Exploring Gambling Among Seniors In Rural British Columbia: Sociodemographic And Mental Health Correlates

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Abstract

Despite the potentially serious consequences related to gambling behaviour, few studies have focused on gambling among seniors. The present study collected sociodemographic and problem gambling data from a sample of seniors in a northern community. Participants were categorized according to sub-groups of problem gambling severity and were screened for mental disorders using two validated measures. Comparisons were conducted across groups based on sociodemographic and gambling-related variables. Additional statistical tests were then performed to evaluate differences across groups on mental disorders. This exploratory study provides insight into the nature of gambling among seniors through an examination of sociodemographic characteristics, motivations for gambling, and the prevalence of concurrent mental health disorders. Given the aging population in Canada, and the widespread availability of gambling activities, this study has important clinical implications for the screening and treatment of seniors who gamble, and provides valuable information that expands the field of gambling research.

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CHAPTER I: INTRODUCTION

Given the increased availability of gambling opportunities in contemporary Canadian society, several researchers have called for more detailed research in the area of problem gambling due to concerns about the potential for negative psychological, social, and economic impacts (Nixon, Solowoniuk, Hagen, & Williams, 2005). For example, problem gambling has been related to distress, loneliness, and depression, and researchers have noted progressive negative impacts of problem gambling that include increasing financial and relationship difficulties (Ontario Problem Gambling Research Centre, 2004, November).

Research that examines the prevalence of gambling has been conducted in several countries, and problem gambling has been shown to be a significant concern (Fraser Institute, 2002, February). In the United States and Canada, for instance, it is estimated that 1 to 3% of the general population has experienced problems associated with gambling (Lepage, Ladouceur, & Jacques, 2000). In the province of British Columbia (BC), it has been estimated that 4.3% of the general population are moderate problem gamblers, while 0.9% are severe problem gamblers (BC Ministry of Public Safety and Solicitor General, 2008).

There are fewer studies that examine the phenomenon of problem gambling among seniors, despite the estimate that by the year 2031, the number of people in Canada over the age of 65 will increase to 23-25% of the population, which is more than double the current proportion of 11% (Canadian Institutes of Health Research, 2005). Some researchers have investigated the sociodemographic variables related to seniors who gamble, such as income, age, education, and marital status (Zaranek & Chapleski, 2005), and others have explored the types of gambling activities that seniors engage in (Govoni, Frisch, & Johnson, 2001). However, despite the potentially serious consequences for seniors who gamble, only a

handful of studies have looked at the mental health correlates in this population, and none have focused on mental health variables using comprehensive measures.

The following exploratory study was designed to investigate both sociodemographic and mental health correlates among a sample of seniors who gamble in northern BC. This study expands on the small body of research in this area, addresses the need to examine the correlates of gambling among seniors in a rural community, and responds to the call to more rigorously investigate specific mental health correlates through the use of comprehensive screening instruments.

CHAPTER II: THE PROBLEM

Significance of the Study

It is clear that more research is needed in BC to build on the knowledge base that currently exists regarding seniors and gambling. The impetus of this study stemmed from the interest of the researcher who provides clinical and prevention problem gambling services in northern BC. Based on the researcher's clinical observations, it appeared that a high number of individuals presenting for gambling treatment also struggled with a psychiatric condition. The researcher also observed that a substantial number of people who presented for clinical services are older adults (which is an interesting observation in light of research literature that highlights youth populations as being especially vulnerable to problem gambling).

This study is important because it provides insight into the nature of gambling and mental health in a sample of seniors in rural BC. There is a dearth of research on seniors and gambling in general, and only a few studies have examined the issue of mental health in this population. The findings from this study are very useful to clinicians with regard to the screening and treatment of seniors who gamble. In addition, knowledge gained from the study can assist various decision and/or policy makers who develop and evaluate problem gambling programs and services.

Statement of the Problem

The fundamental problem in this research area is the knowledge gap that exists around seniors and problem gambling. The gap in this area pertains primarily to three domains; sociodemographic variables, mental health correlates, and rurality. First, studies have been conducted to examine the sociodemographic variables related to seniors who gamble, but researchers have not focused on seniors that reside in rural communities. Secondly, the relationship between mental health and gambling has been explored, but most research in this area does not focus on seniors. Thirdly, only a few studies have examined the elements of mental health, sociodemographic variables, and problem gambling among seniors—but once again—researchers have not focused on rural seniors. Furthermore, the methodologies used for studying all of these elements have been limited by brief measures that lack comprehensiveness or validity.

Given the limitations of previous research, and the high rate of comorbidity between mental health disorders and various forms of addiction (Minkoff, 2001), this study set out to explore two fundamental research questions.

Research Questions

- 1. What are the sociodemographic and gambling variables associated with seniors that gamble in rural BC?
- 2. What are the prevalence and types of mental health disorders associated with seniors that gamble in rural BC?

Definition of Terms

Gambling and problem gambling.

Gambling has been defined as risking something of value when there is an element of chance associated with the outcome (BC Ministry of Public Safety and Solicitor General, 2004). This study is primarily concerned with problem gambling, which can be considered along a continuum of gambling behaviour that ranges from low-problematic levels to extreme over-involvement in gambling activities (Dickerson & O'Conner, 2006). It should also be noted that this study examined problem gambling and not pathological gambling, which is listed as an impulse control disorder in the Diagnostic and Statistical Manual of Mental Disorders – 4th Edition Text Revision (DSM-IV-TR) (American Psychiatric Association, 2000). The DSM-IV-TR disorder of pathological gambling is defined by 5 (or more) of 10 diagnostic criteria, such as a heightened preoccupation with gambling, risking increased amounts of money, and repeated unsuccessful efforts to control, cut down, or stop gambling. In contrast, problem gambling refers to sub clinical DSM-IV-TR criteria, such as poor physical and emotional health, and negative impacts on financial, vocational, familial, and interpersonal pursuits (Fraser Institute, 2002, February). For this study, problem gambling was operationally defined by scores obtained on a validated measure of problem gambling, known as the Problem Gambling Severity Index (Wynne Resources, 2003, January). The authors of this measure offer the following definition that describes how problem gambling is characterized in this study: "Problem gambling is gambling behaviour that creates negative consequences for the gambler, others in his or her social network, or for the community" (Wynne Resources, 2003, January, p. 2).

Seniors.

In the field of aging research, it is acknowledged that there are difficulties in defining seniors according to chronological age. Researchers of older adults view the use of age cutoffs as being too simplistic, since there is considerable diversity between the typologies of "young-old" (i.e., above 55 years) and "old-old" (i.e., above 75 years) (Health Canada, 2002). Yet, in gambling and substance use research, chronological age cutoffs are used, and there is variation in age groups when authors refer to seniors. For instance, some researchers in the field of substance use have utilized age cutoffs of 65 or 60, and some use 55 or 50 (Health Canada, 2002). On the other hand, in studies of seniors and gambling, some researchers have used age cutoffs of 60 (e.g., Erickson, Molina, Ladd, Pietrzak, & Petry, 2005), while others include a range of ages between 55 (or lower) and 75 (or higher) (Norris & Tindale, 2006). In this study, the term "senior" will refer to individuals aged 55 and older.

Mental health.

The concept of mental health has been a focus of controversy for decades, and many terms have been used to describe mental health problems (Sands, 2001). The polemics surrounding the definition of mental health involve the influence of socio-cultural and political forces, the reification of mental illness, the methods and applications of classification systems, and arguments about what constitutes normality (e.g., statistical vs. behavioural definitions).

The DSM-IV-TR has addressed the epistemological and definitional issues related to mental health, and is the accepted convention within North America for assessing mental disorders (American Psychiatric Association, 2000). The DSM-IV-TR has determined a reliable classification scheme of mental disorders using rigorous scientific methods, and has outlined specific criteria for identifying each mental disorder.

This study utilized the DSM-IV-TR to define mental health and mental disorders (American Psychiatric Association, 2000). Mental health is defined as the absence of DSM-IV-TR disorders, and a full definition of mental disorders as it appears in the manual is reproduced below.

In DSM-IV, each of the mental disorders is conceptualized as a

clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., a painful symptom) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. In addition, this syndrome or pattern must not be merely an expectable and culturally sanctioned response to a particular event, for example, the death of a loved one. Whatever its original cause, it must currently be considered a manifestation of a behavioral, psychological, or biological dysfunction in the individual. Neither deviant behaviour (e.g., political, religious, or sexual) nor conflicts that are primarily between the individual and society are mental disorders unless the deviance or conflict is a symptom of a dysfunction in the individual, as described above. (p. xxxi)

To facilitate effective assessment and treatment of individuals, the DSM-IV-TR uses a multiaxial system that consists of five domains (American Psychiatric Association, 2000). This study is concerned with investigating clinical disorders (reported as Axis I disorders) and personality disorders (reported as Axis II).

Rurality.

Researchers have not come to a consensus regarding a definition of rurality, and a debate continues about whether such a definition should be based on geography or population (Helbock, 2003). It is clear, however, that smaller communities are heterogeneous

and that they have unique qualities and challenges that set them apart from large metropolitan areas. For example, rural communities have been analyzed in terms of their economic, cultural, political, and geographic differences to urban centers (Schmidt, 2000). Many rural communities have higher rates of poverty, higher rates of unemployment, higher illiteracy rates, limited educational opportunities, higher disability rates, and less adequate health services (Green, 2003; Helbock, 2003). In addition, research has shown that rural residents experience several mental disorders at rates similar to those in metropolitan areas, although rural areas generally have fewer mental health resources (Helbock, 2003). For these reasons, rurality is an important factor when considering the influence that rural life may have on seniors who gamble.

The current study is considered to have a rural focus because it sampled residents from the city of Prince George BC, and the surrounding areas. With a population of approximately 80,000, Prince George is classified as an agglomeration¹ rather than a metropolitan area by Statistics Canada (2007). Thus, it can be compared to other communities that have similar qualities, such as the size of the urban core, the commuting flow, and the number and type of health and leisure services available to seniors.

¹ An agglomeration is constituted by one or more adjacent municipalities that surround a larger urban core (Statistics Canada, 2007). An agglomeration must have an urban core with a population of at least 10,000. In contrast, a metropolitan area must have a total population of at least 100,000, with at least 50,000 living in the urban core.

CHAPTER III: LITERATURE REVIEW

Overview

There is a growing body of research that explores problem gambling and the consequences that are associated with this behaviour. At the macroscopic level, the societal costs of pathological gambling in the United States have been estimated to be \$5 billion annually, which includes bankruptcy, debt, wage and job loss, and criminal justice expenditures (National Gambling Impact Study Commission, 1999). At the individual level, problem gambling can result in serious financial, health, legal, and mental health problems (Erikson, Molina, Ladd, Pietrzak, & Petry, 2005). Many studies have investigated suicide, which is perhaps one of the most devastating effects of problem and pathological gambling imaginable (Blaszczynski & Farrell, 1998; Ladouceur, Boisvert, Pepin, Loranger, & Sylvain, 1994). Notwithstanding, the impact of problem gambling is also experienced by family members, which can result in marital stress and family breakdown (Canada West Foundation, 2001, November).

