factors predispose an individual to becoming addicted; an abnormal resting state, either depressed or excited; and childhood experiences that produce a sense of inadequacy, and the use of fantasy as a defence mechanism. In a predisposed individual addiction is triggered by a chance encounter with an activity that relieves the stress of the abnormal resting state. The model implies that adolescents, with their exploratory behaviours, are at risk for developing addictions and should be a focus for prevention and early intervention. Carlton and Manowits' (1992) demonstration of over- and under-controlled groups of gamblers supports the over- and under-controlled aspect of the model proposed by Jacobs.

Gambling Prevalence Studies

Survey instruments. The survey instrument that has been used most widely in gambling prevalence studies is the South Oaks Gambling Screen (SOGS) (Lesieur

& Blume, 1987). The screen was developed, in three stages, at the South Oaks

Hospital in Amityville, New York, a private psychiatric hospital that provides

treatment for alcohol and other drug dependencies and a treatment program for

pathological gamblers. In the first two stages questions based on the DSM III

diagnostic criteria were developed, and the ability of these questions to

discriminate between patients diagnosed as pathological gamblers and non-

gambling patients was examined. Twenty questions were selected for the final

screen and a score of five or more was selected as indicative of probable

pathological gambling. These two developmental stages involved a total of 655

patients. The index was cross-validated, in the third stage, on 213 Gamblers

Anonymous members, 384 college students and 152 hospital employees. A cutoff

score of five or more on the 20 item screen correctly classified 98% of the Gamblers

Anonymous members, identified as pathological gamblers 5% of the college

students and 1.3% of the hospital employees. The reliability of the screen was

measured in two ways. First, a measure of internal consistency was calculated. A

value of 0.97 for Cronbach's alpha showed the test to be very reliable. Second, the

test was readministered 30 days later. The test-retest correlation was an acceptable

0.71.

Although the SOGS screen has good indicators of validity and reliability

based on the populations studied, Lesieur and Blume (1987) note that the true

sensitivity and specificity within the general population remains unknown, and that

differences in prevalence rates may result in different true and false positive and

negative rates. A copy of the SOGS screen is included in Appendix A.

The SOGS screen has been adapted in a number of ways in various prevalence studies. Lesieur and Blume (1993) have reviewed the various modifications and provide suggestions as to their suitability. The authors suggest that the initial questions, which ask about the type of gambling that subjects participate in, be modified to suit the gambling practices of the jurisdiction where the screen is being used. Such changes help the subjects define the concept of gambling before proceeding to the remainder of the screen. The original SOGS screen is based on lifetime gambling activity and does not differentiate pathological gamblers in remission from active pathological gamblers. The authors suggest that the SOGS may be modified to cover a six month or one year time frame to identify active pathological gamblers. The SOGS screen has not been validated for a one year or six month time frame and the results for a six month or one year time frame can be considered as suggestive only.

Culleton (1989) has proposed a Cumulative Clinical Signs Method (CCSM) as an alternate to the SOGS screen. This approach is based on the Inventory of Gambling Behavior (IGB) which reflects the criteria of the DSM III for pathological gambling. The items on the IGB were reduced in stages to twenty items that discriminate pathological gamblers from groups of inpatient alcohol and drug abusers at the South Oaks Hospital. The items were then tested on Gamblers Anonymous members, hospital workers, and students. The predictive value of the test was 98.5% for the Gamblers Anonymous members, 80% for the students, and

50% for the hospital workers. The declining predictive values over the various groups are attributed to a declining prevalence rate that influences the ability of a test to predict the presence or absence of a disease. Culleton reports applying the CCSM methodology to estimate the prevalence rate of gambling in the Delaware Valley and Ohio (Culleton, 1989). The prevalence rates were 3.4% probable pathological gamblers and an additional 4.1% potential pathological gamblers in the Delaware Valley, and 2.5% probable pathological gamblers and 3.4% additional potential gamblers in Ohio. In comparing the CCSM to the SOGS, Culleton (1989) points out that the application of a screen to estimate the prevalence of a disease is a reversal of the standard epidemiological approach and he applies this criticism to the New York prevalence study that was based on the SOGS screen (Volberg & Steadman, 1988). Despite this criticism, the methodology used in developing the CCSM test is virtually identical to that used in the development of the SOGS. Culleton criticizes prevalence studies based on the SOGS screen for failing to compensate for false positive misclassifications. He also suggests that the odds ratio methodology of the CCSM provides a method of predicting errors that is independent of the prevalence rate. The odds ratio is the probability of correctly identifying pathological gambling when pathological gambling is present divided by the probability of incorrectly identifying pathological gambling when pathological gambling is not present.

Volberg and Banks (1990) have compared the CCSM and SOGS measures of pathological gambling. They point out that both the CCSM and SOGS were

developed in the same manner and that the SOGS sensitivity and specificity is very high. As a result the SOGS results require very little adjustment of estimated prevalence rates. Volberg and Banks (1990) also point out two flaws in Culleton's (1989) odds ratio approach to predicting errors. First, although the odds ratio itself is independent of the prevalence rate, the predicted number of errors is dependent on the prevalence rate. Second, the assumption of statistical independence of the test items, on which the odds ratios are calculated, is not valid for the CCSM items. They also point out that the SOGS has been selected as the best available method by a wide variety of researchers and has become the de facto standard for gambling prevalence measurement.

The widespread acceptance of the SOGS has also led to the acceptance of the three levels into which the screen categorizes gamblers: non-problem gambling, problem gambling and pathological gambling. Shaffer and Matthew (in press) have proposed an extension of these three levels. They suggest the addition of non-gambling category and the pathological gambler who is willing to enter treatment. Such a classification system conveys a wider range of information about the gambling population.

Review of prevalence studies. The introduction of pathological gambling in the DSM III in 1980 provided the first consistent criteria for the diagnosis of pathological gambling. As a result, only gambling prevalence studies after 1980 will be reviewed here.

Sommers (1988) has estimated the prevalence of problem gambling

behaviour in southeastern Pennsylvania and southern New Jersey to be 3.37% probable pathological gamblers, and an additional 4.12% probable potential pathological gamblers. A telephone survey was utilized to reach a sample of 534 subjects. The interview questionnaire consisted of eight questions designed to match the hard diagnostic signs in the DSM III and the Inventory of Gambling Behavior (IGB) (Custer, 1978). The interview questionnaire was tested on a sample of 83 Gamblers Anonymous members and 61 social club members. Two additional criteria, chronicity and progressivity, were utilized to refine the estimates of pathological gambling developed from the questionnaire. These additional criteria were not psychometrically validated. The study is limited by its small sample size and lack of psychometric validity of the measures.

In estimating the prevalence of excessive gambling in Australia, Dickerson and Hinchy (1988) did not follow the DSM III criteria. They interviewed regular gamblers in natural gambling settings, such as off track betting. The interview process consisted of two parts; first, a set of brief questions on gambling frequency, duration, and amount gambled; and second, a questionnaire containing items from the State-Trait Anxiety (STA) Questionnaire, a question on chasing behaviour, questions on betting behaviour related to loss of control, and the Sensation Seeking Scale (SSS) (Form V). The interview results were stratified by the authors into four face valid levels representing degrees of excessive gambling. No psychometric validity was established for the approach. By using two other surveys of gambling participation in the general population, the authors were able to extend their survey

of regular gamblers to the general population. This extrapolation process resulted in estimates of excessive gambling in the general population from 1.7% (level 1) to 0.25% (level 4). The authors favoured the lower more conservative estimate of excessive gamblers and, in effect, have defined excessive gamblers as those people who meet their level 4 criteria. The failure to use standard diagnostic criteria and the assumptions used to extrapolate their findings to the general population, call into question their estimates of the prevalence of pathological gambling.

A 1989 study of gambling prevalence in New Jersey and Maryland (Volberg & Steadman, 1989) found that in New Jersey 1.4% were probable pathological gamblers and 2.8% were possible pathological gamblers and in Maryland 1.4% were probable pathological gamblers and an additional 2.4% were probable problem gamblers. A sample of 1,000 individuals was interviewed by telephone. Random digit dialling and random selection of respondents within a household was used. The survey was based on the SOGS. Volberg and Steadman (1989) also contrasted the characteristics of gamblers in the general population with gamblers in treatment. Gamblers in treatment were more likely to be white, male, and better educated.

A 1991 survey of gambling prevalence in Quebec (Ladouceur, 1991) found that 88% of Quebec residents had gambled in their lifetime and that 1.2% were probable pathological gamblers and an additional 2.6% were probable problem gamblers. A telephone survey based on the SOGS was used. Telephone numbers were randomly selected from phone books and respondents were randomly selected from within the household. A total of 1,002 Quebec residents was

surveyed.

A 1992 study of gambling prevalence in Seville (Spain) (Legarda, Babio & Abreu, 1992) found 1.7% were probable pathological gamblers and 5.2% were probable problem gamblers. A sample of 598 individuals was interviewed in their homes using a Spanish translation of the SOGS. Census data from 1989 was used to produce overall quotas based on gender and age. Interviewers followed a random route in each of the ten districts of Seville and interviewed residents until the quotas were met in the sample.

A recent study of the prevalence of pathological gambling in the Province of Ontario (Canadian Foundation on Compulsive Gambling [Ont], 1993) found that 67% of Ontarians had gambled in their lifetime, 0.9% were probable pathological gamblers, and 7.7% were probable problem gamblers. In the Ontario survey problem gambling was defined as the endorsement of one to four of the twenty scored items of the SOGS screen rather than the more conventional approach of three or four items endorsed. As a result the Ontario figures for problem gambling are probably inflated compared to other similar surveys. A telephone survey based on the SOGS was used. Random digit dialling and random selection of respondents within a household was used. A total of 1,200 Ontario residents between the age of 18 and 74 was surveyed. A similar study was carried out in the Province of Nova Scotia (Nova Scotia Department of Health, 1993). This study also utilized a telephone survey based on the SOGS screen. Random digit dialling and random selection of respondents within a household was used. Prevalence rates for a

sample of 810 adults were: 1.7% probable pathological gamblers and 3.1% possible problem gamblers. The study also surveyed 300 adolescents and found considerably higher rates of problem gambling behaviour in this age group: 3.0% probable pathological gamblers and 8.7% probable problem gamblers.

These prevalence studies are summarized in Table 1. The most common survey instrument used in these studies is the SOGS, and the most common survey methodology used is the telephone survey. The estimates of pathological gambling have a relatively large range, from 0.25% to 3.37%, however, more recent studies based on the SOGS screen have a smaller range, 0.9% to 1.7%. The small number of prevalence studies and the limited information provided in each make it difficult to determine the possible reasons for the difference in prevalence rates found in the various studies.

Age Related Changes in Gambling Behavior

The relationship between age and gambling behavior in selected prevalence studies is summarized in Table 2. These studies present a mixed picture with four of the six studies showing a decline in problem and pathological gambling with age (Nova Scotia Department of Health, 1993; Wallisch, 1993; Volberg, 1993; Ladouceur, 1991), one showing no change in problem and pathological gambling with age (Volberg & Stuefen, 1992), and one study showing mixed results (Legarda et al., 1992). In addition, the Wallisch (1993) study reported a small decline in regular gambling with age.

Table 1

Summary of Gambling Prevalence Studies

Study	Region surveyed	Sample size	% of patho- logical gamblers	% of problem gamblers	Survey instru- ments
Sommers (1988)	Southeastern Pennsylvania and Southern New Jersey	534	3.37%	4.12%	IGB[*] & DSM III
Dickerson & Hinchy, (1988)	Australian Capital Territory	570	0.25%	---	STA[b] & SSS[c]
Ladouceur (1991)	Quebec	1,002	1.2%	2.6%	SOGS
Legarda et al. (1992)	Seville (Spain)	598	1.7%	5.2%	SOGS
Canadian Foundation on Compulsive Gambling [Ont.] (1993)	Ontario	1,200	0.9%	7.7%[w]	SOGS
Volberg & Steadman, (1989)	New Jersey & Maryland	1,000	1.4%	2.8%	SOGS[d]

Table 1 continued

Summary of Gambling Prevalence Studies

Study	Region surveyed	Sample size	% of patho- logical Gamblers	% of problem Gamblers	Survey instru- ments
Nova Scotia Department of Health (1993)	Nova Scotia	810 adults	1.7%	3.1%	SOGS
Average			1.5%	4.3%	

ᵃ Inventory of Gambling Behavior

ᵇ State Trait Anxiety Scale

ᶜ Sensation Seeking Scale

ᵈ South Oaks Gambling Screen

ᵉ Wider range of problem gamblers included than with other SOGS based studies

ᶠ Prevalence data is for the previous year

Table 2

Summary of the Relationship Between Age and Gambling Behavior in Prevalence
Studies

Prevalence study	Age ranges	Results	Statistical significance
Nova Scotia (Nova Scotia Dept. Of Health, 1993)	18-24 to 65+ by 10 year ranges	71% decline in problem gambling and 100% Decline in pathological gambling	N.C.
Texas (Wallisch, 1993)	18-24 25-34 35+	18% decline in regular gambling and a 68% decline in pathological gambling	N.C.
Washington (Volberg, 1993)	<30 =>30	18% of non-problem gamblers <30 and 45% problem and pathological gamblers <30 years	**
South Dakota (Volberg & Stuefen, 1994)	<30 =>30	16% of non-problem gamblers <30 and 17% problem and pathological gamblers <30 years	N.S.

Continued

Table 2 (Continued)

Summary of the Relationship Between Age and Gambling Behavior in Prevalence

Studies

Prevalence study	Age ranges	Results	Statistical significance
Seville (Spain) (Legarda et al., 1992)	18-30 31-43 44-56 >57	300% increase in patho- logical gamblers, 75% decrease in problem gamblers, & 50% of gamblers in treatment in 31-43 year range	N.C.
Quebec (Ladouceur, 1991)	<30 40-49	52% more problem and patho- logical gamblers <30 and 92% more problem and patho- logical gamblers 40-49 than in sample as a whole	**

*N.C. not calculated, N.S. not significant, * p<.05, ** p<.01

Only one thorough analysis of the relationship between age and gambling activity has been carried out (Mok & Harba, 1991). In this study Mok and Harba surveyed 1,011 residents of Iowa obtaining information on gambling behavior and demographic and socio-economic variables. An index of gambling behavior was developed by combining measures of the number of gambling activities engaged in,

the frequency of gambling, the amount spent on gambling, and the amount of leisure time spent in gambling. A steady decline in the index of gambling behavior with age of 84% was observed from the 18-24 years age category to the 85 years and up category. Age accounted for 12.2% of the overall variance in gambling behavior. When the effects of demographic and socio-economic variables, such as social class, marital status, employment status, gender, community size and religion, were removed, the corresponding decline in the gambling behavior index from 18-24 years to 85 years and up was 25%. Age accounted for 5% of the variance in gambling behavior after adjusting for demographic and socio-economic variables.. This study suggests that a significant proportion of age-related changes in gambling behavior can be explained by demographic and socio-economic variables, such as employment status or marital status, which naturally vary across the life span. Unfortunately, this study did not investigate the relationship between age and problem gambling behaviours.

In their study Mok and Harba (1991) identified a number of social and psychological theories that are relevant to age related changes in gambling behavior. The stages of development proposed by Erickson (1950) suggest that adolescents will experiment with gambling activities as part of their role development process, people in middle adulthood will focus on the financial rewards of gambling as part of their concern with achievement, power and productivity, and people in late adulthood with their more developed and stable self-concept will gamble, if at all, to maintain social relationships. Erickson's

developmental theory suggests a decline in gambling activity in later adulthood.

Self-presentation theory (Goffman, 1967) suggests that people engage in activities to

make a favorable impression on others and to enhance self-esteem. In his approach

gambling is seen as a form of impression management and a way to gain social

stature at least in the eyes of other gamblers. Goffman's perspective suggests that

gambling should decline with age as individuals develop a more stable and positive

self concept over time. Activity theory (Mok & Harba, 1991) suggests that the

elderly will turn to gambling to fill activities lost through retirement or loss of

spouse, while disengagement theory (Cummings & Henry, 1961) suggests that the

elderly naturally disengage from roles and activities as they age. Another approach

along these lines is continuity theory (Williams & Wirths, 1965) which proposes that

people tend to maintain their activities and activity levels throughout the lifespan

where resources permit. A final approach treats the changes in gambling behavior

with age as a cohort effect, i.e., the present level of an age groups' gambling reflects

early socialization experiences. Although overall levels of gambling have gradually

increased in social acceptability, the cohort effect would predict that this increased

acceptability would occur primarily in the the younger age groups, while the older

age groups would retain a lower acceptance of gambling from their youth. The

overall decline in gambling activity found by Mok and Harba is compatible with a

number of these approaches: Erickson's developmental sequence, self-presentation,

disengagement, and the cohort effect. The explanatory power of demographic and

socio-economic variables suggests that factors such as income rather than changes

inherent in the aging process may best explain the decline in activity with age. Unfortunately, Mok and Harba did not investigate problem gambling behaviours in their study, thereby leaving open the question of whether demographic and socio-economic variables are also associated with problem gambling behaviours over the lifespan.

Purpose and Goals of the Present Study

The primary purpose of the present study is to establish baseline information prior to the opening of Casino Windsor so that the impact of the new casino on the Windsor community can be assessed. Also, the information gathered in the baseline study will be used to explore specific areas, such as lifespan changes in gambling behavior. Despite the variety of conflicting models that purport to explain the various aspects of gambling behavior, several broad hypothesis can be made. First it is hypothesized that gambling will be a frequent phenomenon with over 50% of the population gambling. Second, that the prevalence of pathological gambling will be approximately 1% and the prevalence of problem gambling in the 3 to 4% range. Third, gambling activity will decline with age. Specific hypotheses will not be made for each of the many models, but rather alternate approaches will be evaluated on the basis of the actual data.

Goal one: Baseline information. The primary goal is to establish baseline data on the levels of problem and pathological gambling and gambling activities prior to the opening of Casino Windsor. Also, participation rates in various gambling activities will be explored, as well as gender differences in gambling

activities and in problem gambling behavior.

Goal two: Identifying variables associated with gambling behavior. The second goal is to systematically explore the statistical significance of demographic and socio-economic variables with gambling activity levels and with problem gambling behavior. Since statistical significance can be achieved with very small effect sizes when the sample size ranges from 1,000 to 2,700 (depending on the subgroup being investigated), discriminant analysis will be employed to provide a meaningful measure of the predictive ability of the statistically significant variables.

Goal three: Age related changes in gambling behavior. As with goal two, a statistical model will be developed for gambling activities and problem gambling behavior over the lifespan.

CHAPTER II

METHOD

Survey Methodology

Adult subjects aged 18 and older were sampled by telephone from the
Metropolitan Windsor area, i.e., the cities of Windsor, LaSalle, Maidstone, and
Tecumseh. Randomization of households was achieved in a two stage process.
First, 2,000 telephone numbers were randomly selected from the 1992-93 Windsor
and Area telephone directory. The last three digits of each number were removed
and replaced with a randomly generated three-digit number. This procedure
enables the telephone survey to reach unlisted and new telephone numbers.
Second, randomization within the household was achieved by selecting the adult
resident with the next birthday rather than automatically interviewing the person
answering the telephone. A number was called back up to five times on separate
days if no answer was obtained. If the individual selected within the household
was unable to complete the survey at that time a call back time was arranged if
possible. Informed consent was obtained verbally before proceeding with the
interview. The survey was conducted from 4:00p.m. to 9:00p.m. Monday to Friday,
and from 12:00p.m. to 6:00p.m. on Saturday from September 1993 to April 1994.
Survey staff were given an initial training program (see Appendix B) and ongoing
supervision was provided.

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Instrument

The SOGS measure was chosen as the basis for this survey because it is the most widely used standardised survey screen and because of its high validity and reliability. The screen was adapted as suggested by Lesieur and Blume (1993) to reflect the gambling practices of the Province of Ontario and to measure recent gambling behaviour as well as lifetime gambling behaviour. The survey instrument (Appendix C) consists of five sections. The first section (questions 1 to 4) tap the respondents' attitudes towards the future Windsor casino. These questions are designed to provide a non-threatening introduction to the survey for the respondents and to provide a lead in to the questions on gambling behavior. The second section (questions 5 to 84) is based on the SOGS screen (Lesieur & Blume, 1987) modified as suggested by Lesieur and Bloom (1993) to measure the prevalence of problem and pathological gambling for both the lifetime and the previous year. The third section (questions 85 to 96) captures basic demographic information about the respondents. The fourth section (question 97) measures the respondents awareness of treatment options. The fifth and final section (questions 98 and 99) ask the respondents if they are willing to take part in future studies.

Feedback was provided on the basic findings to the Windsor community by press release.

CHAPTER III

RESULTS

Characteristics of the Sample

2,708 residents of Metropolitan Windsor were surveyed, and 2,682 (99%) of these surveys were usable . The response rate, i.e., the ratio of people who agreed to participate in the survey to the total number of usable telephone numbers called, was 51%. Although this is in the general range of other studies it is lower than the typical value of 65%. Table 3 compares selected characteristics of the sample to characteristics of the Metropolitan Windsor population characteristics. From Table 3 one can see that, compared to the census data, the sample has an over representation of females, an over representation of incomes less than $20,000, an under representation of incomes over $50,000, over representation of under 40 year olds, an under representation of over 70 year olds, and an under representation of lower educational levels. Similar deviations from the census data are found in other telephone based gambling surveys. Sommers' (1988) survey of Pennsylvania and New Jersey was over represented in the lower age groups, i.e., less than 50 years old, over represented in the high income ranges and under represented in low income range. Volberg's (1993) survey of Washington State was under represented in young adults, the elderly and those who had never married.

Statistical Note

The minimum probability criterion for statistical significance has been set at

$p<0.01$ rather than the more common value of $p<0.05$. The present study makes a number of statistical comparisons making it more likely that a Type I error will occur in one or more of the comparisons if the $p<0.05$ significance level is used. The more stringent criteria of $p<0.01$ helps reduce the possibility of Type I errors.