In spite of studies that point to gambling as an issue for societal concern, some researchers have suggested that most seniors can engage in gambling behaviour as a recreational activity without risk of developing serious problems (Hope & Havir, 2002). For example, in a study that compared the gambling behaviour of seniors and younger adults, it was suggested that casino gambling is not a major threat to seniors, although the authors did qualify their conclusion by calling for more research to assess the individual costs and benefits of gambling on older adults (Stitt, Giacopassi, & Nichols, 2003). Another study found that recreational gambling in older adults was not associated with negative measures of health and well-being (Desai, Maciejewski, Dausey, Caldarone, & Potenza, 2004). Similarly,

the authors of a large Ontario study concluded that the vast majority of seniors did not appear to be at risk of gambling problematically because participants recognized the dangers associated with gambling and had effective attitudes and behaviours to minimize problem gambling risk (Norris & Tindale, 2006).

Many other researchers have countered the idea that gambling is not harmful by attempting to raise awareness about the special risks that are associated with gambling for seniors (McNeilly & Burke, 2002). Following their qualitative study which revealed that gambling can have devastating social, psychological, and financial consequences for seniors, Nixon, Solowoniuk, Hagen, and Williams (2005) point out that seniors have less ability and time to recover from the impacts of problem gambling. Petry (2005), a leading author in the field of gambling research, has suggested that older adults have the most dramatic increases in rates of gambling behaviour. To illustrate her contention, she cites a 1975 study which found that 35% of older respondents reported gambling during their lifetimes, while a 1998 study reported that 80% of older adults reported lifetime gambling. Petry also invites us to consider the possibility that there may be a higher rate of gambling disorders among older adults than what is reported in general population surveys.

The Prevalence of Problem Gambling

The prevalence of problem gambling has been studied in several countries, including the United States, Australia, the United Kingdom, and Canada (Fraser Institute, 2002, February). In 1999, it was estimated that 3.95% of adults in the United States (or 7.8 million people) met criteria for problem gambling during their lifetime, and 2% could be categorized as problem gamblers in the past year (National Gambling Impact Study Commission, 1999, as cited in Fraser Institute, 2002, February). By way of comparison, a 1997 Canadian study estimated that 3.85% of the general population met the criteria for lifetime problem gambling, while the prevalence of past-year problem gamblers was 0.6% (Fraser Institute, 2002, February).

Two studies of problem gambling among seniors in Ontario have been conducted in recent years. One large scale survey found that the majority of seniors in their sample (73.5%) had participated in some form of gambling in the past year, while 6.4% of seniors had experienced one or more gambling related problem in the previous year (0.1% severe problem gamblers, 2.0% moderate problem gamblers, and 4.3% at-risk problem gamblers) (Ontario Problem Gambling Research Centre, 2004, November). This rate of problem gambling prevalence is supported by a second large scale survey, which reported that 75% of their sample of seniors reported gambling in the past year, and that the estimated rate of any gambling problem (i.e., at-risk, moderate, or high risk) among Ontario seniors is 4.6% (Ontario Problem Gambling Research Centre, 2005, September).

Another study conducted in Ontario examined gambling behaviour among seniors in more depth using quantitative and qualitative methods (Govoni, Frisch, & Johnson, 2001). The method of participatory action research was central in this study that explored the impact of gambling on seniors in the city of Windsor, and had the ultimate goal of developing effective prevention programs in the community. The investigation utilized key informant interviews, focus groups, and a general population survey to gather information about seniors and gambling in the community. The researchers conducted the survey by telephone and contacted 778 seniors, of which, 355 agreed to participate (45.6% response rate). Although the survey results suggested that the majority of seniors reported a positive experience with gambling, the researchers estimated that approximately 68% of seniors in the Windsor area gambled, and about 1.7% of respondents experienced considerable financial loss due to gambling. In fact, the gamblers in the sample spent an average of \$1275 on gambling in the previous year, with a maximum report of \$25,000 spent. When this finding was combined with the results of the focus group data, some interesting results surfaced. Most importantly, it was noted that the impact of gambling on seniors extended beyond financial concerns, as seniors had experienced difficulties in other life areas, such as relationships, health, selfesteem, and emotional well being. The prevalence of gambling related problems among seniors was also corroborated by evidence from key informant interviews with senior agencies, half of which had provided services to seniors who gamble.

To investigate gambling and problem gambling in the province of BC, the provincial government commissioned a study entitled, *The British Columbia Problem Gambling Prevalence Study* (BC Ministry of Public Safety and Solicitor General, 2003). A representative sample of BC adults participated in a telephone interview (N = 2500) in 2002 that incorporated established measures to estimate the prevalence of problem gambling, the demographic characteristics of problem gamblers, and the correlates of gambling. This landmark study produced several important findings. First, it was estimated that 4.2% of adults in BC are moderate problem gamblers, and 0.4% are severe problem gamblers. While this finding revealed that BC is comparable to other provinces in terms of overall problem gambling prevalence rates, it is an alarming statistic when we consider that these figures translate to an estimate of over 150,000 problem gamblers across BC (136,000 moderate problem gamblers and 14,250 severe problem gamblers). Moreover, a further 11.1% of adults in BC were classified as being at risk for developing problems with gambling, which was the

highest at-risk rate of any Canadian jurisdiction that had conducted a similar study. Secondly, the study found that 4.2% of adults between the ages of 54 and 65 were gambling at moderate to severe problem levels, while a further 8.5% of adults in this age group were at risk for problem gambling. In the group of adults aged 65 years and older, 3.2% were gambling at moderate to severe levels, and 8.5% were at risk for problem gambling. Thirdly, the study reported that the highest rate of weekly gambling occurs among people between the ages of 55 to 64 years. High rates of weekly gambling in this age group is consistent with an independent study conducted by the Canada West Foundation (2000, February), which reported that the greatest indicators of gambling frequency were age (45 to 64 years), place of residence (Ontario or Prairies), and income (\$30,000 - \$79,999). Fourth, the study indicated that problem gambling is more prevalent among residents of northern BC, where the rate of problem gambling was 10.2% (this figure includes both moderate and severe problem gamblers). The rate of moderate problem gambling in northern BC was estimated at 9.6%, which was higher than the provincial average. The rate of severe problem gambling in northern BC was estimated at 0.6%, which was also higher than the provincial average. The combined figure of 10.2% was more than twice the level of problem gamblers observed in all other regions of the province. The rate of at-risk problem gamblers was also notably higher in northern BC at 13.8% (although only statistically significant when compared to the Island/Coastal region of BC).

In 2007, the BC government followed up with another provincial study on the prevalence rates of gambling (BC Ministry of Public Safety and Solicitor General, 2008). This research replicated the 2002 study by conducting a telephone survey with a sample of 3000 adults in BC. The data was weighted to accurately reflect the actual age, gender, and

regional distribution of adult British Columbians according to 2006 Canada census data. Perhaps the most troubling finding from this study is that the prevalence of severe problem gambling across all respondents has over doubled to 0.9% (from 0.4% in 2002). However, the rate of at risk gamblers has significantly decreased among all respondents to 8.7% as compared to 11.1% in 2002 (the rate of moderate problem gamblers has remained stable at 3.7% in 2007 vs. 4.2% in 2002). For problem gambling among seniors between 55-64 years, the statistics have remained relatively stable (4.3% for moderate and severe problem gamblers in 2007 vs. 4.2% in 2002), as is the case among seniors over the age of 65 (2.8% for moderate and severe problem gamblers in 2007 vs. 3.2% in 2002). However, seniors in both the 55-64 and the over 65 groups have higher rates of severe problem gamblers (0.9% and 1.0% respectively), as compared to all other age groups, where the rate is around 0.5%(except for those aged 25-34 years, where the rate is 1.6%). In addition, the study reported that seniors still have the highest rates of weekly gamblers, at 34% for both the 55-64 age group and the over 65 age group. In spite of the reduction of moderate and severe problem gamblers observed in northern BC (5.4% in 2007 vs. 10.2% in 2002), the results of these studies clearly indicate that the rate of problem gambling in BC is considerable and worthy of further investigation-especially among seniors in the northern region of the province.

Sociodemographic Correlates of Seniors Who Gamble

The 2003 British Columbia Problem Gambling Prevalence Study examined a variety of gambling-related and sociodemographic correlates of problem gambling in the general population (BC Ministry of Public Safety and Solicitor General, 2003). For example, it was discovered that the most popular gambling activities among problem gamblers in BC were sports lotteries (12.9%), bingo (10.9%), horse racing (10.4%) and casinos (8.8%). Furthermore, it was reported that residents with the lowest household incomes (less than \$30,000 annually) had higher rates of problem gambling, and those who had never been married were at greater risk for developing problems with gambling.

Turning to seniors, Petry (2002) examined sociodemographic correlates among a sample of 343 treatment seeking pathological gamblers in Connecticut. All participants met the criteria for pathological gambling and were divided into three age-related groups (i.e., young adulthood, middle age, and older adulthood). The results of chi-square analyses by gender indicated that older gamblers were more likely to be female (χ^2 2, N = 343 = 18.24, *p* < .001) and married (χ^2 8, N = 343 = 71.6, *p* < .001) than younger gamblers. No other demographic differences were observed across the three groups.

In contrast, Zaranek and Chapleski (2005) did not find gender differences in their study of 1410 seniors in the Detroit area. In this study, it was discovered that adults aged 60-71 were more likely to visit casinos than older seniors, and that respondents with less education were more likely to gamble as compared to those with more education. Zaranek and Chapleski also found participants with higher incomes, and those who were married to be less likely to visit a casino. According to these researchers, the profile of a regular senior patron of a casino was a "younger" person aged 60-74, who was widowed, had less than high school education, no transportation, and earned less than \$20,000 annually. It is important to note that, in spite of Zaranek and Chapleski's findings on gender differences, there are at least two other studies that have found gambling (Vander Bilt, Dodge, Pandav, Shaffer, & Ganguli, 2004) and problem gambling (Ladd, Molina, Kerins, & Petry, 2003) to be associated more with men in senior populations. With regard to gambling activities among seniors, researchers in Alberta reported that the most popular form of gambling was lottery, raffle, and scratch tickets, as well as slot machines and bingo (Alberta Alcohol and Drug Abuse Commission, 2000, February). These findings are consistent with the Windsor Ontario study described above, where seniors reported playing lotteries most often, followed by casino gambling, raffles, pull-tabs, slot machines, cards, and bingo, among other activities (Govoni, Frisch, & Johnson, 2001). A Manitoba provincial report also found that seniors were more likely to play slot machines and that a higher percentage of people over the age of 50 play bingo (Addictions Foundation of Manitoba, 2002).

In terms of motivation, respondents in the Alberta study reported that they gambled to win money, to be entertained, or to support a good cause (Alberta Alcohol and Drug Abuse Commission, 2000, February). Seniors in the Windsor study provided several motivations for gambling including, excitement or fun (66%), to be with friends (48%), to make money (42%), to contribute to a charitable cause (38%), for entertainment while on vacation (32%), to relax (31%), curiosity (31%), when happy or excited (21%), and boredom (17%) (Govoni, Frisch, & Johnson, 2001). Similarly, in a study that compared two groups of seniors (one group from gambling venues and another from the community), McNeilly and Burke (2000) found that seniors sampled at gambling venues were significantly more likely to be motivated by relaxation, boredom, passing time, or to get away for the day. Lastly, in a study on problem gambling in older adults, it was found that seniors who gambled problematically were motivated by the possibility of winning money, by the desire for entertainment, and to escape stress and depression (Southwell, Boreham, & Laffan, 2008).

Problem Gambling and Mental Health

The terms, "comorbidity" and "concurrent disorders" refer to any combination of mental health and addiction disorder that occur simultaneously within an individual, and much research has focused on substance use and psychiatric conditions (e.g., Health Canada, 2001). It has been well documented that those who struggle with concurrent psychiatric and addiction issues have poorer outcomes across several dimensions (such as higher symptom severity, higher rates of relapse, greater treatment resistance, higher rates of mortality, and higher rates of trauma) (Minkoff, 2001).

However, the research that investigates the comorbidity of gambling behaviour and other conditions is less prolific. One relationship that has been examined is between substance abuse and problem gambling. The connection between these two disorders should not be surprising given that alcohol consumption is frequently made available and promoted in gambling facilities. Research conducted by Black and Moyer (1998), the Mood Disorders Society of Canada (2004), and Kessler et al. (2008) suggests that the link between pathological gambling and substance abuse is well recognized. A comprehensive literature review of gambling research lists an additional 24 studies conducted between 1981 and 2000 that discuss a relationship between problem or pathological gambling and various substance use disorders (Alberta Gaming Research Institute, 2000, November). Petry, (2005) argues that the relationship between substance use and gambling disorders is unequivocal, although one study found substance abuse to be less common among gamblers over the age of 60 (Kausch, 2003).

The comorbidity between mood and anxiety disorders and problem gambling has also been investigated. In one literature review, it was reported that there is a greater prevalence of mood disorders among problem gamblers in Canada, including dysthymia, major depressive disorders, cyclothymia, and bipolar disorders (Mood Disorders Society of Canada, 2004). In another Canadian epidemiological study conducted with almost 15,000 gamblers, it was reported that individuals with mood or anxiety disorders are 1.7 times more likely to be at moderate to high risk for problem gambling (el-Guebaly, et al., 2006). A national epidemiological study conducted in the United States that surveyed over 40,000 respondents also reported that 49.6% of pathological gamblers were classified as mood disordered, while 41.3% of respondents had anxiety disorders (Petry, Stinson, & Grant, 2005). A further study of 1709 psychiatric outpatients discovered that individuals diagnosed with pathological gambling had significantly higher rates of Axis I disorders (as compared to patients without a diagnosis of pathological gambling) (Zimmerman, Chelminski, & Young, 2006). The relationship between mood disorders and problem or pathological gambling is also supported by studies that have found pathological gamblers and first degree relatives demonstrate a higher prevalence of depression and anxiety disorders as compared to matched controls that do not experience problems with gambling (Dannon, Lowengrub, Aizer, & Kotler, 2006).

In comparison to other types of psychiatric comorbidities, the relationship between personality disorders and problem gambling is not well established. The most common personality disorder that has been linked to pathological gambling is antisocial personality disorder (Cunningham-Williams, Cottler, Compton, & Spitznagel, 1998; Slutske, et al., 2001), although avoidant and compulsive personality features have been implicated as well (Henderson, 2004). In one study of treatment seeking problem gamblers, the main personality disorders associated with pathological gambling were borderline, histrionic, and narcissistic personality disorders (Blaszczynski & Steel, 1998). Overall, the majority of pathological gamblers in that study met diagnostic criteria for personality disorders indicating that, as a group, pathological gamblers exhibited rates of personality disorders similar to general psychiatric populations.

A study conducted by Toneatto (2002) explored the rates of Axis I and Axis II disorders among problem gamblers and is particularly noteworthy owing to its methodology. A total of 128 individuals were recruited (i.e., 39 recovered problem gamblers, 51 untreated problem gamblers, 18 treated problem gamblers and 20 recreational gamblers) and the Structured Clinical Interview for DSM-IV-TR was utilized to detect Axis I diagnoses. The Personality Disorder Questionnaire-IV was also used to assess Axis II disorders. The study found that mood and anxiety disorders were the most common across all groups of gamblers, and that active gamblers reported higher levels of emotional, psychiatric, and substance abuse problems. In terms of personality disorders, untreated gamblers had higher rates of paranoid, schizoid, and schizotypal disorders than the recreational or recovered gamblers, F(3,98) = 4.4, p = .006. In addition, there were more cases of obsessive-compulsive, avoidant, or dependent personality disorders in the groups of untreated and treated gamblers as compared to the recreational group, F(3,98) = 4.4, p = .006. Toneatto concluded that psychiatric conditions are not stable among problem gamblers, and that resolving problematic gambling may significantly alleviate concurrent psychiatric conditions.

The studies outlined above do not focus on seniors, but rather, are concerned with mental disorders in the general population of gamblers. The following section will review the small body of literature that investigates the three domains of problem gambling, mental health, and seniors.

Seniors, Problem Gambling, and Mental Health

In addition to estimating prevalence rates, the two large scale Canadian surveys discussed earlier examined mental health factors related to seniors who gamble in Ontario. In the first study, seniors were asked to report on various factors related to gambling such as their beliefs, attitudes, motivations, gambling behaviours, and the amount of money spent (Ontario Problem Gambling Research Centre, 2004, November). Unfortunately, the study gathered little information about the mental health of seniors who gamble. For example, only a single question was used to examine depression, and no other psychiatric conditions were explored.

In the study conducted one year later, more extensive data was collected based on a set of DSM-IV-TR related measures that explored major depressive disorder, panic disorder, eating disorder, social phobia, agoraphobia, mania, suicidal ideation, and alcohol or drug dependence (Ontario Problem Gambling Research Centre, 2005, September). This study reported a significant relationship between gambling problems and substance dependence disorders, but no found significant associations between gambling problems and any of the mental health problems examined. Although, there were several important findings in this study, the authors recommend careful interpretation of the results given the relatively low response rate, the reliance on self reporting, and the use of telephone interviewing. Other researchers have also questioned the ability of telephone surveys to accurately estimate problem gambling prevalence, and have suggested that researchers collect data in environments such as gambling establishments or in the community to obtain more valid data (Lepage, Ladouceur, & Jacques, 2000).

A few recent studies represent pioneering efforts to focus on the psychiatric correlates

of seniors who gamble problematically. For instance, Burge, Pietrzak, Molina, and Petry (2004) found that seniors with earlier gambling onset had higher scores on the psychiatric subscale of the Addiction Severity Index (ASI) and were more likely to be receiving psychiatric treatment. The findings of this study are limited, however, by the small sample size and the use of the ASI as a psychiatric measure, since it was designed to assess substance abuse and related functional areas and is not a specific measure of psychiatric conditions.

In a study by Levens, Dyer, Zubritsky, Knott, and Oslin (2005), depressive symptoms were found to be unrelated to gambling risk in seniors, but these results must be interpreted with caution since validated measures of psychiatric conditions were not employed.

Another group of researchers matched 48 problem gambling seniors to 48 nonproblem gambling seniors and compared the groups using the Addiction Severity Index, the Brief Symptom Inventory, and the Short Form-36 Health Survey (Pietrzak, Molina, Ladd, Kerins, & Petry, 2005). This was the first study to thoroughly evaluate the health and psychosocial correlates of older adult problem gamblers. The results indicated that problem gamblers had more medical problems and scored lower on several measures of physical health. The study also found that problem gamblers had more psychiatric problems as measured by the ASI, and higher scores on the Brief Symptom Inventory sub-scales of depression, anxiety, paranoid ideation and psychoticism. Like other studies, this research was limited by the use of brief instruments that do not focus specifically on mental health variables.

Erickson, Molina, Ladd, Pietrzak, and Petry (2005) administered the Short Form Health Survey Version 2 and the South Oaks Gambling Screen to a sample of 343 adults aged 60 years and older. After comparing problem and non-problem gambling seniors, significant differences were noted on general health, social functioning, and role-emotional subscales. However, significant differences were not observed between groups on the mental health subscale, leading the researchers to recommend the use of more sophisticated assessment methods to study the mental health correlates of problem gambling among seniors.

Finally, Pietrzak and Petry (2006) expanded the array of psychiatric instruments and included the Geriatric Depression Scale, the Brief Symptom Inventory, and the UCLA Loneliness Scale in their study that compared 21 pathological gambling seniors to 10 problem gambling seniors. Although these researchers found that pathological gamblers scored higher on these three scales, this study was limited by the small sample size. Following Pietrzak and Petry, the present study aimed to respond to the call for more advanced measures to be used in the field of research on seniors, gambling, and mental health.

CHAPTER IV: METHOD

Overview

This exploratory study utilized a quasi-experimental design and was conducted in two phases, with data collection occurring over a period of approximately 3 months. In phase I of the study, seniors were administered a measure of cognitive impairment and an instrument that assessed the prevalence and severity of problem gambling. Sociodemographic and gambling-related data was also collected from all participants. In phase II of the study, seniors who reported gambling within the past year were invited to complete two additional questionnaires that screen for mental disorders. Sub-groups of seniors who gamble were then compared using descriptive statistics, and where possible, inferential statistical techniques were employed. This study was approved by the University of Northern British Columbia (UNBC) Research Ethics Board (see Appendix A).

Participants

Sampling procedure.

Participants in this study were recruited using nonprobability sampling procedures (Rubin & Babbie, 2005) and efforts targeted seniors in the city of Prince George and surrounding areas. Attempts were made to advertise the study at gambling sites (i.e., a casino and bingo hall) but were unsuccessful. However, permission was obtained to advertise the study at seniors centers (see Appendix B) as well as from other sites of interest to older adults (e.g., PGX seniors' day, Civic Center seniors' health fair, and UNBC orientation week). The technique of snowball sampling was also utilized to recruit additional participants following contact with seniors at the locations outlined above. Individuals that seek problem gambling treatment services were also informed of the study through posters displayed at the local office where problem gambling treatment services are offered (see Appendix C), and an ad was placed in a local newspaper advertising the study (see Appendix D). A total of 73 eligible seniors participated in the research. The vast majority of participants reported that they had learned about the study through the newspaper advertisement, a small number of seniors were recruited from posters displayed at seniors centers or events, and two participants were clients of problem gambling treatment services.

Inclusion criteria.

To be eligible for inclusion in the study, individuals had to be age 55 or older, be fluent in English, and must have gambled at least once in the past year. Seniors who had cognitive impairment as identified by scores of 23 or lower on the Mini Mental State Examination were not eligible for participation in the study (Folstein, Folstein, & McHugh, 1975). This exclusion criteria is consistent with similar research in the field, although most studies rely on the clinical expertise of the researchers to determine the cognitive capacity of participants and usually do not use dementia screening tools (e.g., Burge, Pietrzak, Molina, & Petry, 2004; Levens, Dyer, Zubritsky, Knott, & Oslin, 2005). Three individuals were excluded from the study based on current active major psychiatric disorders.

Data Collection

Prior to initiating the study, the instrumentation and data collection procedure was pilot tested. The researcher then arranged to administer the questionnaires to participants at the sites where seniors were contacted, in a professional office, or at some other mutually convenient location. All seniors who expressed an interest in participating were given an invitation letter (see Appendix E) and underwent an orientation with the researcher who thoroughly explained the voluntary and confidential nature of the study and expectations of participants. All participants were given the opportunity to ask questions and were required to review and sign an informed consent form before proceeding (see Appendix F).

Participants were compensated \$10.00 to complete the phase I questionnaires which included the Mini Mental State Examination (Folstein, Folstein, & McHugh, 1975), the Problem Gambling Severity Index (Wynne Resources, 2003), and a sociodemographic questionnaire. Seniors who reported participation in gambling activities within the past year were invited to participate in phase II of the study, which involved completing two mental health screening instruments. Participants who provided consent to participate in phase II (see Appendix G) and completed the mental health questionnaires were compensated an additional \$30.00.

Measures

Mini mental state examination.