Baseline Information

To provide an overall picture of the levels of gambling participation and problem gambling behavior the categorization system suggested by Shaffer and Matthew (in press), which divides the sample into non-gamblers, non-problem gamblers (SOGS score 0-2), problem gamblers (SOGS score 3-4), and pathological gamblers (SOGS score >4), has been utilized. Life time and previous year prevalence of these categories are shown in Table 4. A Wilcoxon matched-pairs signed-ranks test showed a significant difference between the levels of problem and pathological gambling in the previous year and over the life time ($N=2602$, $T=-6.43$, $p<0.0001$) with lifetime levels approximately twice that of the previous year. The gender differences for the prevalence in the previous year and over the life time were both significant: $\chi^2(3, N=2,567)=29.8$, $p<.00001$ (for previous year) and $\chi^2(3, N=2,646)=42.6$, $p<.00001$ (for the life time) with males displaying higher levels of gambling activity. Table 4 shows that the decline in prevalence levels from the lifetime to the previous year is primarily due to the approximately 50% reduction in the number or problem and pathological gamblers. The gender differences are primarily due to differences in the percentage of non-gamblers.

Table 3

Selected Demographic Characteristics

Characteristic	Sample %	Population %
Gender		
Male	40.2	48.1
Female	59.7	51.9
Family income		
Under $20,000	23.7	13.9
$20,000-$29,999	14.7	11.5
$30,000-$39,999	14.0	13.5
$40,000-$49,999	13.3	15.2
$50,000-$59,999	11.3	13.3
$60,000-$69,999	6.9	10.5
$70,000 and up	16.2	22.2
Age in years		
18 & 19	5.0	3.9
20-29	24.5	21.1
30-39	25.1	21.4
40-49	17.2	17.5
50-59	11.6	12.6
60-69	10.0	11.3
70 and up	5.6	12.0

Continued

Table 3 Continued

Selected Demographic Characteristics

Characteristic	Sample %	Population %[b]
Education		
0 to Grade 8	3.8	13.5[b]
Some high school	14.7	26.0
High school graduate	29.8	17.0
Some Community College	10.7	6.7
Community College grad.	10.9	14.6
Some University	12.3	15.3
University graduate	17.7	13.4

[a] based on 1991 census data for Essex County (Statistics Canada, 1992)

[b] population data based on 15 years and greater

Table 4

Levels of Problem and Pathological Gambling in the Sample

Group	% Non-gamblers	% Non-problem gamblers[a]	% Problem gamblers[b]	% Pathological gamblers[c]
Lifetime Prevalence Levels				
Total sample	34.3	61.5	2.6	1.6
Males	27.2	67.9	2.9	2.1
Females	39.2	57.2	2.4	1.2
Prevalence in the Previous year				
Total sample	35.4	62.5	1.4	0.8
Males	28.3	69.1	1.7	1.0
Females	40.1	58.1	1.2	0.6

[a]SOGS score of 0 to 2

[b]SOGS score of 3 to 4

[c]SOGS score of 5 or more

The gender differences in the prevalence of problem and pathological gambling are relatively small and in the previous year quite similar.

Table 5 summarizes the relative frequency of the gambling activities of regular gamblers for the total sample and for males and females separately. Regular gamblers are those gamblers who have participated in a gambling activity once a week or more or have left the Provence to gamble more than three times in the previous year. Males and females did not differ significantly from those who were regular gamblers on pull tabs, race track, lottery, video gambling, charitable casinos, and casino gambling outside of Ontario.

Table 5

Percentage of Regular Gamblers* by Gambling Activity in the Previous Year

Activity	% for all gamblers	% for female gamblers	% for male gamblers	Significance of gender differences
Bingo	8.0	9.9	5.5	•••
Pull tabs	10.4	8.6	12.4	n.s.
Race track	2.6	1.8	3.5	n.s.
Lottery	44.3	41.7	47.6	n.s.
Bookmaker	0.7	0.1	1.5	•••
Sports Select	5.7	1.1	11.6	••••
Video gambling	0.3	0.2	0.4	n.s.
Charitable casino	1.4	0.8	2.0	n.s.
Casino outside of Ont.	2.4	1.7	3.1	n.s.

* those gamblers who participated in an activity once a week or more in the previous year or left the Provence to gamble on casino games 3 times or more in the previous year

n.s. not significant, **p<.01, ***p<.001, ****p<.0001 x^2 significance levels for gender differences

Table 6

Percentage of Regular Gamblers* in the Previous Year by Gambling Activity and Age Category

Activity	18-30 years	31-45 years	> 45 years	Significance
Bingo	6.8	7.1	11.6	n.s.
Pull tabs	10.3	11.2	8.7	n.s.
Race track	1.5	3.2	3.5	n.s.
Lottery	30.2	49.9	55.8	****
Bookmaker	1.7	0.3	0.0	¶
Sports Select	10.1	3.9	3.9	****
Video gambling	0.7	0.2	0.0	¶
Charitable casino	2.0	1.0	1.3	n.s.
Casino outside of Ont.	2.0	1.9	4.2	n.s.

* those gamblers who participated in an activity once a week or more or left the Provence to gamble on casino games 3 times a year or more

n.s. not significant, **$p<.01$, ***$p<.001$, ****$p<.0001$ x^2 significance levels for the age differences

¶ x^2 not determinable > 20% of cells have expected frequencies of <5

Male regular gamblers reported a significantly higher percentage of gambling on Sports Select and with a bookmaker, and females reported significantly higher levels of gambling on bingo. A corresponding breakdown of regular gambling activities by age is given in Table 6. Table 6 shows considerable uniformity in regular gambling activities by age category. Only two of the seven gambling activities for which statistical significance could be calculated, the lottery and Sports

Select, differed significantly over the age categories. Sports Select is predominately played by 18-30 year old gamblers and the lottery is predominately played by gamblers over 45 years of age.

Table 7 summarizes the average amount wagered for infrequent and regular gamblers for each type of gambling activity. It shows a substantial increase in the amount wagered by infrequent as compared to frequent gamblers. There also appear to be several grouping of gambling activities; first, lottery and lottery related activities, such as pull tabs and Sports Select which have modest wager amounts; second, high wager activities, such as the racetrack and casino gambling outside of Ontario; and third, intermediate wager activities, such as bingo and charitable casinos. Bookmakers and video gambling are both illegal and frequented by a very small number of gamblers making the interpretation of their gambling expenditures unclear and, as a result, have not been considered in these groupings of gambling activity.

Variables Associated With Gambling Behavior

Table 8 summarizes the statistical relationship between the demographic and socio-economic variables and gambling behavior measured by the categories suggested by Shaffer and Matthew (in press). The question, "Do you approve of the new Windsor casino," was included as an indicator of the respondent's overall attitude towards gambling. Since the impact of the amount wagered varies with

Table 7

Average Amount Wagered in Previous Month by Gambling Activity

| Activity | Average Wager($) | | | |
	Infrequent[a] gamblers	(N)	Regular[b] gamblers	(N)
Bingo	31.90	(242)	165.15	(132)
Pull tabs	11.45	(447)	32.63	(171)
Racetrack	71.94	(77)	437.71	(35)
Lottery	10.36	(573)	29.36	(740)
Bookmaker[c]	1,061.82	(22)	157.73	(11)
Sports Select	14.08	(120)	80.70	(92)
Video gambling[c]	86.75	(20)	1,501.00	(5)
Charitable casino	118.27	(115)	172.00	(19)
Casinos outside of Ontario (per trip)	484.97	(201)	1,322.83	(33)

[a] Less than once a week

[b] Once a week or more

[c] Illegal in Ontario

income, the absolute amounts have been replaced by their ratio to family income. Family income rather than personal income was used because some respondents, such as housewives or students, may have no direct personal income but nevertheless gamble using general family income. Table 8 shows that the reported levels of gambling behaviour varied significantly across the levels of the demographic and socio-economic variables with the exception of educational status. Table 8 also clearly shows how the levels of gambling behaviour vary with the

levels of the various demographic and socio-economic variables. For example, 22.4% of those respondents who approved of the casino were non-gamblers while 54.6% of the respondents who did not approve of the casino were non-gamblers. Similarly 1% of the respondents who approved of the casino were pathological gamblers compared to 0.4% pathological gamblers among respondents who did not approve of the casino. Table 8 shows similar variation in gambling behaviour with the other demographic and socio-economic variables. Since an important focus of the present study is problem and pathological gamblers, the analysis of Table 8 was repeated with gamblers only to determine if the relationships of Table 8 are associated with the numbers of non-gamblers and gamblers or the level of problem and pathological gambling among gamblers. The results are shown in Table 9. In contrast to Table 8 relatively few of the reported levels of gambling behaviour varied significantly across the levels of the demographic and socio-economic variables, a significant other who has had a gambling problem, and age. As well, a variety of gambling activity related variables are significantly related to reported levels of gambling behaviour, the percentage of family income spent on gambling in the previous year, the largest amount gambled in one day as a percentage of family income, and the number of gambling activities engaged in the previous year. The levels of problem and pathological gambling increased as the percentage of family income spent on gambling increased, as the largest daily amount gambled as a percentage of family income increased and as the number of gambling activities

Table 8

Relationship Between Levels of Gambling Behaviour in the Previous Year and
Demographic and Activity Variables

Variable	% Non-gamblers	% Non-problem gamblers[a]	% Problem gamblers[b]	% Pathological gamblers[c]
Approve of casino****				
Yes	22.4	74.5	2.1	1.0
No	54.6	44.1	0.9	0.4
Ratio of largest daily amount gambled to family income****				
<0.05%	67.9	32.1	0.1	0.0
<0.2%	0.0	95.8	3.2	1.1
>0.2%	0.0	92.8	4.1	3.1
Friends or relatives with gambling problems[a]				
Family income****				
<$40,000	39.6	58.2	1.1	1.1
=>$40,000	28.4	69.3	1.4	0.9
Member of religious group****				
Yes	41.1	57.6	0.9	0.4
No	28.6	68.4	1.9	1.2

Continued

Table 8 (Continued)

Relationship Between Levels of Gambling Behavior Over the Previous Year and Demographic and Activity Variables.

Variable	% Non-gamblers	% Non-problem gamblers[a]	% Problem gamblers[b]	% Pathological gamblers[c]
Marital status****				
Married	36.2	62.6	0.7	0.5
Widowed, divorced or				
separated	43.0	56.3	0.5	0.2
Never married	30.7	65.5	2.6	1.2
Common law	20.4	69.4	4.1	6.1
Occupation****				
Not working for pay	43.3	54.4	1.5	0.7
Professional	33.8	64.4	1.8	0.0
Clerical	28.8	69.6	0.4	1.1
Trades	26.8	70.9	1.3	1.1
Gender****				
Female	40.1	58.1	1.2	0.6
Male	28.3	69.1	1.7	1.0
Age ****				
18-30 years	30.0	66.3	2.3	1.4
31-34 years	33.8	64.6	0.9	0.7
46 and up	36.0	62.4	1.2	0.4

Continued

Table 8 (Continued)

Relationship Between Levels of Gambling Behaviour in the Previous Year and

Demographic and Activity Variables

Variable	% Non-gamblers	% Non-problem gamblers[a]	% Problem gamblers[b]	% Pathological gamblers[c]
Education level n.s.				
Post secondary	34.7	63.9	1.0	0.5
High school or less	35.6	61.5	1.7	1.1

[a]SOGS score of 0 to 2

[b]SOGS score of 3 to 4

[c]SOGS score of 5 or more

* Presence of significant others was only asked for those who gambled

n.s. not significant, **p<.01, ***p<.001, ****p<.0001 x^2 significance

levels for the differences between the levels of the variables and the

levels of problem and pathological gambling.