In phase I of the study, all participants completed a screening tool designed to assess cognitive impairment (see Appendix H). The Mini Mental State Examination (MMSE) is an 11 item measure that tests five areas of cognitive functioning; orientation, registration, attention and calculation, recall, and language (Folstein, Folstein, & McHugh, 1975). The instrument has a maximum score of 30 and scores of 23 or lower indicate cognitive impairment. The MMSE has been validated and used extensively in clinical practice and research settings since 1975 (Fountoulakis, Tsolaki, Chantzi, & Kazis, 2000). The instrument took approximately 5-10 minutes to administer.

Sociodemographic questionnaire.

All participants completed a questionnaire that gathered data on various sociodemographic and gambling-related variables, including age, sex, ethnic background, marital status, education level, occupation, and household income. Additional questions explored the types of gambling activities that participants engaged in, their motivation to gamble, their history of counselling or treatment, and their age of gambling onset (see Appendix I). The sociodemographic questionnaire took about 10 minutes to administer.

Problem gambling severity index.

All participants also completed the Problem Gambling Severity Index (PGSI) (Wynne Resources, 2003). The PGSI is a subscale of the Canadian Problem Gambling Index (CPGI) and has been widely used across Canada in general population surveys (see Appendix J). The CPGI was first developed in 1997 to assess several aspects of gambling, such as involvement in gambling, problems related to gambling, correlates of gambling and demographic information (Ferris & Wynne, 2001). The instrument has sound psychometric properties, such as satisfactory test-retest reliability (coefficient alpha 0.78) and good face and content validity (Ferris & Wynne, 2001). The CPGI is highly correlated with the DSM-IV-TR criterion for pathological gambling (American Psychiatric Association, 1994) and the wellestablished South Oaks Gambling Screen (Lesieur & Blume, 1987), thus demonstrating criterion validity. Construct validity was determined by acceptable correlations between CPGI scores and money spent on gambling, gambling frequency, and number of adverse consequences reported (Ferris & Wynne, 2001).

The PGSI is made up of 9 core self report items from the CPGI that assess two primary domains of problem gambling—problem gambling behaviour and the consequences of that behaviour for the individual or others. For example, the PGSI measures the extent to which an individual gambles to chase losses, escalates gambling behaviour to maintain excitement, borrows money to gamble, and bets more than they can afford. Each of the nine items are scored between 0 and 3 using a four-point Likert scale (with 0 indicating "never" and 3 indicating "almost always") to produce a scale ranging from 0 to 27. Cutoff scores are used to classify individuals along one of five dimensions: 1) non-gambler (respondent has not gambled in the past year), 2) non-problem gambler (scored 0 but had gambled at least once in the past year), 3) low risk gambler (score of 1 or 2), 4) moderate risk gambler (score between 3 and 7), and 5) high risk problem gambler (score equal to or above 8). The PGSI does not differentiate between problem and pathological gambling, as both are considered severe disorders. The PGSI took about 10 minutes to administer.

Psychiatric diagnostic screening questionnaire.

In phase II of the study, participants who were identified by the PGSI to have participated in some form of gambling over the past year were administered the Psychiatric Diagnostic Screening Questionnaire (PDSQ) (see Appendix K). The PDSQ is a self report scale designed to screen for DSM-IV-TR Axis I mental disorders (Zimmerman, 2002). The instrument is made up of 125 questions (with yes/no responses) that assess the symptoms of 13 DSM-IV TR disorders in five areas (American Psychiatric Association, 1994). The five areas include mood disorders, anxiety disorders, somatoform disorders, eating disorders, and substance use disorders. The disorders covered under the five major headings are the most prevalent in epidemiological surveys and the most frequently reported in large clinical samples (Zimmerman & Mattia, 2001). Each positive response to a question on the PDSQ is assigned a score of 1 and items are then grouped into subscales by type of disorder (with subscale-specific cutoff scores that distinguish positive from negative cases). In addition, the PDSQ screens for psychosis using a separate subscale, and the total score can be used as a global measure of psychopathology. The instrument has been subject to rigorous test development procedures and has demonstrated good internal consistency and test-retest reliability (Zimmerman & Mattia, 2001). All 13 PDSQ subscales have also displayed significant convergent, discriminant, and criterion validity (Zimmerman & Mattia, 2001). The PDSQ took approximately 30 minutes to administer.

Personality diagnostic questionnaire-4+.

Participants identified by the PGSI to have some involvement in gambling were also administered the Personality Diagnostic Questionnaire-4+ (PDQ-4+) (Hyler, 1994). The PDQ-4+ is a self administered diagnostic instrument (consisting of 99 true/false questions) that measures ten DSM-IV-TR personality disorders (see Appendix L). The PDQ-4+ includes the diagnoses of negativistic and depressive personality disorders that are included in the appendix of DSM-IV-TR. The total score of the instrument is an index of overall personality disturbance and is determined by summing all the responses coded as "true." A total score of 30 or more indicates a substantial likelihood that the respondent has a considerable personality disturbance. In addition, each item scored as true corresponds with diagnostic criteria for a specific personality disorder. If threshold counts for each personality disorder are reached or exceeded the diagnosis is recorded. The PDQ-4+ is based on its predecessor (PDQ-R), and was designed to accommodate for the changes to personality disorders made in the DSM-IV-TR (American Psychiatric Association, 2000). The instrument demonstrates good test-retest reliability (Hyler, Skodol, Kellman, Oldham, & Rosnik, 1990; Reich, Yates, & Nduaguba, 1989) as well as convergent validity with the Structured Clinical Interview for
DSM-III-R (Hyler, Skodol, Oldham, Kellman, & Doidge, 1992; Trull & Larson, 1994). The PDQ-4+ took approximately 30 minutes to complete.

Design and Data Analysis

This study utilized a quasi-experimental design, as scores on the PGSI were used to divide participants who had gambled within the past year into one of four problem gambling severity classifications (i.e., non-problem, low risk, moderate risk, and high risk problem gambling). In the analysis, due to sample size constraints, the non-problem and low risk categories were collapsed to form the no-low risk group, and the moderate and high risk categories were combined to form the moderate-high risk group. This procedure of collapsing categories of problem gamblers is similar to previous research (c.f. el Guebaly et al., 2006).

An exploratory analysis was initially conducted by computing frequencies and cross tabulations for all sociodemographic and mental health variables across the two problem gambling groups. Descriptive statistics were used to analyze the sociodemographic and mental health correlates in each group (e.g., types of gambling involvement, motivation, prevalence of comorbid mental health conditions).

Inferential statistics were then used to make comparisons between the two groups. To test the significance of group differences on categorical sociodemographic data (e.g., gender, education, ethnicity), the chi-square test for independence (two-tailed) was used. To compare the groups on the continuous sociodemographic variables of age and gambling onset, t-tests were utilized, with alpha levels set at .05. For the mental health instruments, t-tests were used to compare the groups on overall scores of psychopathology and personality disturbance.

Alpha levels for these omnibus tests were set at .01. The chi-square test for independence (two-tailed) was used to test the significance of group differences on the mental health subscales (i.e., proportions of mental disorders). To control Type I error, statistical significance was set at .012 for the PDSQ subscale comparisons, and .016 for the PDQ-4+ subscale comparisons using the bonferroni procedure. Data were analyzed using the Statistical Package for Social Sciences (SPSS, 2005).

The use of non-parametric tests to compare gamblers according to gender and other nominal variables is standard in the field (Nadeau, Landry, & Racine, 1999; Petry, 2003; Southwell, Boreham, & Laffan, 2008). Similarly, descriptive statistics have been used to present the frequency of mental disorders among gamblers (Toneatto, 2002), and t-tests have been widely used by researchers to compare gambling and non-gambling groups on continuous variables (Zimmerman, Chelminski, & Young, 2006).

CHAPTER V: RESULTS

Overview

The descriptive analysis of sociodemographic variables generated various crosstabulations, such as the proportion of participants in each risk group, the mean age within each group, and a breakdown of the sample in terms of ethnicity, marital status, education, income levels, the most common gambling activities engaged in by participants, their motivations for gambling, and their treatment histories. Such analysis revealed important findings about the sociodemographic profile and gambling attributes of the two risk groups. Although the results of chi-square analyses used to test for associations between sociodemographic variables were not generally significant, analyses of mental health variables revealed significant differences across groups in terms of overall psychopathology and overall personality disturbance.

Sociodemographic Variables

Descriptive analysis.

The total sample obtained in the study was relatively small (N = 73). The proportion of participants in each category of the PGSI were as follows: "non-problem" (16.4%), "low-Risk" (24.7%), "moderate risk" (32.9%), and "high-risk" (26%). When the four categories from the PGSI were collapsed into two groups (no-low and moderate-high risk groups), the no-low risk group comprised 41.1% of the sample (n = 30), and the moderate-high risk group made up 58.9% of the sample (n = 43).

Of the entire sample the average age was 65.51, with participant ages ranging from 55 to 86 years. In terms of problem gambling risk, the mean age of the no-low risk group was

65.97 (SD = 6.33), while the moderate-high risk group was 65.19 (SD = 7.16). For the purpose of comparison to other studies, participants were grouped according to age intervals, with 47.9 % of the sample being between 55 and 64 years, 42.5% between 65 and 74 years, 8.2% between 75 and 84, and 1.4% over the age of 85.

With regard to sex, 67.1% of participants were female and 32.9% were male. In the no-low risk group, there were 10 males (33.3%) and 20 female participants (66.7%). In the moderate-high risk group, the proportion of males and females were similar, with 14 males (32.6%), and 29 females (67.4%).

Participants in the study could be described as diverse with regard to ethnicity². Caucasians comprised 64.4% of the entire sample (those reporting North American or European background), Aboriginal people represented 31.5% (which includes those reporting First Nations, Métis, or Aboriginal ancestry), 2.8% had Asian background, and 1.4% had African heritage.

The marital status of the sample was typified by participants who were partnered, as these individuals outnumbered those who were not engaged in a relationship. Most of the participants were either married (60.3%) or in a common-law relationship (2.7%). The remaining participants were widowed (17.8%), divorced (9.6%), single (5.5%), or separated (4.1%).

There was a wide range in the level of education among participants, with 8.2% having less than elementary school education and 8.2% having completed elementary school. Of those who had attended secondary school, 16.4% had not completed and 15.1% had graduated. A slightly smaller proportion reported that they had completed some college or

 $^{^2}$ Given the number of categories in the remainder of sociodemographic variables, results are reported for the entire sample. For a specific breakdown of the sample for each remaining sociodemographic variable according to risk group, see Table 1.

trade school (13.7%), and a larger number had graduated (24.7%). Of the respondents that attended university, 9.6% reported completing some university, while 4.1% were graduates.

In terms of occupational status, the majority of the sample was either retired or unemployed (58.9%), although 32.9% were employed, and a few individuals were disabled (8.2%).

The gross annual income levels across the entire sample ranged from below \$19,900.00 to above \$100,000.00 per person. There were 24.7% who had incomes below \$19,999, and 35.6% with incomes between \$20,000.00 and \$39,999.00. An additional 21.9% had incomes between \$40,000.00 and \$59,999.00, while the remaining 17.8% had incomes above \$60,000.00. Table 1 presents the frequencies and proportions of the sociodemographic variables for the entire sample and by participants in each group.