¶ x^2 not determinable > 20% of cells have expected frequencies of <5

Table 9

Relationship Between Levels of Problem and Pathological Gambling in the
Previous Year and Demographic and Activity Variables for Gamblers in the
Sample

Variable	% No problems	% Problem gamblers	% Pathological gamblers
% of family income spent on gambling in previous year ****			
0.0-0.29%	99.5	0.5	0.0
0.3-1.25%	97.4	1.8	0.8
1.25% and up	89.4	5.6	5.0
Significant other with gambling problem***			
Yes	93.1	3.8	3.1
No	97.	1.9	0.8
Largest daily amount gambled as percentage of family income****			
<=$25	99.8	0.2	0.0
<=$100	95.8	3.2	1.1
>$100	92.8	4.1	3.1
# of gambling activities in previous year****			
1	99.6	0.2	0.2
2 or 3	97.2	2.0	0.8
=> 4	90.5	5.7	3.8

Continued

Table 9 (continued)

Relationship Between Levels of Problem and Pathological Gambling in the
Previous Year and Demographic and Activity Variables for Gamblers.

Variable	% No problems	% Problem gamblers	% Pathological gamblers
Approval of casino n.s.			
Yes	96.0	2.7	1.3
No	97.1	2.0	0.9
Age **			
18-30 years	94.0	3.7	2.3
31-45 years	97.5	1.5	1.0
over 45 years	97.4	1.9	0.6
Occupation n.s.			
Not working for pay	95.7	3.0	1.3
Professional	96.9	3.1	0.0
Trades	96.7	1.5	1.7
Family income n.s.			
<$40,000	96.0	2.1	1.9
=>$40,000	96.3	2.5	1.2

Continued

Table 9 (continued)

Relationship Between Levels of Problem and Pathological Gambling in the Previous Year and Demographic and Activity Variables for Gamblers.

Variable	% No problems	% Problem gamblers	% Pathological gamblers
Member of a religious group n.s.			
Yes	97.6	1.6	0.8
No	95.2	3.1	1.8
Education levels n.s.			
Post secondary	97.6	1.7	0.7
High school or less	95.1	3.0	2.0
Gender n.s.			
Female	96.9	1.8	1.3
Male	95.6	3.3	1.4
Marital Status ¶			
Married	97.9	1.3	0.9
Widowed, separated or divorced	98.4	1.2	0.4
Never married	94.0	4.1	1.9
Common law	87.2	5.1	7.7

Table 9 (continued)

Relationship Between Levels of Problem and Pathological Gambling in the
Previous Year and Demographic and Activity Variables for Gamblers

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n.s. not significant, **p<.01, ***p<.001, ****p<.0001 x^2 significance
levels for the differences between the levels of the variables and the
levels of problem and pathological gambling
¶ x^2 not determinable > 20% of cells have expected frequencies of <5

increased. The levels of problem and pathological gambling decreased with

increasing age, and the levels of problem and pathological gambling was higher for

those respondents who reported that a significant other had a gambling problem.

The fact that a number of demographic and socio-economic variables, such as

family income, differ significantly across the levels of gambling behaviour in Table

8 and do not differ significantly across the levels of gambling behaviour for

gamblers only (Table 9), suggests that these variables are associated with the

likelihood of being a gambler or non-gambler. To explore this further, discriminant

analysis was used to determine how well these variables predicted whether or not a

respondent was a gambler. Since marital status and employment status were not at

least ordinal variables, they were broken into a series of separate binary variables

for this analysis. Four variables met the SPSS stepwise discriminant procedure's

minimum entry requirements and were entered into the analysis in the following

order: approval of casino, gender, family income, and member of a religious group.

These four variables had an overall classification accuracy of 67.15%. The statistical

procedure used in the discriminant analysis was minimization of the unexplained variance.

To determine the discriminant ability of the variables that varied significantly across the levels of gambling behaviour for gamblers only, a second discriminant analysis was carried out. Two variables met the minimum SPSS entry requirements and were entered into the analysis in the following order: percentage of family income spent on gambling in the previous year, and the number of different gambling activities in the previous year. The overall classification accuracy was 69.77%. The classification matrix for both variables is given in Table 10. It should be noted that, although the overall classification rate was 69.77% the classification rate for problem gamblers was 37.0% and for pathological gamblers 61.1%.

Age Related Changes in Gambling Behaviour

Table 11 summarizes the changes with age in measures of gambling activity and levels of problem and pathological gambling. For comparison, the average family income is also included. Table 11 shows a significant decline in the average number of gambling activities from 2.84 activities in the 18 to 19 year old age group to an average of 1.82 activities for the 70 and older age group, $F(6,1174)=10.71$, $p<.001$. Family income also declined significantly from $37,500 for the 18 to 19 year old age group to $20,952 for the 70 and older age group, $F(6,1235)=22.36$, $p<.001$. Although the number of gambling activities and family

Table 10

Classification Matrix' for Levels of Problem Gambling Behaviour in the
Previous Year

Actual Group	No.of cases	Predicted Group Membership		
		No problems	Problem gambler	Pathological gambler
No problems	1,202	849	156	197
		(70.6%)	(13.0%)	(16.4%)
Problem gambler	27	7	10	10
		(25.9%)	(37.0%)	(37.0%)
Pathological gambler	18	1	6	11
		(5.6%)	(33.3%)	(61.1%)

*SPSS Discriminant procedure with percentage of family income spent on
gambling in the previous year, and number of different gambling activities
in the previous year as the independent variables.

income declined with age the percentage of family income spent on gambling, a

measure of the economic impact of gambling, remained essentially constant,

$F(6,1174)=6.2$, n.s. The levels of problem and pathological gambling declined with

age. Although the statistical significance of this decline could not be determined in

this table, the decline of problem and pathological gambling with compressed age

ranges was shown to be significant in Table 9. The observed decline in problem and

pathological gambling levels, despite a constant percentage of family income spent

on gambling, led to the exploration of the question of how the endorsement levels of

the scored SOGS items differ with age. To explore the endorsement rates of the

scored SOGS items were summarized by age category, Table 12. An examination of the scored SOGS items for the previous year showed only two items that declined significantly with age: gambling more than intended, and feeling that one couldn't stop gambling. Although the present study is primarily a cross-sectional study, the availability of previous year and lifetime levels of problem gambling behaviour allows a limited retrospective based longitudinal view of problem gambling behaviour. The lifetime endorsement rates for the scored SOGS items are shown in Table 13. Neither of the two SOGS scorable items that vary significantly over the age categories in the previous year, gambling more than intended and unable to stop gambling, differed significantly with age in the lifetime endorsement of the scored SOGS items. Indeed, no items differed significantly with age in the lifetime endorsement of scored SOGS items. Only one item differed significantly between the previous year and lifetime endorsement levels, gambled more than intended, which was significant for all three age categories.

Table 11

Gambling Activity and Problem Gambling Behaviour in the Previous Year by Age

Age (years)	# of gambling activities[a]	Family Income[b]	% of family income spent on gambling[c]	% of Problem gamblers[q]	% Pathological gamblers[q]
18-19	2.84	37,500	1.75	5.6	2.8
20-29	2.85	36,471	1.82	3.4	2.0
30-39	2.72	51,197	1.51	1.9	1.4
40-49	2.39	57,227	1.90	1.4	1.4
50-59	2.41	53,804	1.93	1.0	0.0
60-69	2.08	36,071	2.08	2.8	0.0
=>70	1.82	20,952	1.82	0.0	0.0

[a]$F(6,1174)=10.71, p<.001$

[b]$F(6,1235)=22.36, p<.001$

[c]$F(6,1174)=6.2, n.s.$

[q] x^2 not determinable > 20% of cells have expected frequencies of <5

Table 12

Endorsement Rates of SOGS Scored Items for the Previous Year by Age

Category

SOGS Item	18-30 years %	31-45 years %	> 45 years %
Go back to win back money you have lost	3.5±1.9	1.5±1.3	3.3±2.6
Claimed to be winning	2.9±1.8	1.9±1.5	1.3±1.7
Feel you have a problem with betting	3.2±1.9	1.7±1.4	3.2±2.6
Gamble more than intended	16.9±3.9	3.5±2.7	8.1±4.0
Betting criticized	3.8±2.0	3.1±1.8	3.5±2.7
Felt guilty about gambling	7.0±2.7	3.9±2.1	3.2±2.6
Couldn't stop gambling	4.3±2.1	1.7±1.4	0.6±1.1
Hidden signs of gambling	1.7±1.4	0.8±1.0	0.6±1.1
Argued over gambling	0.7±0.9	0.3±0.6	0.3±0.8

Continued

Table 12 (continued)

Endorsement Rates of SOGS Scored Items for the Previous Year by Age

Category

SOGS Item	18-30 years %	31-45 years %	> 45 years %
Borrowed and not paid back	0.8±0.9	0.2±0.5	0.0±0.5*
Lost time from work or school	0.7±0.9	0.0±0.3**	0.0±0.5*
Borrowed from household money	1.3±1.2	0.5±0.8*	0.0±0.5*
Borrowed from spouse	0.8±0.9	0.2±0.5*	0.0±0.5*
Borrowed from relatives	1.5±1.2	0.3±0.6	0.0±0.5*
Borrowed from financial institutions	0.2±0.5	0.3±0.6	0.0±0.5*
Borrowed from credit cards	0.7±0.9	0.2±0.5	0.0±0.5*
Borrowed from loan sharks	0.2±0.5	0.0±0.3*	0.0±0.5*
Cashed securities	0.2±0.5	0.0±0.3**	0.0±0.5*

Continued

Table 12 (continued)

Endorsement Rates of SOGS Scored Items for the Previous Year by Age

Category

SOGS Item	18-30 years	31-45 years	> 45 years
	%	%	%
Sold property	0.3±0.6	0.0±0.3*	0.0±0.5*
Passed bad checks	0.2±0.5	0.3±0.6	0.0±0.5*

99% confidence intervals

* for items with zero occurrences a 0.1% occurrence level was used to determine the confidence interval

Table 13

Endorsement Rates of SOGS Scored Items Over the Lifetime by Age Category

SOGS Item	18-30 years	31-45 years	> 45 years
	%	%	%
Go back to win back money you have lost	4.5±2.2	2.0±1.5	4.8±3.1
Claimed to be winning	6.6±2.6	3.3±1.9	3.2±2.6
Feel you have a problem with betting	5.0±2.9	3.9±2.1	6.4±3.6
Gamble more than intended	27.1±4.7	22.3±4.4	19.7±5.8
Betting criticized	5.2±2.3	5.1±2.3	6.5±3.6
Felt guilty about gambling	8.7±3.0	5.8±2.5	6.8±3.7
Couldn't stop gambling	4.7±2.2	2.6±1.7	1.6±1.8
Hidden signs of gambling	2.3±1.6	1.7±1.4	2.9±2.5

Continued

Table 13 (continued)

Endorsement Rates of SOGS Scored Items Over the Lifetime by Age Category

SOGS Item	18-30 years %	31-45 years %	> 45 years %
Argued over gambling	1.5±1.3	0.5±0.8	1.6±1.8
Borrowed and not paid back	1.0±1.1	0.3±0.6	0.6±1.1
Lost time from work or school	1.3±1.2	0.7±0.9	0.6±1.1
Borrowed from household money	2.0±1.5	0.9±1.0	0.6±1.1
Borrowed from spouse	1.5±1.3	0.5±0.8	0.6±1.1
Borrowed from relatives	3.3±1.9	0.7±0.9	2.6±2.3
Borrowed from financial institutions	0.3±0.6	0.3±0.6	1.0±1.5
Borrowed from credit cards	0.7±0.9	0.7±0.9	1.6±1.8

Continued

Table 13 (continued)

Endorsement Rates of SOGS Scored Items Over the Lifetime by Age Category

SOGS Item	18-30 years	31-45 years	> 45 years
	%	%	%
Borrowed from loan sharks	0.2±0.5	0.2±0.5	0.6±1.1
Sold securities	0.2±0.5	0.0±0.3*	0.3±0.8
Sold property	0.3±0.6	0.2±0.5	0.6±1.1
Passed bad checks	0.2±0.5	0.5±0.8	1.0±1.5

99% confidence intervals

* for items with zero occurrences a 0.1% occurrence level was used to

determine the confidence interval

CHAPTER IV

DISCUSSION

Prevalence and Baseline Data

The level of pathological gambling over the lifetime in the sample (1.6%) is quite close to the average level of pathological gambling over the six international studies summarized in Table 1 (1.5%). The level of pathological gambling in the previous year (0.8%) is almost identical to the Ontario level of 0.9% (Canadian Foundation on Compulsive Gambling, [Ont.], 1993). The level of problem gambling in the sample (2.6%) is somewhat lower than the average of the six studies (4.3%) although this average is somewhat inflated by the atypical calculation of problem gambling in the Ontario study. Nevertheless, the levels of problem gambling are very similar to those found in other Canadian jurisdictions (Quebec, 2.6% and Nova Scotia, 3.1%). These findings can be viewed from two perspectives: first, that the Windsor sample is reasonably typical in its levels of problem gambling behaviour, and second, that problem gambling is a surprisingly uniform phenomenon despite the different types of gambling presently available in these jurisdictions.

The statistically significant reduction in the index of problem gambling behaviour between lifetime levels (4.2%±1%) and previous year levels (2.2%±0.7%) coupled with the absence of gambling treatment facilities and the limited attendance at Gamblers Anonymous suggests that many problem gamblers spontaneously recover from their gambling problems without treatment. Although

no attention has been paid to spontaneous change in the gambling literature, such

change has been studied and found to be common in other addictions, such as

smoking (Cohen et al.,1989) and alcohol (Sobell, Sobell & Toneatto, 1992). A study

of those who have spontaneously recovered from alcohol problems (Sobell, Sobell,

Toneatto, & Leo, 1993) found that cognitive re-evaluations of the advantages and

disadvantages of drinking were the principal reason for change. Studies of

untreated spontaneous recovery (Prochaska, DiClemente, & Norcross, 1992) have

led to the development of a conceptual model of the change process that has

considerable applicability both with addictive and nonaddictive problem

behaviours.

The finding of spontaneous (untreated) recovery in problem gamblers

directly challenges the medical disease model with its inexorable downward

progression. The importance of spontaneous recovery is not just theoretical but has

a potential impact on treatment programs. If cognitive re-evaluations are the source

of natural change in problem gambling behaviour, as they are in problem drinking,

then motivational techniques (Miller, & Rollnick, 1991) which have been recently

developed to alter the decisional balance of substance abusers may also have

applicability to gambling.

The uniformity of gambling activity across gender is of interest. Only three

activities differ significantly with gender: bingo, Sports Select and gambling with a

bookmaker. Bingo has been strongly associated with the female gambler but in the

previous year we find only a 2:1 ratio between regular female and male bingo

players. Sports Select and gambling with a bookmaker, usually on sporting events, are predominately male activities and presumably reflect the male preoccupation with sports in our society. Given the similarities in gambling behaviour between the genders it is not surprising that the levels of problem or pathological gambling do not differ by gender. There is also considerable uniformity among regular gamblers with age. Only two gambling activities differ significantly with age, lotteries and Sports Select. The high overall uniformity of gambling activities among regular gamblers indicates that gambling in its various forms is widely accepted throughout our society.

Gambling activities are potentially costly. For infrequent gamblers, i.e., those who gamble less than once a week or go out of the Province to gamble once or twice a year, there appear to be three main types of gambling activities. First, there are low expenditure activities, such as bingo or the various lotteries which have monthly expenditures comparable to what one might spend on a movie and coffee and desert afterwards, or a dinner at a restaurant. Second, there are higher expenditure activities, such as racetrack or charitable casinos, which have monthly expenditures averaging about $90. Third, there is casino gambling outside of Ontario. The average trip expenditure on gambling is about $480 and gambling is incorporated into a vacation trip. Although the expenditure is large it is infrequent, once or twice a year. Regular gamblers, i.e., those who gamble once a week or more, or go out of the Province to gamble three times a year or more, have much larger monthly gambling expenditures. With the exception of charitable casinos,

monthly gambling expenditures of regular gamblers are three to five times that of
infrequent gamblers. Regular gamblers have the same groupings of gambling
activity as do infrequent gamblers. However, the larger expenditures have a greater
potential impact on their finances. Bookmakers and video gambling are both illegal
and frequented by a very small number of gamblers making the interpretation of
their gambling expenditures unclear and, as a result, these have not been
considered in the groupings of gambling activity.

In summary, the baseline data on gambling activity is surprisingly uniform
across gender and age levels and activities, such as lotteries are widespread in the
population. Although there is often a focus on problem gambling in prevalence
studies, it must be noted that the vast majority of gamblers (96.4%) currently gamble
without significant problems, and that the majority of gamblers gamble infrequently
and spend modest amounts on their gambling activities.

Sample Characteristics

The over and under representation of various segments of the population in
the present sample is similar to deviations from the census data that have been
found in other telephone based gambling surveys. Sommers' (1988) survey of
Pennsylvania and New Jersey was over represented in the lower age groups, i.e.,
less than 50 years old, over represented in the high income ranges, and under
represented in low income range. Volberg's (1993) survey of Washington State was
under represented in young adults, the elderly, and those who had never married.
The adjustment of such differences is usually not justified (Sudman, 1983). It is

almost impossible to determine which discrepancies should be corrected and an adjustment to one variable will almost certainly have unpredictable and potentially undesirable impacts on other variables of interest, for example, a correction for gender will most likely impact variables such as income, age, marital status, religion, etc. For these reasons no adjustments have been made to the data and, as a result, the various findings must be considered as an approximation to the population values.

Variables Associated with Gambling Behaviour

As noted in the introduction there has been limited success in relating demographic and socio-economic variables to gambling behaviour and there has been no previous attempt to build a statistical model relating such variables to gambling behaviour. The present study has shown that the variables associated with gambling or not gambling were distinct from the variables associated with levels of problem gambling among gamblers. Four variables were associated with being a gambler or a non-gambler: approval of the casino, gender, family income (socio-economic status), and membership in a religious group. The overall classification accuracy was 67%, suggesting that factors other than those measured in the survey make significant contributions to the decision whether or not to gamble. It was also found that two variables were associated with the levels of problem and pathological gambling: percentage of family income spent on gambling and number of gambling activities. The classification rates were 37% for problem gambling and 61.1% for pathological gambling suggesting that variables

not measured in the present study are significantly associated with the levels of problem and pathological gambling.

The statistical model developed in the present study is in effect a two stage model; the first stage being the decision to gamble or not to gamble and the second stage the decision to gamble at a problematic level. The distinct variables associated with each stage suggest that they are distinctly different phases in the development of gambling behaviour. The variables associated with the decision to gamble or not to gamble reflect either a person's attitude towards gambling or factors that can influence a person's attitude towards gambling. The approval or disapproval of the casino can be taken as an overall indicator of the respondent's attitude towards gambling. Religious groups can have negative views of drinking or gambling and thus membership in a religious group can influence a person's attitude towards gambling. Gender role socialization can also be expected to produce negative attitudes towards activities such as gambling or drinking among some females. Income level can also influence attitudes towards gambling in accordance with the economic models of gambling behaviour (Eadington, 1987) which suggest that gambling is attractive to lower income groups because it is perceived as a means of wealth creation. The variables associated with gambling or not gambling closely parallel the factors in the Fishbein (1979) reasoned action model. In this model behavioural intention is the result of attitude towards the behaviour gambling and subjective norms with respect to the behaviour. The present study has found attitude to be the primarily variable associated with gambling or not gambling. The

remaining three variables associated with gambling or not gambling can be considered to help shape subjective norms towards gambling.

The two variables associated with the levels of problem gambling behaviour among gamblers, percentage of family income spent on gambling and the number of gambling activities, are both measures of gambling activity. There are two opposing interpretations of this finding. The first is that increasing gambling activity leads to problem gambling. A person may be drawn initially into gambling in a small way and then the attractiveness of the gambling itself leads to greater levels of participation and greater risks of problem gambling. This point of view is consistent with sociologically based theories that view the intrinsic social rewards of gambling as strong motivators of gambling behaviour. It is also consistent with the economic model which views gambling as an attempt to create wealth. The second interpretation is that gambling, especially high levels of gambling, is an activity that satisfies strong internal psychological and/or physiological needs. Such need state models (Jacobs, 1986) view high levels of gambling as reflective of these internal states rather than some strong intrinsic feature of gambling itself. The exploratory nature of the present study does not allow resolution of such questions but points to research directions that can help resolve these issues.

Age Related Changes in Gambling Behaviour

The only extensive study of age related changes in gambling behaviour (Mok & Harba, 1991) found that levels of gambling activity, as measured by an index consisting of the frequency of gambling, the amount of money spent on gambling,

and the amount of time spent on gambling, declined with age, and that

demographic or socio-economic variables could account for almost all of this

decline. The present study shows a decline with age in the number of gambling

activities that are engaged in, a finding that is consistent with the findings of Mok

and Harba. The use of percentage of family income spent on gambling as a key

normalized indicator presents a radically different picture, one in which gamblers

appear to base the amount of gambling they do engage in on their income levels

and appear to successfully adjust their gambling levels in accordance with income.

This consistency of gambling expenditures with income over the age categories does

not support a cohort effect which would predict consumption levels to vary with

early socialization experiences of the gambler. This consistency also fails to support

either activity theory (Mok & Harba, 1991) or continuity theory (Williams & Wirths,

1965). In the first case, a person would be expected to try not only to maintain past

activity levels, but also to increase activities, such as gambling, to compensate for

activities lost as part of the normal ageing process, i.e. filling the gap left by

retirement. Such an increase in gambling levels would be expected to result in a

higher percentage of family income being spent on gambling with increased age. In

the second case, consistency theory would predict that individuals would try to

maintain past levels of gambling activity. With the decline in income with age this

theory also would lead to an increase in the percentage of family income spent on

gambling. The data appears to be consistent with disengagement theory

(Cummings & Henry, 1961). The disengagement does not appear to result from a

decline in abilities that force the older person to abandon past activities, but rather a disengagement that is a practical response to financial restraints.