Table 1

Sociodemographic Characteristics

	All Respondents		No PC	o-Low 6 Risk	Mod-High PG Risk	
	n	%	п	%	п	%
Age						
55 - 64	35	47.9	14	46.7	21	48.8
65 - 74	31	42.5	14	46.7	17	39.5
75 - 84	6	8.2	2	6.7	4	9.3
85 +	1	1.4	_	_	1	2.3
Gender						
Male	24	32.9	10	33.3	14	32.6
Female	49	67.1	20	66.7	29	67.4
Ethnicity						
Asian	1	1.4	1	3.3	-	-
South Asian	1	1.4	-	_	1	2.3
African	1	1.4	_	_	1	2.3
First Nations	12	16.4	3	10	9	20.9
Aboriginal Ancestry	3	4.1	1	3.3	2	4.7
Métis	8	11	2	6.7	6	14
North American	27	37	9	30	18	41.9
European	20	27.4	14	46.7	6	14
Marital						
Single	4	5.5	1	3.3	3	7
Married	44	60.3	21	70	23	53.4
Common Law	2	2.7	1	3.3	1	2.3
Separated	3	4.1	_	_	3	7
Divorced	7	9.6	3	10.0	4	9.3
Widowed	13	17.8	4	13.3	9	20.9
Education						
Elementary Incomplete	6	8.2	3	10.0	3	7
Elementary Complete	6	8.2	1	3.3	5	11.6
Secondary Incomplete	12	16.4	3	10.0	9	20.9

Table 1 (continued).

	All Respondents		No-Low PG Risk		Mod-High PG Risk	
-	n	%	n	%	n	%
Secondary Complete	11	15.1	4	13.3	7	16.3
Some Trades/Tech/College	10	13.7	5	16.7	5	11.6
Diploma Trades/Tech/College	18	24.7	8	26.7	10	23.3
Some University Level	7	9.6	5	16.7	2	4.7
University Degree	3	4.1	1	3.3	2	4.7
Occupation						
Employed	24	32.9	9	30	15	34.9
Retired	43	58.9	19	63.3	24	55.8
Disabled	6	8.2	2	6.7	4	9.3
Income						
0–19,999	18	24.7	4	13.3	14	32.6
20,000-39,900	26	35.6	7	23.3	19	44.2
40,000-59,900	16	21.9	10	33.3	6	14
60,000-79,900	4	5.5	2	6.7	2	4.7
80,000–99,900	6	8.2	4	13.3	2	4.7
>100,000	3	4.1	3	10	_	_

Table 2 presents the gambling activities reported by group and shows that the most prevalent type of gambling for both groups was some form of lottery (60% in the no-low risk group and 51.2% in the moderate-high risk group). The next most prevalent activities for the moderate-high risk group were bingo and slots (39.5% and 37.2%, respectively). For the no-low risk group, casino and slots were the next most prevalent gambling activities (both 26.7%).

Table 2

Gambling Activities

	Non-Low Risk Group		Mod-High Risk Group	
	n	%	n	%
Lottery/Scratch Tickets	18	60	22	51.2
Stock Market	_	_	1	2.3
Horse Racing	1	3.3	1	2.3
Pull Tabs	_	_	1	2.3
Raffle	2	6.7	4	9.3
Bingo	7	23.3	17	39.5
Cards	1	3.3	4	9.3
Casino	8	26.7	12	27.9
Slots	8	26.7	16	37.2
Keno	2	6.7	1	2.3

Participants varied with regard to motivation for gambling, with 27.9% of the moderate-high risk group and 70% of the no-low risk group reporting that they gambled for fun, excitement, or for entertainment. Other motivations to gamble were, to win money (48.8% of the moderate-high risk group vs. 20% of the no-low risk group), and boredom

(9.3% of the moderate-high risk group vs. 3.3% of no-low risk group). Of the moderate-high risk group, 9.3% of participants gambled to win back money lost, while 2.3% were motivated by grief. It was also observed that 6.7% of participants in the no-low risk group reported being motivated by loneliness.

Participants were also asked to report whether they had any history of treatment for gambling problems, mental illness, alcohol or drug use, or any other form of treatment. The majority of the sample (68.5%) reported no treatment history. However, it was observed that 16.3% of the moderate-high risk group (six females and one male) reported that they had sought treatment for mental health problems, as compared to only 3.3% from the no-low risk group (one female). Table 3 presents the frequencies and proportions of gambling motivation and treatment history.

Table 3

Gambling Motivation and Treatment History

	No- PG	No-Low PG Risk		Mod-High PG Risk	
	n	%	n	%	
Gambling Motivation					
Fun/Excitement/Entertainment	21	70	12	27.9	
No Other Activities	-	_	1	2.3	
Win Back Money Lost		-	4	9.3	
Loneliness	2	6.7	-	-	
Boredom	1	3.3	4	9.3	
Win Money	6	20	21	48.8	
Grief	_	_	1	2.3	
Treatment History					
Gambling	1	3.3	4	9.3	
Mental Health	1	3.3	7	16.3	
Alcohol	2	6.7	3	7	
Drug Use	_	_	1	2.3	
Combination/Other	-	_	4	9.3	
No Treatment History	26	86.7	24	55.8	

Inferential analysis.

An independent-samples t-test was conducted to assess the difference in mean ages across the two risk groups, and the test was not significant, t(71) = 0.48, p = .632. An independent-samples t-test was also performed to compare the average age of participants' first gambling experience across the no-low risk and moderate-high risk groups. This test was significant, t(71) = 2.191, p = .032. On average, participants in the moderate-high risk group began gambling at an earlier age (M = 27.65, SD = 15.16) than participants in the no-low risk group (M = 36.37, SD = 18.75). The 95% confidence interval for the difference in means was wide, ranging from -1.81 to 19.24. The magnitude of the differences in the means was moderate (eta squared = .06), suggesting that 6% of the variance of the age at which participants first gambled was accounted for by whether a person was in the no-low or moderate-high risk group.

To assess whether the proportion of participants in the no-low risk and moderate-high risk groups differed in terms of sex, the chi-square test for independence was used. The result of this test was not significant, χ^2 (1, N = 73) = 0.00, p = 1.000.

In order to permit statistical analyses of the remaining sociodemographic variables, various categories were collapsed and analyses were conducted across the no-low and moderate-high risk groups using the chi-square test for independence (two-tailed). Specifically, to test for differences in terms of the ethnic background of participants across the risk groups, ethnic categories were collapsed into two categories—Caucasian and Ethnic Minorities. A chi-square test was conducted and the result was not significant, χ^2 (1, N = 73) = 2.50, *p* = .114, suggesting that the two groups did not differ in terms of these ethnic categories.

A chi-square test was performed to assess whether participants in the two risk groups differed in terms of marital status by re-classifying participants as either partnered or single, and the result was not significant, χ^2 (1, N = 73) = 1.64, p = .201.

To examine differences across groups on education level, participants were divided into two categories; those who had completed secondary school or less, and those who had post secondary school education. A chi-square test revealed that no significant difference existed between the groups in terms of education level, χ^2 (1, N = 73) = 1.89, p = .170.

Participants were then reclassified as either employed or not employed in order to examine any difference across the two risk groups, and once again, the chi-square test result was non-significant, $\chi^2(1, N = 73) = 0.03$, p = .854.

Lastly, to test for differences across the risk groups in terms of low income, the groups were divided according to a low income cutoff of \$19,999.00 as suggested by the National Advisory Council on Aging (2005). A chi-square test was carried out, and the result was not significant, χ^2 (1, N = 73) = 2.56, p = .110. Table 4 displays the results of the between-group tests for statistical significance.

Table 4

Group Differences on Sociodemographic Characteristics

	No- PG	No-Low Mod- PG Risk PG R		-High Risk	χ^2	<i>p</i> -value
	n	%	n	%		
Age						
55-64	14	46.7	21	48.8	0.000	1.000
64+ ^a	16	53.3	22	51.2		
Gender						
Male	10	33.3	14	32.6	0.000	1.000
Female	20	66.7	29	67.4		
Ethnicity						
Caucasian ^b	23	76.7	24	55.8	2.503	0.114
Ethnic Minority ^c	7	23.3	19	44.2		
Marital Status						
Partnered	22	73.3	24	55.8	1.636	0.201
Single ^d	8	26.7	19	44.2		
Education						
Secondary or Less ^e	11	36.7	24	55.8	1.885	0.170
Post Secondary ^f	19	63.3	19	44.2		
Occupation Status						
Employed	9	30	15	34.9	0.034	0.854
Not Employed ^g	21	70	28	65.1		
Income						
<19,999	4	13.3	14	32.6	2.557	0.110
19,999 or more ^b	26	86.7	29	67.4		
Average Age	Mean	SD	Mean	SD	t	<i>p</i> -value
	65.97	6.33	65.19	7.16	0.48	0.632
Age first Gambled	Mean	SD	Mean	SD	t	p-value
	36.37	18.75	27.65	15.16	2.191	0.032*

**p* < 0.05.

a '64+' includes '65-74' (n = 31), '75-84' (n = 6), and '85-86' (n = 1).

b 'Caucasian' includes 'European' (n = 20), and 'North American' (n = 27).

c 'Ethic Minority' includes 'Asian' (n = 1), 'South Asian' (n = 1), 'First Nations' (n = 12), 'Aboriginal Ancestry' (n = 3), 'Métis' (n = 8), and 'African' (n = 1).

d 'Single' includes 'single' (n = 4), 'separated' (n = 3), 'divorced' (n = 7), and 'widowed' (n = 13).

e 'Secondary or Less' includes 'elementary incomplete' (n = 6), 'elementary complete' (n = 6), 'secondary incomplete' (n = 12), and 'secondary complete' (n = 11).

f 'Post Secondary' includes 'some college/trades' (n = 10), 'college/trades diploma' (n = 18), 'some university' (n = 7), and 'university degree' (n = 3).

g 'Not Employed' includes 'retired/unemployed' (n = 43), and 'disabled' (n = 6).

 $h \ `19,999 \ or \ more' \ includes \ `20,000-39,999' \ (n=26), \ `40,000-59,999' \ (n=16), \ `60,000-79,999' \ (n=4), \ `80,000-99,999' \ (n=6), \ `>100,000' \ (n=3).$

Mental Health Variables

PDSQ descriptive analysis.

Results from the PDSQ analysis revealed that many participants in the sample met the criteria for Axis I disorders. The most common Axis I disorders observed in the entire sample were somatization disorder (39.7%), followed by obsessive-compulsive disorder (32.9%), social phobia (30.1%), and post-traumatic stress disorder (28.8%).

For the moderate-high risk group the most prevalent disorders were somatization disorder (48.8%), social phobia (44.2%), obsessive compulsive disorder (41.9%), and post traumatic stress disorder (41.9%). By comparison, the prevalence of these disorders in the no-low risk group were somatization disorder (26.7%), social phobia (10%), obsessive compulsive disorder (20%), and post traumatic stress disorder (10%).

Analyzing the results by the prevalence of psychiatric comorbidity, it was observed that 26.7% of participants in the no-low risk group met criteria for more than one Axis I disorder, while 58.1% of the moderate-high risk group met criteria for a comorbid psychiatric condition. Similarly, in terms of sex, it was discovered that 20% of men in the no-low risk group met criteria for a comorbid condition, compared to 57.1% of men in the moderate-high risk group. For women, results showed that 30% of females in the no-low risk group suffered with comorbid mental illness, compared to 58.6% of women in the moderate-high risk group. Table 5 illustrates the frequencies and proportions of Axis I mental disorders by risk group.