The decline in problem and pathological gambling with age is at first surprising given the constant percentage of family income spent on gambling. An examination of the scored SOGS items for the previous year showed only two items that reach statistical significance with age, gambling more than intended and feeling that one couldn't stop gambling. These two items suggest that the older segment of the sample has achieved a control over their gambling that is not present in the youngest segment of the sample. This increased control can be seen in the other scored SOGS items. Although these items do not reach statistical significance they generally decline with age, for example, there is a complete absence of borrowing to gamble in the oldest age segment of the sample. This increased control appears to be related to the aging process rather than a cohort effect. A comparison between the endorsement of the scored SOGS items in the previous year and over the lifetime can give us a limited retrospective based longitudinal view of age-related changes. No scored SOGS item, when measured over the lifetime, differed significantly with age suggesting that past problem behaviours of the older segment of the sample are closer to those of the younger segment of the sample. This is also supported by statistically significant differences between the endorsement levels of the question "gambled more than intended" between the previous year and over the lifetime for those over thirty but not under thirty. Although there are indications of age related changes in the ability to control gambling behaviour, there is not enough

information in the present study to determine the nature of this change.

The gradual decline in problem and pathological gambling levels with age provides an alternate perspective on the differences between the previous year and lifetime levels of problem and pathological gambling. Spontaneous recovery as described by Prochaska, et, al. (1992), is a relatively abrupt and significant reduction in the level of an addictive behaviour. The gradual reduction in problem and pathological gambling with age suggests that gamblers may also gradually gain control of their gambling behaviours with experience and, as a result, experience fewer negative consequences of gambling.

Summary and Integration of Findings

Gambling has a moderately high penetration with 64.6% of the sample having gambled in the previous year, a level that is somewhat lower than the percentage of adults in Ontario who drink, 82.2%. Among those who gamble there is considerable uniformity in gambling activity across gender and age. The gambling activities themselves appear to fall into two broad categories. First, there are lottery-related activities, such as pull tabs, Sports Select and lotteries themselves, which have a high penetration among gamblers, high frequency of play and small wager amounts. Second, 'here are racetracks and casino gaming which are played less frequently but for much higher stakes. Although gambling is widespread the vast majority of gamblers gamble without problems. Only 0.8% of the sample were pathological gamblers in the previous year and an additional 1.4% were problem gamblers.

The levels of problem and pathological gambling over the life span are twice the levels of the previous year suggesting that gamblers have levels of spontaneous recovery that are similar to other addictions. This finding challenges the traditional disease model of gambling.

The decision to gamble or not is associated with variables such as attitude towards gambling, gender, income and membership in a religious group. The moderate predictive ability of these variables suggests that there are significant factors related to the decision to gamble that were not captured by the present study. For those who gamble, these factors were unrelated to the levels of problem and pathological gambling and only gambling activity levels were related to levels of problem and pathological gambling. However, it is not clear if gambling activity levels are an antecedent condition or a consequence of problem gambling. The modest classification ability of the activity variables suggests that there are significant factors related to the levels of problem and pathological gambling that are not captured in this study. The two stage model of gambling behaviour is unique and provides a framework around which future research can be structured.

Gambling activity, measured by the percentage of family income that is spent on gambling, was found to be essentially constant across the age categories. This finding shows that the economic level of gambling does not decline with age but is maintained at a constant level. Although the economic level of gambling is maintained with age the levels of problem and pathological gambling decline with age. When viewed retrospectively over the life span this decline appears to be the

result of a greater degree of control over gambling activities with age. The gradual

gaining of control with age provides another perspective on the decline of problem

and pathological gambling levels over the lifetime and in the previous year.

The uniformity of gambling behaviours across gender and especially age

indicate that cohort effects, i.e. the influence of early socialization experiences, are

nonexistent. The absence of cohort effects and the overall uniformity of gambling

behaviours strongly suggests that gambling is a socially constructed phenomenon

that generates similar levels of gambling activity in the various elements of society.

Future Research Directions

The present study points to two broad areas of future research. The first

research area is the study of spontaneous and gradual changes in the level of

problem and pathological gambling in the population. An understanding of these

change processes is not only of theoretical interest but can also influence treatment

methodologies and assist in the development of prevention and educational

programs. The second research area is the identification of factors that are

predictive of the levels of gambling activity and problem gambling. The present

study has shown that the traditional socio-demographic variables have limited

predictive ability. Subsequent studies could selectively deal with the factors

suggested by various models of gambling behaviour, by general models of

addictions, or by general psychological models. The application of rigorous

statistical model building in these studies would allow the identification of

significant predictors of gambling behaviours.

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APPENDIX A

THE SOUTH OAKS GAMBLING SCREEN

SOUTH OAKS GAMBLING SCREEN

Name _____ Date _____

1. Please indicate which of the following types of gambling you have done in your lifetime. For each type, mark one answer: "not at all," "less than once a week," or "once a week or more."

	not at all	less than once a week	once a week or more	
a.	____	____	____	play cards for money
b.	____	____	____	bet on horses, dogs or other animals (at OTB, the track or with a bookie)
c.	____	____	____	bet on sports (parlay cards, with a bookie, or at Jai Alai)
d.	____	____	____	played dice games (including craps, over and under or other dice games) for money
e.	____	____	____	gambled in a casino (legal or otherwise)
f.	____	____	____	played the numbers or bet on lotteries
g.	____	____	____	played bingo for money
h.	____	____	____	played the stock, options and/or commodities market
i.	____	____	____	played slot machines, poker machines or other gambling machines
j.	____	____	____	bowled, shot pool, played golf or some other game of skill for money
k.	____	____	____	pull tabs or "paper" games other than lotteries
m.	____	____	____	some form of gambling not listed above (please specify) \ _____

2. What is the largest amount of money you have ever gambled with on any one day?

____ never have gambled   ____ more than $100 up to $1,000
____ $1 or less   ____ more than $1,000 up to
____ more than $1 up to $10 $10,000
____ more than $10 up to $100   ____ more than $10,000

3. Check which of the following people in your life has (or had) a gambling problem.

____ father   ____ mother   ____ a brother or sister   ____ a grandparent

____ my spouse or partner   ____ my child(ren)   ____ another relative

____ a friend or someone else important in my life

4. When you gamble, how often do you go back another day to win back money you lost?

____ never
____ some of the time (less than half the time I lost)
____ most of the time I lost
____ every time I lost

SOUTH OAKS GAMBLING SCREEN

5. Have you ever claimed to be winning money gambling but weren't really? In fact, you lost?
   ___ never (or never gamble)
   ___ yes, less than half the time I lost
   ___ yes, most of the time

6. Do you feel you have ever had a problem with betting money or gambling?
   ___ no
   ___ yes, in the past but not now
   ___ yes

7. Did you ever gamble more than you intend to? . . . . ___ yes   ___ no

8. Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true? . . . . ___ yes   ___ no

9. Have you ever felt guilty about the way you gamble or what happens when you gamble?. . . . . ___ yes   ___ no

10. Have you ever felt like you would like to stop betting money or gambling but didn't think you could? . . . . ___ yes   ___ no

11. Have you ever hidden betting slips, lottery tickets, gambling money, I.O.U.s or other signs of betting or gambling from your spouse, children or other important people in your life? . . . . ___ yes   ___ no

12. Have you ever argued with people you live with over how you handle money? . . . . ___ yes   ___ no

13. (If you answered yes to question 12):Have money arguments ever centered on your gambling? . . . . ___ yes   ___ no

14. Have you ever borrowed from someone and not paid them back as a result of your gambling?. . . . . ___ yes   ___ no

15. Have you ever lost time from work (or school) due to betting money or gambling? . . . . ___ yes   ___ no

16. If you borrowed money to gamble or to pay gambling debts, who or where did you borrow from? (check "yes" or "no" for each)

	no	yes
a. from household money _____	( )	( )
b. from your spouse _____	( )	( )
c. from other relatives or in-laws _____	( )	( )
d. from banks, loan companies or credit unions _____	( )	( )
e. from credit cards _____	( )	( )
f. from loan sharks _____	( )	( )
g. you cashed in stocks, bonds or other securities __	( )	( )
h. you sold personal or family property _____	( )	( )
i. you borrowed on your checking account (passed bad checks) _____	( )	( )
j. you have (had) a credit line with a bookie _____	( )	( )
k. you have (had) a credit line with a casino _____	( )	( )

SOUTH OAKS GAMBLING SCREEN SCORE SHEET

Scores on the SOGS itself are determined by adding up the number of questions which show an "at risk" response:

Questions 1, 2 & 3 not counted:

___ Question 4 — most of the time I lose
          or
         every time I lose

___ Question 5 — yes, less than half the time I lose
          or
         yes, most of the time

___ Question 6 — yes, in the past but not now
          yes

___ Question 7 — yes
___   "   8 — yes
___   "   9 — yes
___   "   10 — yes
___   "   11 — yes
      "   12 not counted
___   "   13 — yes
___   "   14 — yes
___   "   15 — yes
___   "   16a — yes
___   "   b — yes
___   "   c — yes
___   "   d — yes
___   "   e — yes
___   "   f — yes
___   "   g — yes
___   "   h — yes
___   "   i — yes
        questions 16j & k not counted

Total = ___ (there are 20 questions which are counted)

0 = no problem

1-4 = some problem

5 or more - probable pathological gambler

APPENDIX B

GAMBLING PREVALENCE SURVEY

SURVEY REFERENCE GUIDE

DEPARTMENT OF PSYCHOLOGY

UNIVERSITY OF WINDSOR

29 August 1995

RICHARD GOVONI

INTRODUCTION

This reference guide is intended to be a supplement to your survey training sessions. It summarizes the material that is cover in the training sessions and is intended to be a handy reference guide to help you answer questions you may be asked about the survey, and to be a guide to the procedures to carry out the surveys and report your results.

PROJECT SUMMARY

Due to a rapid increase in the amount of legalized gambling in Canada and elsewhere there are concerns that problem gambling will also increase. As a result the mental health care profession has been increasingly turning its attention to problem gambling. Since problem gambling has only recently (1980) been defined as a mental health problem in North America, relatively little research has been done in this area. As with any disorder an understanding of both the prevalence, and incidence rate, is an important factor in developing an understanding of the disorder. Relatively few studies have been carried out on prevalence rates and none have attempted to measure the changes in gambling patterns that result from the introduction of new forms of gambling such as the Windsor casino.

As the first step in establishing a program of gambling research the Department of Psychology at the University of Windsor is undertaking a survey of the Windsor area to establish a gambling prevalence rate prior to the opening of the new casino in January 1994. This survey has two unique features; first, it will measure the extent of gambling before and after the casino is open, something that has not been done in prior studies, and second, it will ask each participant to volunteer for subsequent studies. By asking the general public to volunteers for subsequent studies the Department hopes to develop a subject pool that is reasonably representative of the population as a whole.

SURVEY DESCRIPTION

Survey Method

A telephone survey method was chosen since it is the most time and cost effective and produces results comparable with other methods.

Survey Sample

A key to any survey success is to obtain the required information from a sub-sample of the population of interest that is truly representative of that population. The key to obtaining a representative sample centres around selecting a series of representative phone numbers and a representative member of each household contacted. The telephone numbers have been prepared by selecting over 4,000 phone numbers randomly from the phone book and replacing the last three digits with a three digit random number. This enables the survey to reach unlisted numbers and new numbers. When a household is contacted a person over 18 is randomly selected by asking for the person with the next birthday.

Another important element in achieving a representative sample is keeping the rejection rate to a minimum.

A sample size of 2,000 was set as a compromise between maximizing the ability to detect small changes in the gambling rate and what was practical.

Survey Structure

The survey is divided into 4 parts: the first part deals with attitudes to the new casino, the second part deals with gambling experience, the third with demographic information and the forth with knowledge of treatment options.

Data Entry and Analysis

After the surveys are completed they will be converted into computer readable form by the data entry package of SPSS, and subsequent analysis will be done in SPSS. The data entry package has been used to simplify administering of the survey by automatically categorizing answers such as amount gambled into the required survey categories.

ADMINISTERING THE SURVEY

Materials

You will receive the following material:

1) Phone list sheets (see Appendix A for samples) which will contain a random selection of numbers form the list of phone numbers for the overall survey. These sheets are also used to record the outcome of each number.

2) Master copy of the survey.

3) Numbered answer forms to record the responses of each interview

(see appendix B for sample).

4) Activity/time sheets (see Appendix C).

Survey Times

The survey will be conducted from 4 pm. to 9 pm. Monday to Friday and from 12 noon to 6 pm. Saturday. Please spread your time over the available time slots as much as possible to help achieve a representative sample.

Procedures

Each phone number in the list is called in sequence. If there is no answer the try is marked on the sheet and the next number selected. A number must be tried 5 times before it is rejected so remember to include the previous numbers that require redialling in each of your interview sessions. You will find that as much as half of

the numbers are out of service, commercial establishments, (we only interview households), or data lines. This is the result of the random generation process of the telephone numbers in the list. Simply record the results on the phone list and proceed to the next one.

The interview sheets provide a standard introduction that you will use for each interview. If the person with the next birthday is not available then establish a time when they can be reached and you are able to call them back and mark this time on the calendar provided. If the person does not have time for the survey offer to call back at a later time and record the time in the calendar. If the person refuses to take they survey mark the refusal and if a reason is given or is obvious, eg. language comprehension mark the reason on the phone list.

When asking the interview questions please follow the questions as written. Parts of it are based on a standardized test and changes to the wording will affect the outcome of the test. If you have any suggestions for improvements to the wording, layout of the questions, etc. please pass them on to Richard Govoni and they will be incorporated if possible.

Be friendly and courteous when interviewing. You are representing the University of Windsor not some high pressure survey firm that you may have previously encountered.

CONFIDENTIALITY

Both the University of Windsor and the Canadian Psychological Association have a strong commitment to preserving confidentiality of personal information. Indeed many people will volunteer for this survey because they feel that their confidentiality is ensured by a reputable organization such as the University of Windsor. This places a serious obligation on all members of the project team to preserve the confidentiality of personal information. No phone numbers are to be written on the answer sheets, and the personal information given by those that volunteer is to be kept in a secure place where others cannot gain access to it. Of course, you must not discuss any personal information with anyone who is not a member of the project team, or carry out the interviews in place that could allow others to overhear personal information.

All interviewers will be required to sign a confidentiality agreement.

REPORTING RESULTS

At the end of each week: a) place your activity summary sheet, answer sheets, and any completed telephone number sheets in one of the envelopes

provided, b) place all volunteer data sheets in the envelope provided, and c)leave the envelopes with the receptionist, Ms. Margaret Matthews, at the Psychological Services Centre, 326 Sunset. The weeks data must be submitted by Tuesday of the next week.

PROBLEM QUESTIONS

The material in this reference guide and our training sessions should enat. you to answer most of the questions you will be asked by people you are interviewing.

One group of people that may have special concerns is the group of people with unlisted numbers. These people may be concerned tnat we have both their phone number and name. They may ask you "How did you get my number? It's unlisted." Immediately assure them that we do not have a list of telephone numbers and names, only a list of telephone numbers that have been randomly generated. Then briefly explain that in this way we survey a representative sample of the people in the Windsor area and thus ensure the validity of the survey results. Conclude your explanation by assuring the person that the survey is confidential.

If someone asks a question that you cannot answer, admit it, and if they are

still interested in an answer offer to get back to them with the correct answer. If they have concerns about the survey itself they can call Richard Govoni (253-4232, ext. 2218) or Dr. Ron Frisch, (253-4232, ext. 70). If they just wish to verify the survey is actually being run by the Department of Psychology you can ask them to call (253-4232, ext. 2218) and arrange for you to call back at a later time

MEDIA INQUIRIES

Since we will be surveying from ½% to 1% of the population in the Windsor area it is inevitable that some calls will be made to people involved with the press, radio or television. These people may express an interest in the survey and want more information so that they can cover it as an news item. If you receive such a request for information please refer them to Dr. Ron Frisch, (253-4232, ext. 7012), for additional information.

MODIFICATIONS TO THIS REFERENCE GUIDE

If you have any suggestions as to changes or additions to this guide at any time throughout the project please feel free to contact Richard Govoni (971-8188) who will incorporate them if possible.

GAMBLING PREVALENCE STUDY

ACTIVITY SUMMARY

Week ending _____

Name _____ (please print)

Total hours _____

Number of surveys completed in week _____

Completed phone sheets returned with this package _____

Summary of phone sheets returned

      Total number of phone numbers _____

      Number successful completed   _____

      Number not valid   _____

      Number refused   _____

Signature _____ Date _____

CONFIDENTIALITY AGREEMENT

I understand the importance of maintaining confidentiality of personal information in the Gambling Survey Project and agree to:

a) to follow the procedures laid out for the Gambling Prevalence Study,

b) ensure that all documents containing personal information are kept in a secure palace inaccessible by others,

c) carry out the phone interviews in a manner that prevents others from overhearing the conversations, and

d) not to discuss personal information with anyone who is not a part of the survey team.

I understand that if by my negligence or carelessness confidentiality of personal information is not maintained then my position on this project will be immediately terminated.

_____

Name - please print

_____

Signature

_____

Date

APPENDIX C

Windsor Area Gambling Survey
Department of Psychology
University of Windsor

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Sept. 30, 1993 Version 1.1

Introduction

Hello, My name is _____ . The Psychology Department at the University of Windsor is conducting a survey on gambling prior to the opening of the Windsor casino. The interview is completely confidential, will take about 10 minutes, and you may feel free to not answer any of the questions in this survey.

We are surveying adults 18 years of age and older and we must select the person randomly. The way we do this is to select the person in your household who will have the next birthday. Would that be you or would that be some one else. May I please speak to that person.
If person selected is not able to come to the phone ask what would be a good time to call back.

   If a new person is selected reintroduce the survey.

Are you willing to complete this survey?

   If yes continue with questions, otherwise record the refusal.

Thank you. Now I would like to start with your opinions on gambling in Windsor.

1	Do you approve or disapprove of the casino to be opened soon?	1
	Approve.....................1 Disapprove.................2 Don't know.................3 Refusal....................4	□

2	After the casino is opened do you believe that gambling will increase stay the same or go down.	2
	Increase....................1 Decrease....................2 Stay the same...............3 Don't know.................4 Refused....................5	□

3	After the casino is opened do you think that the amount of gambling that you do will increase, stay the same or decrease?	3
	Increase....................1 Decrease....................2 Stay the same...............3 Don't know.................4 Refused....................5	□

4	Do you think the new casino will be a benefit to the City of Windsor or not?	4
	Benefit....................1 Not a benefit..............2 No difference.............3 Don't know................4 Refused...................5	□

Now I would like to ask you some questions on your experiences with gambling.

5	People bet money on many different things, including bingo games, lotteries, the outcome of sports events, and card games. Have you ever bet money on these kinds of games or on anything else?	5
	Yes.....................1 No.....................2 Don't know.............3 Refused................4 For anything other than Yes go to demographic section - Page 10.	□

6	Please tell me which of the following types of gambling you have done in your lifetime. For each type that I read out there are three possible answers " not at all", "less than once a week", and "once a week or more". please chose one. Have you ever played bingo for money	6
	Not at all................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	□

7	Have you played bingo for money in the last year?	7
	Not at all................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	□

95

8	How much would you have spent playing bingo in the last month.	8
	☐☐ , ☐☐☐ -1 = Refusal	

9	Have you ever played pull tabs or break open tickets?	9
	Not at all.................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

10	Have you played pull tabs or break-open tickets in the last year?	10
	Not at all.................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

11	About how much have you spent playing pull tabs or break-open tickets in the last month?	11
	☐☐ , ☐☐☐ -1 = Refusal	

12	Have you ever bet money at a racetrack?	12
	Not at all.................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

13	Have you bet money at a racetrack in the last year?	13
	Not at all.................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

14	About how much would you have bet in the last month at the racetrack?	14
	☐☐ , ☐☐☐ -1 = Refusal	

15	Have you ever bought lottery tickets.	15
	Not at all.................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

16	Have you bought lottery tickets in the last year.	16
	Not at all.................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

17	About how much would you say you have spent on lottery tickets in the last month.	17
	☐☐ , ☐☐☐ -1 = Refusal	

18	Have you ever bet with a bookmaker on the outcome of a sporting event?	18
	Not at all................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

19	Have you bet with a bookmaker on the outcome of a sporting event in the last year?	19
	Not at all................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

20	About how much would you say you have spent betting with a bookmaker on sporting events in the last month.	20
	☐☐ , ☐☐☐ -1 = Refusal	

21	Have you ever played the sport select game.	21
	Not at all................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

22	Have you played the sport select game in the last year?	22
	Not at all................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

23 About how much would you have spent on the sport select game in the last month?	23

$$\square\square \, , \square\square\square$$

-1 = Refusal

---

24 Have you ever played any video lottery games?	24

Not at all................1
Less than once a week.....2
Once a week or more.......3
Refused...................4

□

---

25 Have you played a video lottery game in the last year?	25

Not at all................1
Less than once a week.....2
Once a week or more.......3
Refused...................4

□

---

26 About how much would you spend in a month on video lottery games?	26

$$\square\square \, , \square\square\square$$

-1 = Refusal

---

27 Have you ever played casino games such as blackjack?	27

Not at all................1
Less than once a week.....2
Once a week or more.......3
Refused...................4

□

28	Have you played such casino games in the last year?	28
	Not at all................1 Less than once a week.....2 Once a week or more.......3 Refused...................4	☐

29	About how much would you have spent on casino games in the last month?	29
	☐☐ , ☐☐☐ -1 = Refusal	

30	Have you ever left Ontario to gamble?	30
	Yes...........1 No............2 Refused.......3	☐

31	Have you left Ontario to gamble in the last year?	31
	Yes...........1 No............2 Refused.......3	☐

32	About how much would you have spent on gambling on one of these trips?	32
	☐☐ , ☐☐☐ -1 = Refusal	

33	When you go outside the provence to gamble where do you usually go?	33

☐

33A		33A

Categories to be filled out later

☐

34	How often would you go outside of the provence to gamble in a year?	34

1-99

☐

☐

35	What is the largest amount of money you have ever gambled with on any one day?	35

☐☐ , ☐☐☐

-1 = Refusal

36	Which of the following people in your life has (or has had) a gambling problem?	36
	Father................................1 Mother................................2 A brother or sister..................3 A grandparent........................4 My spouse or partner.................5 My child.............................6 Another relative.....................7 A friend or someone else important in your life.........................8 Refused..............................9	☐

37	When you gamble how often do you go back another day to win back money you lost?	37
	Never..........................1 Some of the time (less than half the time you lost).......................2 Most of the time you lost.....3 Every time you lost...........4 Refusal.......................5	☐

38	*If yes to above question* Have you gone back to win back money you have lost in the last year?	38
	Never..........................1 Some of the time (less than half the time you lost).......................2 Most of the time you lost.....3 Every time you lost...........4 Refusal.......................5	☐

39	Have you ever claimed to be winning money gambling but were not really? In fact you lost.	39

Never 1
Yes, less than half the time.......2
Yes, most of the time..............3
Refused.............................4

40		40

If yes to above question

Have you made such claims in the last year?