Table 5

PDSQ Axis I Disorders by Group

	No-Low PG Risk		Mod-High PG Risk	
	п	%	n	%
Major Depressive Disorder	2	6.7	14	32.6
Post Traumatic Stress Disorder	3	10	18	41.9
Eating Disorder	_	-	4	9.3
Obsessive Compulsive Disorder	6	20	18	41.9
Panic Disorder	1	3.3	12	27.9
Psychosis	1	3.3	13	30.2
Agoraphobia	_	-	13	30.2
Social Phobia	3	10	19	44.2
Alcohol Abuse/Dependence	5	16.7	12	27.9
Drug Abuse/Dependence	1	3.3	9	20.9
Generalized Anxiety Disorder	3	10	12	27.9
Somatization Disorder	8	26.7	21	48.8
Hypochodriasis	7	23.3	15	34.9
Axis I Comorbidity	8	26.7	25	58.1

PDSQ inferential analysis.

An independent-samples t-test was conducted across the two risk groups to compare PDSQ total scores. The test was significant, t(71) = -3.68, p = .000. Participants in the moderate-high risk group (M = 46.28, SD = 15.75) had a higher level of overall psychopathology than participants in the no-low risk group (M = 33.73, SD = 13.29). The 99% confidence interval for the difference in means was wide, ranging from -21.59 to -3.50. The magnitude of the differences between means was large (eta squared = .16), suggesting that 16% of the variance in overall psychopathology was accounted for by whether or not a person was in the no-low or moderate-high risk group.

Chi-square analyses were then conducted to evaluate any differences across the two groups in terms of the PDSQ sub-scales, where the assumption of minimum expected cell count frequency was not violated. To correct for family wise error, statistical significance for multiple comparisons was set at .012 using the bonferroni procedure (.05 divided by four comparisons = .012). The results indicated no significant differences between groups on the following mental health disorders: obsessive compulsive disorder, χ^2 (1, N = 73) = 2.90, p = .089, alcohol abuse/dependence, χ^2 (1, N = 73) = 0.70, p = .403, somatization, χ^2 (1, N = 73) = 2.76, p = .097, and hypochodriasis, χ^2 (1, N = 73) = 0.64, p = .424. Table 6 presents the results of the inferential statistical tests.

Table 6

	No-Low PG Risk		Mod-High PG Risk		χ²	<i>p</i> -value
	n	%	n	%		
Obsessive Compulsive Disorder	6	20	18	41.9	2.90	0.089
Alcohol Abuse/Dependence	5	16.7	12	27.9	0.70	0.403
Somatization Disorder	8	26.7	21	48.8	2.76	0.097
Hypochodriasis	7	23.3	15	34.9	0.64	0.424
Total PDSQ Scores	Mean	SD	Mean	SD	t	p-value
	33.73	13.29	46.28	15.75	-3.68	0.000*

Group Differences on Axis I Disorders

* *p* < .01.

PDQ-4+ descriptive analysis.

Consistent with the findings from the analysis of Axis I disorders, many participants in the sample met the criteria for Axis II disorders as measured by the PDQ-4+. The most frequent rates of personality disorders observed for the entire sample were obsessive compulsive personality disorder (45.2%), paranoid personality disorder (39.7%), avoidant personality disorder (30.1%), and depressive personality disorder (24.7%).

For the moderate-high risk group, the most prevalent personality disorders observed were, obsessive compulsive personality disorder (55.8%), paranoid personality disorder (48.8%), avoidant personality disorder (39.5%), and depressive personality disorder (34.9%). The proportions of these personality disorders in the no-low risk group were obsessive compulsive personality disorder (30%), paranoid personality disorder (26.7%), avoidant personality disorder (16.7%), and depressive personality disorder (10%).

When the prevalence of Axis II psychiatric comorbidity was examined, it was observed that 20% of participants in the no-low risk group met criteria for more than one personality disorder, as compared to 58.1% of participants in the moderate-high risk group. In terms of sex differences across groups, 20% of men in the no-low risk group and 57.1% in the moderate-high risk group met the criteria for comorbid personality disorders, while 20% of women in the no-low risk group and 58.6% in the moderate-high risk group had comorbid personality disorders. Table 7 illustrates the frequencies and proportions of Axis II personality disorders for each risk group.

Table 7

	No PG	No-Low PG Risk		l-High Risk
	n	%	n	%
Paranoid	8	26.7	21	48.8
Histrionic	1	3.3	4	9.3
Antisocial	-	-	4	9.3
Obsessive Compulsive	9	30	24	55.8
Negativistic	1	3.3	13	30.2
Schizoid	2	6.7	13	30.2
Narcissistic	2	6.7	9	20.9
Avoidant	5	16.7	17	39.5
Depressive	3	10	15	34.9
Schizotypal	3	10	10	23.3
Borderline	1	3.3	9	20.9
Dependent	1	3.3	6	14
Axis II Comorbidity	6	20	25	58.1

PDQ-4+Axis II Disorders by Group

PDQ-4+ inferential analysis.

An independent-samples t-test was conducted to compare the total scores on the PDQ-4+ by risk group. The test was significant, t(71) = -3.24, p = .002. Participants in the moderate-high risk group (M = 30.84, SD = 18.81) had a higher level of personality disturbance than participants in the no-low risk group (M = 17.40, SD = 15.22). The 99% confidence interval for the difference in means was wide, ranging from -24.41 to -2.46. The magnitude of the differences in the means was large (eta squared = .12), suggesting that 12% of the variance in personality disturbance was accounted for by whether a person was in the no-low or moderate-high risk group.

To assess differences across the two risk groups in terms of the PDQ-4+ sub-scales, chi-square analyses were conducted where the assumption of minimum expected cell count frequency was not violated. To correct for family wise error, statistical significance for multiple comparisons was set at .016 using the bonferroni procedure (.05 divided by three comparisons = .016). The results indicated no significant differences between groups on the following personality disorders: paranoid personality disorder, χ^2 (1, N = 73) = 2.76, p = .097, obsessive compulsive personality disorder, χ^2 (1, N = 73) = 3.77, p = .052, and avoidant personality disorder, χ^2 (1, N = 73) = 3.37, p = .066. Table 8 presents the results of the inferential statistical tests.

Table 8

Group Differences on Axis II Disorders

	No- PG	No-Low PG Risk		Mod-High PG Risk		<i>p</i> -value
	n	%	n	%		
Paranoid	8	26.7	21	48.8	2.76	0.097
Obsessive Compulsive	9	30	24	55.8	3.77	0.052
Avoidant	5	16.7	17	39.5	3.37	0.066
Total PDQ-4+ Score	Mean	SD	Mean	SD	t	<i>p</i> -value
	17.40	15.22	30.84	18.81	-3.24	0.002*

* *p* < .01.

Summary

The participants in the study represented a broad sociodemographic profile. Analysis of the sociodemographic variables did not reveal any significant differences between participants in the no-low or moderate-high risk groups. However, the results did show that a higher proportion of participants in the moderate-high risk group played bingo and slot machines. In addition, it was discovered that the participants in the no-low risk group reported gambling for the purpose of entertainment or excitement, rather than to win money, which was the most common motivation reported by participants in the moderate-high risk group. Other results were noted, such as a higher proportion of participants in the moderate-high risk group reporting a history of mental health treatment, and that participants in the moderate-high risk group were also significantly more likely to have started gambling at an earlier age. The most salient difference across groups was that those in the moderate-high risk group had significantly higher levels of global psychopathology and overall personality disturbance, with elevated proportions of disorders on several sub-scales of the PDSQ and PDQ-4+.

CHAPTER VI: DISCUSSION

Overview

This study is unique in that it examined seniors, problem gambling, and mental health, using comprehensive and validated instruments in a community sample of rural seniors. It provides a profile of seniors who gamble in a rural context, and uncovers some important differences between problem and non-problem gamblers. The following section will briefly discuss some general characteristics of the entire sample before highlighting the more salient sociodemographic correlates among problem gamblers. In the same way, a comment about the mental health characteristics of the general sample will precede a discussion of the most important discoveries regarding mental health and problem gambling. The section concludes by outlining some implications of the study, as well its limitations and directions for future research.

Sociodemographic Correlates

General sample characteristics.

The sample in this study was characterized by a larger proportion of females, and 63% of participants were either married or in partnered relationships. A total of 75.3% reported an annual income in excess of \$20,000, and 52.1% had higher than a secondary school education. These findings differ from other studies which assert that seniors who gamble are more likely to be male, single, or widowed, have lower incomes, and have less than a high school education (c.f. Alberta Alcohol and Drug Commission, 2000, February; Zaranek & Chapleski, 2005). Therefore, the current study implies that seniors who gamble in northern BC may have different sociodemographic backgrounds as compared to other

communities.

Conversely, the sociodemographic characteristics in this sample were remarkably similar to a study conducted by Govoni, Frisch, and Johnson (2001) who randomly sampled 355 seniors in Ontario. The studies were comparable in terms of gender as well as the age of participants, with 46.2% of their sample aged 55-74 years, 38.9% aged 65-74 years, 16.8% aged 75-84 years, and 1.7% aged 85 or over. Furthermore, in both studies, participants engaged in lottery and casino gambling most often, and reported excitement or the chance to win money as primary motivations to gamble. From this comparison, it is evident that the current sample parallels a random sample, which has implications for the generalizability of the findings in this study.

Sociodemographic correlates of problem gambling seniors.

This study compared problem and non-problem gambling seniors with respect to the sociodemographic characteristics of age, sex, ethnicity, marital status, education, occupation, and income, and found no significant differences between groups. The absence of group differences in level of education is noteworthy, given this finding contradicts other studies (el-Guebaly et al., 2006) that report non-problem gamblers are more likely than problem gamblers to have a high school education. Thus, this study challenges other findings that suggest problem gambling is associated with lower levels of education. The findings also contradict Petry, Stinson, and Grant (2005) who found individuals who were divorced, separated, or widowed to be at greater risk for pathological gambling. Therefore, this study also contradicts the assumption that divorced, single or widowed people are at higher risk for problem gambling, and suggests that problem gambling may be impacting a broader

spectrum of seniors.

In addition, gender differences across problem and non-problem gambling groups were not detected—a unique finding in light of the body of literature which indicates that problem gamblers are more likely to be male (e.g., Ladd, Molina, Kerins, & Petry, 2003; Petry, Stinson, & Grant, 2005; Vander Bilt, Dodge, Pandav, Shaffer, & Ganguli, 2004). This finding, coupled with concerns raised by Volberg (2003) about the feminization of gambling (i.e., casinos provide women a safe environment for risk taking), and Skea's (1995) argument that the gaming industry targets advertising campaigns toward women, support the need for increased attention on female seniors who gamble. The results of this study once again depart from a mainstream view on the demographics associated with problem gambling, and highlight the need for a gender balanced perspective when considering the impacts of problem gambling on seniors.

A higher proportion of seniors in the moderate-high risk gambling group reported playing bingo and slot machines as compared to non-problem gamblers. This result is consistent with research on seniors that gamble in the general population (Addictions Foundation of Manitoba, 2002; Alberta Alcohol and Drug Abuse Commission, 2000, February). Results of the current study contribute to research in this area by permitting a between group comparison that identifies the most prevalent gambling activities among problem gambling seniors.

The most common motivation to gamble reported by seniors in the moderate-high risk group was to win money compared to those in the no-low risk group, who reported that they gambled for fun, excitement, or entertainment. These results are consistent with previous studies of seniors in the general population (Alberta Alcohol and Drug Abuse Commission, 2000, February; Govoni, Frisch, & Johnson, 2001), as well as research on problem gambling and seniors (Southwell, Boreham, & Laffan, 2008).

Moreover, problem gambling seniors were found to begin gambling at a significantly earlier age, which also contributes to the field of gambling research. Burge, Pietrzak, Molina, and Petry, (2004) similarly found that seniors with earlier gambling onset had more severe health problems, greater psychiatric problems, and wagered more frequently. However, this study extends the previous work through the use of comprehensive and validated instruments that assessed the differences between groups on several mental health outcomes, thus lending further support to the assumption that gambling which begins in young adulthood may result in elevated problem gambling severity in later adulthood.

Lastly, differences between groups were noted on treatment history. Although most of the participants had not sought treatment for gambling problems, mental health, or alcohol or drug use, it was interesting to note that 16.3% of participants in the moderate-high risk group disclosed that they had sought help for mental health problems as compared to only 3.3% of those in the no-low risk group. This discovery supports the link between mental health and problem gambling that is implied by the other major findings in the study.

Mental Health Correlates

General sample characteristics.

The prevalence of Axis I and II mental disorders was measured for all participants using data from the PDSQ and the PDQ-4+. The most common Axis I disorders were somatization disorder, obsessive compulsive disorder, social phobia, and post traumatic stress disorder. For Axis II, obsessive compulsive, paranoid, avoidant, and depressive personality disorder were the most frequent.

Mental health correlates among problem gambling seniors.

The results indicated that moderate-high risk problem gamblers had a higher prevalence of somatization disorder, social phobia, obsessive compulsive disorder, and post traumatic stress disorder. Three of these disorders are classified as anxiety disorders, suggesting that anxiety may be strongly associated with problem gambling behaviour in seniors. This finding is consistent with several studies in the general population that have also found an association between anxiety disorders and problem gambling (e.g., Petry, Stinson, & Grant, 2005; Dannon, Lowengrub, Aizer, & Kotler, 2006; Toneatto, 2002; Zimmerman, Chelminski, & Young, 2006). As well, previous studies of pathological gamblers have reported elevated rates of anxiety disorders in general population surveys (Petry, Stinson, & Grant, 2005), and in populations of older adults (Pietrzak, Molina, Ladd, Kerins, & Petry , 2005).

In terms of Axis II disorders, the results revealed that the moderate-high risk group had a higher prevalence of obsessive compulsive personality disorder, paranoid personality disorder, avoidant personality disorder, and depressive personality disorder. This finding contrasts other research which points to a strong association between antisocial personality disorder and pathological gambling (Cunningham-Williams, Cottler, Compton, & Spitznagel, 1998; Pietrzak & Petry, 2005). According to the findings of this study, it appears that antisocial personality disorder may not be associated with problem gambling in seniors. However, this finding may be explained by the fact that the sample had a larger proportion of females relative to males, and that antisocial personality disorder is more common in males (American Psychiatric Association, 2000). Similarly, this study did not find significant differences between groups with regard to alcohol abuse or dependence disorder. This finding is inconsistent with most of the literature on problem gambling and substance abuse in the general population, where researchers contend that there is a strong relationship between these two conditions (Kessler et al., 2008; Petry, 2005). Rather, these results are consistent with Kausch (2003), who found that substance abuse and dependence do not seem to be strongly related to problem gambling in seniors.

Finally, it was noted that the proportion of Axis I and Axis II comorbid conditions were elevated in the moderate-high risk group. This result supports the key finding of the study—that problem gamblers differed significantly from non-problem gamblers with regard to overall scores on the mental health measures. This study extends previous research as it revealed that seniors who gamble problematically have higher levels of global psychopathology and personality disturbance as measured by comprehensive and validated instruments in a rural community sample.

Implications

One of the strengths of this research is that it yielded a considerable response from seniors who gamble. Based on the results, it is clear that social workers need to raise awareness about problem gambling among seniors and that prevention efforts should be aimed at those approaching retirement age, as well as those from all sociodemographic backgrounds, regardless of ethnicity, marital status, education, or income. Seniors in general are particularly vulnerable to the consequences of problem gambling, because they are often on fixed incomes and typically do not have the means to replenish money lost through gambling, making the task of prevention even more critical.

In order to be effective in raising awareness about problem gambling in older adults, prevention efforts need to target issues relevant to seniors. However, there are currently no official prevention campaigns for seniors who gamble in BC, and most prevention materials are generic. The findings of this study provide some direction for tailoring prevention material toward seniors, for example, by focusing on the most popular forms of gambling in this population, such as lotteries, bingo, and slot machines. Prevention efforts should also be aimed at educating seniors on the odds in games of chance, since many problem gamblers reported that they were motivated to gamble to win money.

Furthermore, social workers' efforts to raise awareness about problem gambling may be greatly advanced through the development of strategic partnerships. For example, since seniors are more likely to seek assistance for mental health problems in primary health care settings (Stanley, 2001), it would be beneficial to focus prevention efforts in the medical community. Social workers could provide information to physicians on problem gambling screening and on the treatment services that are available. Training to screen for problem gambling could also be extended to other professionals who regularly come in contact with seniors, such as home care nurses, home support staff, and staff at seniors centers or residential care facilities. Allied professionals who work with seniors are a valuable untapped resource, especially in light of research which suggests that there is a dearth of skilled professionals who are able to provide assistance to concurrent disordered populations, and that concurrent disordered clients in general are poorly served (Biegel, et al., 2003; Drake, Mercer-McFadden, Mueser, McHugo, & Bond, 1998; Hamilton Brown, Grella, & Cooper, 2002; Minkoff, 2001; Watkins, Burnam, Kung, & Paddock, 2001). There are also important implications for clinical social workers who work in the field of mental health, addictions, and other settings that provide services to older adults. Given the increased likelihood for psychopathology to co-occur in problem gambling seniors, it is essential for social workers to identify seniors with comorbid conditions when conducting psychosocial assessments. Social workers may want to screen for both mental health disorders and problem gambling when clients present with either of these conditions. Seniors who are identified as having mental illness and problem gambling should be followed-up with clinical interviews and provided with concurrent treatment in accordance with best practice literature (Minkoff, 2001). Through the use of comprehensive assessment procedures, social workers will be able to tailor treatment plans and therapeutic interventions for seniors. Thus, it is recommended that practitioners be provided with sufficient psychometric and clinical training in the use of problem gambling and mental health screening instruments.

The strong response from problem gamblers in this study also points to the need for specialized treatment approaches. Currently, there are no seniors-oriented treatment programs that address the issues facing older adults who gamble in BC. Social workers could develop a seniors problem gambling treatment program that is relevant to late-life developmental issues. In particular, group work may benefit seniors who gamble problematically, as social workers have found groups to be effective in helping seniors deal with bereavement, isolation, and shame (Angelico & Sullivan, 2005).

In addition, this study suggests that treatment programs should pay equal attention to women, since it was discovered that problem gambling in seniors may not be predominantly associated with men. In fact, Crisp et al. (2000) urged social workers to develop treatment programs that meet the needs of women as these researchers contend that there are important gender differences among treatment seeking problem gamblers. In their study of the sex differences in treatment needs among problem gamblers, they proposed that treatment may be more attractive to women if it focuses on supportive counselling and psychotherapy, and that treatment centered on information sharing and cognitive interventions may be more effective for men. Although their study was conducted on individuals in the general population, social workers could develop similar gender specific treatment for older adults.

Moreover, because the present study found that seniors who are married or partnered are equally likely to develop gambling problems, gambling treatment should also consider the impact on spouses and/or family members. In his discussion on the negative impacts that gambling can have on families, Gaudia (1987) recommended that social workers consider the entire family unit when working with problem gamblers and suggested that effective social work practice should include interventions that address the economic, social, medical, and legal impacts of problem gambling. He also suggested that social workers offer affected family members crisis intervention support, education on their financial and legal rights, and assist families (including children) to overcome a host of emotional responses such as anger, fear, enmeshment, and shame. In the case of older adults, some of the negative impacts from gambling may be even more pronounced (e.g., irreplaceable financial loss) which is an important implication for social workers to consider when working with seniors who gamble problematically.

Lastly, the finding that problem gambling seniors were motivated to win money may inspire social workers to consider the macroscopic influences that contribute to gambling among older adults. Other researchers have considered how structural processes that promote gambling can have disproportionate negative effects on vulnerable populations such as youth and people in poverty (Schissel, 2001; Volberg & Wray, 2007). For example, Volberg and Wray (2007) argue that gambling is alluring to marginalized individuals because it promises hope and potential relief from harsh life circumstances. At the same time, a focus on problem gambling at the individual level distracts from the structural forces that contribute to gambling behaviour in the first place. In describing the importance of adopting a macroscopic perspective with regard to gambling, Volberg and Wray invite us to consider the links to individual risk and the implications for intervention:

A structural perspective focuses attention on historic and economic changes that have resulted in the legalization, expansion, and corporatization of gambling, all within a context of neoconservative fiscal policies that have drastically reduced the tax burden on property owners, deregulated lending policies, and reduced consumer credit restrictions. These developments have created an economic and political situation where states increasingly look to gambling revenues as an economic solution to budget crises and where gamblers with little or no wealth can borrow—at great cost—the money needed to play. These structural trends—all of which support a general upward redistribution of wealth—are not likely to be quickly or easily reversed. (p. 78)

Owing to the social justice ethic that underlies social work practice (Bains, 2006), social workers need to pay attention to the issue of power and how social, political, and economic structures can influence gambling and problem gambling among older adults. For instance, social work research has implied that greater access to gambling opportunities translates into increased problem gambling in society (Chacko, Palmer, Gorey, & Butler, 1997), and as a result, social workers may choose to take an active role in shaping gambling policies and legislation in local communities. Social workers can challenge gambling expansion in our communities by lobbying and advocating for legitimate community consultation, thereby potentially limiting seniors' exposure to the risks and consequences associated with problem gambling. As another step toward protecting vulnerable populations, social workers can provide leadership in promoting community empowerment among older adults and encourage decision makers to mobilize social and economic resources to both reduce and prevent the problems associated with gambling in seniors.

Limitations of the Study

There are a number of limitations that should be taken into consideration when interpreting the results of this study. First, the sample size was relatively small and drawn from Prince George and surrounding areas, a city which has a casino and a bingo hall. Whether problem gambling seniors in other communities with access to fewer or different gambling activities would differ from non-problem gambling seniors in the same way is yet to be determined.

Secondly, although the sample in this study was similar in composition to the random sample obtained by Govoni, Frisch, and Johnson (2001), it may not represent communities with greater ethnic diversity, which limits the generalizability of the results.

Thirdly, this research was based on a self selected sample which may not represent the broader population of seniors who gamble. For example, the seniors who selected themselves into the study may be systematically different from the seniors who chose not to participate. In a similar way, the study may have attracted more healthy and active seniors, and therefore, less active seniors may not be represented.

Fourth, the exclusive use of self report instruments is another limitation of this research. By relying solely on self report measures, the responses on the mental health instruments may be inaccurate, thereby exaggerating or underestimating the prevalence of disorders in each group. While it would have been preferable to conduct clinical interviews to confirm the presence of disorders indicated by the mental health measures, such methodology was beyond the scope of this study. Notwithstanding, this limitation does not undermine the results of this study, as it is assumed that psychopathology and personality disturbance identified by the psychiatric screening instruments still reflect clinically important mental health characteristics of participants (c.f. Toneatto, 2002; Zimmerman, 2002).

Fifth, the high rate of somatization disorder identified by the PDSQ in this study may have resulted from the use of this instrument with older adults, who typically have more somatic complaints than younger adults. Alternatively, somatic complaints are frequent in patients with anxiety disorders, which may also have contributed to the high prevalence rate of somatization disorder found in the sample.