Never 1
Yes, less than half the time.......2
Yes, most of the time.............3
Refused............................4

41	Do you feel you ever had a problem with betting money or gambling?	41

No..... 1
Yes, in the past, but not now.....2
Yes 3
Refused...........................4

41I	If answer to above is yes (2 or 3)	41I

Do you feel you have had a problem with betting money or gambling in the last year?

No.......................1
Yes......................2
Refused..................3

42	Did you ever gamble more than you intended to?	42
	Yes.................1 No..................2 Refused............3	

43	Did you gamble more than you intended to in the last year?	43
	Yes.................1 No..................2 Refused............3	

44	Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you though it was true?	44
	Yes.................1 No..................2 Refused............3	

45	Have you received such criticism in the last year?	45
	Yes.................1 No..................2 Refused............3	

46	Have you ever felt guilty about the way you gamble or what happens when you gamble?	46
	Yes.................1 No..................2 Refused......,......3	☐

47	Have you felt guilty about the way you gamble or what happens when you gamble in the last year?	47
	Yes.................1 No..................2 Refused............3	☐

48	Have you ever felt like you would like to stop betting money or gambling but didn't think you could?	48
	Yes...........1 No............2 Refused.......3	☐

49		49
If yes to above question Have you felt like you would like to stop betting money or gambling but didn't think you could in the last year?		
	Yes....................1 No.....................2 Refused................3	☐

50	Have you ever hidden betting slips, lottery tickets, gambling money, I. O. U.s or other signs of betting or gambling from your spouse, children, or other important people in your life?	50
	Yes...........1 No...........2 Refused.......3	☐

51 *If yes to above question* Have you hidden such things in the last year?	52
Yes....................1 No....................2 Refused...............3	☐

52	Have you ever argued with people you live with over how you handle money?	52
	Yes...........1 No...........2 Refused.......3	☐

53 Have money arguments ever centred on your gambling?	53
Yes...........1 No...........2 Refused.......3	☐

54	54
If yes to above question Have you had such gambling related arguments in the last year?	
Yes......................1 No......................2 Refused................3	☐

55	55
Have you ever borrowed from someone and not paid them back as a result of your gambling?	
Yes......................1 No......................2 Refused................3	☐

56	56
Have you borrowed from someone and not paid them back in the last year?	
Yes......................1 No......................2 Refused................3	☐

57	57
Have you ever lost time from work (or school) due to gambling?	
Yes...........1 No............2 Refused.......3	☐

58
If yes to above question

      Have you lost time due to gambling in the last year?

          Yes.....................1
          No......................2
          Refused................3

58 ☐

---

59   Have you ever borrowed money to gamble or pay gambling debts?

          Yes...........1
          No............2
          Refused.......3

59 ☐

If yes to the previous question

      Which of the following areas did you borrow from?

60   From household money
          Yes...........1
          No............2
          Refusal.......3

60 ☐

61   From your spouse
          Yes...........1
          No............2
          Refusal.......3

61 ☐

62   From other relatives or in-laws
          Yes...........1
          No............2
          Refusal.......3

62 ☐

63   From banks, loan companies, or credit unions
         Yes...........1
         No...........2
         Refusal.......3
	63
	☐

64   From credit cards
         Yes..........1
         No...........2
         Refusal.......3
	64
	☐

65   From loan sharks
         Yes..........1
         No...........2
         Refusal.......3
	65
	☐

66   From stocks, bonds, or other securities you cashed in
         Yes..........1
         No...........2
         Refusal.......3
	66
	☐

67   From the sale of personal or family property
         Yes..........1
         No...........2
         Refusal.......3
	67
	☐

68   By borrowing on your checking account (passing bad checks)
         Yes..........1
         No...........2
         Refusal.......3
	68
	☐

69   By having a credit line with a bookie
         Yes..........1
         No...........2
         Refusal.......3
	69
	☐

70   By having a credit line with a casino
         Yes..........1
         No...........2
         Refusal.......3
	70
	☐

71
If yes to above block of questions

   Have you borrowed money to gamble or pay gambling debts
   in the last year?

             Yes...........1
             No............2
             Refused.......3

71 ☐

If yes to the previous question

   Which of the following areas did you borrow from in the
   last year?

72   From household money
             Yes...........1
             No............2
             Refusal.......3

72 ☐

73   From your spouse
             Yes...........1
             No............2
             Refusal.......3

73 ☐

74   From other relatives or in-laws
             Yes...........1
             No............2
             Refusal.......3

74 ☐

75   From banks, loan companies, or credit unions
             Yes...........1
             No............2
             Refusal.......3

75 ☐

76   From credit cards
             Yes...........1
             No............2
             Refusal.......3

76 ☐

77	From loan sharks 　　　　Yes...........1 　　　　No............2 　　　　Refusal.......3	77
78	From stocks, bonds, or other securities you cashed in 　　　　Yes...........1 　　　　No............2 　　　　Refusal.......3	7S
79	From the sale of personal or family property 　　　　Yes...........1 　　　　No............2 　　　　Refusal.......3	79
30	By borrowing on your checking account (passing bad checks) 　　　　Yes...........1 　　　　No............2 　　　　Refusal.......3	30
S1	By having a credit line with a bookie 　　　　Yes...........1 　　　　No............2 　　　　Refusal.......3	81
82	By having a credit line with a casino 　　　　Yes...........1 　　　　No............2 　　　　Refusal.......3	82

111

83	How much would you say you have bet on gambling in the last year? Your best guess is fine.	83

□□,□□□

-1 = Refusal

Read as a guide if necessary and enter values as shown

```
$0................................0
>$0 and up to $10...............5
>10 and up to $50..............30
>$50 and up to $100............75
>$100 and up to $500..........300
>$500 and up to $1,000........750
>$1,000 and up to $5,000.....3000
>$5,000 and up to $10,000....7500
>$10,000 and up.............10000
```

84	How much would you say you have won or lost in the last year while gambling? Your best guess is fine.	84

84A Won   □□,□□□

-1 = Refusal

84B Lost   □□,□□□

-1 = Refusal

Read as a guide if necessary and enter values as shown

```
$0................................0
>$0 and up to $10...............5
>10 and up to $50..............30
>$50 and up to $100............75
>$100 and up to $500..........300
>$500 and up to $1,000........750
>$1,000 and up to $5,000.....3000
>$5,000 and up to $10,000....7500
>$10,000 and up.............10000
```

Now I would like to ask you some questions about yourself	85
85 What is your exact age.	

□ □

-1 = Refusal

If hesitant to give age offer to read ranges below and enter value shown

```
13 - 30 years....24
31 - 45 years....38
46 - 60 years....53      Mark if ranges used
61 - 74 years....68
74 - and over....80
```

□

86 How long have you lived in the Windsor area? Your best guess is fine.	86

Express answer in years and part years

□ □ . □

-1 = Refusal

87 What is your present marital status?	87
Married.................1 Widowed.................2 Separated...............3 Divorced................4 Single (never married)..5 Common law..............6 Refused.................7	□

88	Are you currently working for pay?	88
	If not go to 91	

Yes...................1
No....................2
Refused..............3

☐

89	What is your job	89

Professional administrator or executive............1

Clerical work, administrative support, sales or
technicians........ 2

Crafts, trades, factory work, service or
labour...3

Refused..4

☐

90	Which of the following income ranges best describes your annual personal income, before taxes?	90
	Go to 92	

Less than $20,000..............1
$20,000 to $29,999.............2
$30,000 to $39,999.............3
$40,000 to $49,999.............4
$50,000 to $59,999.............5
$60,000 to $69,999.............6
$70,000 to $79,999.............7
$80,000 to $99,999............ 8
$100,000 or more..............9

Read to this point

Not sure.......................10
Refused........................11

☐

☐

91	Which of the following best describes you?	91
	A homemaker....................1 Retired or disabled..........2 A student.....................3 Not currently employed.......4 ⎯⎯⎯⎯⎯⎯⎯⎯⎯ Refused.......................5	☐

92	Which of the following ranges best describes your total household income, before taxes. Your best guess is OK.	92
	Less than $20,000..............1 $20,000 to $29,999.............2 $30,000 to $39,999.............3 $40,000 to $49,999.............4 $50,000 to $59,999.............5 $60,000 to $69,999.............6 $70,000 to $79,999.............7 $80,000 to $99,999.............8 $100,000 or more...............9 -- Read to this point -- Not sure.......................10 Refused........................11	☐ ☐

93	Are you a member of a church or religious group?	93
	Yes..................1 No...................2 Refused..............3	☐

94	If Yes to above question	94

Which church or religious group?

Catholic......................1
Greek or Russian Orthodox....2
Protestant...................3
Jewish.......................4
Moslem.......................5
Buddhist.....................6
Hindu........................7
Other (write in space below).8

_____

Refused......................9

95	What is the highest grade or year of schooling you have completed?	95

No schooling................1
First to 7th grade..........2
8th grade...................3
Some high school............4
High school graduate........5
Some community college......6
Community college graduate....7
Some university.............S
University graduate.........9
Graduate degree.............10
Refused.....................11

96	Since the telephone often distorts voices I sometimes have difficulties in determining the sex of the person I am talking to, would you please tell me your sex.	96

Female...............1
Male.................2
Refused..............3

97	What are the first three letters and numbers of your postal code	97
	□ □ □ -1 = Refusal	_____

98	If someone you knew had a gambling problem where would you suggest that they go for treatment?	
	_____ .	□

This completes all the questions in this interview. In the future The Psychology Department may wish to contact a select group of people who took part in this survey for additional interviews or tests. Would you be willing to be contacted in the future to consider volunteering for further studies?

99   Yes...........1   9S

       No............2

If yes please fill the following form obtaining the info from the volunteer and detach the form after checking the survey

Thank you for volunteering. I will need to get your name and address so we can contact you later. This information will be kept separate from the survey information to keep the survey information confidential.

Name _____

Street Address_____

Appt. #_____

City _____

Postal Code _____

Telephone # _____

Survey # _____

Only some of the volunteers will be randomly selected for participation in subsequent studies, as a result you may or may not hear from us over the next year or so. In any case thank you very much for your participation your time and cooperation is greatly appreciated.

VITA AUCTORIS

Richard Govoni was born in Hamilton, Ontario in 1945. He completed a BSc in physics at the University of Toronto in 1969 and returned to the University of Toronto to complete the specialist program in psychology in 1993. He entered the Ph.D. program in adult clinical psychology at the University of Windsor in 1993-94.

DATE DUE SLIP

JAN 1 5 2005