And last, the PGSI does not differentiate problem from pathological gambling, as the instrument considers both as serious conditions that require clinical attention. This study was limited insofar as it was not possible to examine potential differences that could exist between the mental health correlates of problem and pathological gamblers.

Future Research

This research should be replicated on a larger scale to confirm and extend the findings produced here. Researchers could re-examine the relationship between mental health and problem gambling in seniors by following up psychiatric screening with structured clinical interviews to confirm diagnoses indicated by the screening tools (c.f. Hasin, Trautman, Miele, Samet, Smith, & Endicott, 1996; Robins, Helzer, Ratcliff, & Seyfried, 1982).

Moreover, if larger sample sizes could be obtained, additional analyses would be possible. Due to the sample size in this study, participants were divided into two groups (no-low vs. moderate-high risk), whereas with a larger sample, future research could explore potential differences across four categories of problem gambling severity. Another area that this study was not able to fully explore was gender differences in seniors. Boughton and Falenchuk (2007) have argued that there is a deficiency of gender specific research into problem gambling, which calls for more thorough research on the sex differences among seniors.

Future research could also build on this study by examining the strength of relationships between sociodemographic and other variables among seniors who gamble. Although the sample size and lack of an established theoretical model prohibited the use of logistic regression in this study (Tabachnick & Fidell, 2007), future researchers could construct novel hypotheses and assess Axis I and II disorders as predictor variables of problem gambling in rural seniors.

Similarly, while the results of this study supplemented earlier research on gambling onset and problem gambling severity, future research could continue attempts to determine the extent to which age of gambling onset predicts problem gambling in later life.

Researchers could also investigate the causal relationships between mental disorders and problem gambling in seniors, in order to determine whether one condition precedes the other (c.f. Kessler et al., 2008). As well, research could focus on the relationship between problem gambling and substance use, especially with regard to the influence of caffeine and nicotine on anxiety in problem gamblers.

Finally, future research could expound on the unique challenges facing northern seniors in relation to problem gambling. Given that the prevalence of problem gambling has been found to be higher in the north—and that seniors of today are the first cohort to be exposed to unprecedented levels of gambling expansion—further research is needed to investigate other risk factors associated with seniors and gambling. In this study, anxiety was implicated as a factor associated with problem gambling. However, there may also be other age-related mental and physiological factors that predispose seniors to developing gambling problems, such as grief and other negative emotional states, physical disabilities, chronic pain, withdrawal from paid employment, or a lack of social and leisure activities.

Conclusion

This research has offered unique insights into the sociodemographic and mental health characteristics of seniors who gamble in a rural context. In spite of the fact that significant differences on sociodemographic variables did not emerge between groups, it contributes to our understanding of gambling among older adults by implying a profile of seniors that may be at risk for problem gambling. Unlike other populations, seniors in northern BC are a very diverse group, with women, those with average incomes and levels of education, as well as people in relationships equally likely to gamble problematically. In addition, this study produced findings that are of clinical significance, such as the types of gambling activities engaged in by seniors, and the motivations that may be linked to problem gambling. Perhaps most importantly, this research indicates that seniors with gambling problems may also experience mental health problems and/or personality disturbance—a finding that has important practical implications for screening, treatment planning, and predicting clinical outcomes.

It is hoped that this study serves as a catalyst for the development of continued research with larger and more representative samples. It is further hoped that the information produced will be of value to decision makers who are tasked with designing policies and programs that protect vulnerable seniors. Decision makers need to consider research that elucidates the impacts of problem gambling on older adults, which can be devastating to the seniors in our communities who live in an era where self sustained retirement is an accepted expectation.

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Appendix A

UNIVERSITY OF NORTHERN BRITISH COLUMBIA

RESEARCH ETHICS BOARD

MEMORANDUM

- To:Desne HallCC:Dawn Hemingway
- From: Greg Halseth, Chair Research Ethics Board

Date: July 10, 2007

Re: E2007.0705.069 Exploring gambling among seniors in rural British Columbia: Sociodemographic and mental health correlates

Thank you for submitting the above-noted research proposal and requested amendments to the Research Ethics Board. Your proposal has been approved.

We are pleased to issue approval for the above named study for a period of 12 months from the date of this letter. Continuation beyond that date will require further review and renewal of REB approval. Any changes or amendments to the protocol or consent form must be approved by the Research Ethics Board.

Good luck with your research.

Sincerely,

Greg Halseth

Desne Hall Social Work Department University of Northern British Columbia 3333 University Way Prince George, BC V2N 4Z9

June 24, 2007

Introduction to Research Study

To Whom It May Concern:

My name is Desne Hall and I am conducting a study that will investigate the relationships between seniors, mental health, and gambling as part of my Master of Social Work Degree at the University of Northern British Columbia. I will be working under the supervision of Dawn Hemingway, Associate Professor in the Social Work Department at UNBC. Your service/agency has been identified as a potential location where participants could be recruited for this study.

The purpose of this research is to explore the sociodemographic and gambling factors that might be associated with seniors who gamble in rural BC (e.g., age, gender, income, onset of gambling, types of gaming involvement, etc.). In addition, the study aims to examine the prevalence and types of mental health issues that may be associated with seniors that gamble in rural BC.

Participation in the study is voluntary, and individuals may choose not to participate or to withdraw from the study at any time. Participation in the study involves the completion of five questionnaires in two phases. In phase one, participants will receive \$10.00 to complete a fifteenminute questionnaire. Those identified as candidates for phase two of the study will be invited to complete two additional questionnaires, which take approximately 60 minutes. Individuals will receive \$30.00 for participating in phase two.

This study will provide important information about the nature of gambling in a sample of seniors in rural BC, which will be useful to clinicians who provide counseling services as well as to various policy makers that develop problem gambling programs. Please find enclosed a poster which advertises the study that I am requesting be posted at your facility in order to recruit participants for this study.

I would appreciate your support of this research and permission to advertise the study at your facility. Should you have any questions, or wish to discuss this study in more detail, please feel free to contact me by telephone at (250) 640-1155 or via email at <u>halld@unbc.ca</u>. You may also contact my thesis supervisor, Dawn Hemingway, Associate Professor at UNBC, to verify the ethical approval of this study or to raise any concerns that you may have by telephone (250) 960-5694.

Thank you,

Desne Hall Researcher Appendix C

Are you 55 or Older?

We invite you to participate in a research study

"Exploring Gambling Among Seniors in Rural British Columbia"

Participation in the Study is Confidential and Involves:

 Completing questionnaires that provide information about gambling, health, and sociodemographic data (age, gender, etc.). These questionnaires take about 15 minutes to complete and individuals will receive \$10.00 for their participation.

 Older adults who gamble will be invited to complete two additional health questionnaires. These questionnaires take approximately one hour to complete and individuals will receive \$30.00 for their participation.

Your Participation is Important to this Study! This research is Important to clinicians who work with seniors. If you are interested in participating or would like more information, please contact:

Desne Hall phone: (250) 640-1155 toll-free: 1-877-640-1155 email: halld@unbc.ca

This study is being conducted as part of a Master of Social Work degree at the University of Northern British Columbia and your participation would be voluntary and strictly confidential. Desne Hall is performing this thesis research under the supervision of Dawn Herningway (Associate Professor, UNBC). Appendix D



This study is being conducted as part of a Master of Social Work degree at the University of Northern British Columbia and your participation would be voluntary and strictly confidential. Desne Hall is performing this thesis research under the supervision of Dawn Herningway (Associate Professor, UNBC). Desne Hall Social Work Program University of Northern British Columbia 3333 University Way Prince George, BC V2N 4Z9

June 24, 2007

Introduction to a Research Study

To Whom It May Concern:

My name is Desne Hall and I am conducting a study that will investigate the relationships between seniors, mental health, and gambling as part of my Master of Social Work Degree at the University of Northern British Columbia (UNBC).

If you are age of 55 or older, I would like to invite you to participate in this study. Participation is voluntary, and you may choose not to participate, decline to answer any questions, or to withdraw from the study at any time. Participation involves completing up to five questionnaires and signing a consent form. You will have a chance to ask questions and then decide whether you would like to participate. Your participation will provide important information for clinicians and policy makers that provide services for seniors in rural BC.

This study involves two phases. In phase one, participants will be asked to complete three questionnaires that examine gambling activities, mental health, and records sociodemographic profiles (age, gender, etc.). These questionnaires take approximately 15 minutes to complete and participants will be compensated \$10.00.

In phase two, participants will complete two additional questionnaires that explore mental health issues, and take approximately one hour to complete. Participants will receive \$30.00 compensation for phase II.

Your responses on the questionnaires will be anonymous and confidential. Code numbers will be used on the questionnaires instead of names in order to protect your identity. Your name will only appear on the consent forms, which will be kept separate from the questionnaires in a safety deposit box at a bank. The coded questionnaires will be stored in a locked filing cabinet, located in a secure and alarmed office that is accessible only to Desne Hall and Dawn Hemingway. No personal names or identifying information will be entered into electronic files. All data entered into a computer will be encrypted, password protected, and stored in an alarmed office. All data will be stored for three years after completion of the study and then destroyed by shredding the questionnaires and consent forms. All computerized data files and electronic storage devices (e.g., compact discs) will also be destroyed.

There are no known or anticipated risks to you by participating in this research. However, if you experience any distress as a result of participating in this study, you will be provided with a list of counselling services that can provide assistance.

A final report of the findings will be made available to all participants. The report will be submitted to the UNBC Library, peer-reviewed journals, and presented at professional conferences. *No names or identifying information will be included in the dissemination of the research results*.

If you would like to participate in this study, or if you have any questions, please contact me by telephone at (250) 640-1155 or email at <u>halld@unbc.ca</u>. You may also contact my supervisor, Dawn Hemingway, Associate Professor at UNBC by telephone at (250) 960-5694, or via email at <u>hemingwa@unbc.ca</u>

If you would like to verify the ethical approval of this study, or raise any concerns, please contact the Office of Research at the UNBC at (250) 960-5820.

Thank you for your time in reviewing this study,

Desne Hall

Appendix F

Informed Consent to Participate in Phase I of a Research Study

You are being invited to participate in a study that will investigate relationships between seniors, mental health, and gambling. The study is being conducted in two phases, and **this information sheet and informed consent form relate to Phase I of the research**. If you have any questions or concerns about the study, please feel free to bring your questions forward before participating.

Thesis Supervisor: Dawn Hemingway, BA, M.Sc., MSW. *Affiliation:* Associate Professor, University of Northern British Columbia: Social Work Program. College of Arts, Social and Health Sciences. Telephone: (250) 960-5694.

Researcher: Desne Hall, B.Sc. (Psych) Master of Social Work Student. **Affiliation:** University of Northern British Columbia: Social Work Program. College of Arts, Social and Health Sciences. Telephone: (250) 640-1155.

The project is being conducted by Desne Hall who will produce a graduate thesis in order to fulfill the requirements for the degree of Master of Social Work at the University of Northern British Columbia (UNBC). Desne Hall will be working under the supervision of Dawn Hemingway, Associate Professor at UNBC.

Purpose: The purpose of this research is to learn about the factors that might be associated with seniors who gamble in rural BC. For example, the study will explore things like the age, gender, and income of seniors who gamble, the types of gambling activities that seniors engage in, as well as the types of mental health issues that may be associated with seniors that gamble in rural BC.

What is Required:

If you are age 55 or older, you are invited to participate in this study, which involves the completion of three questionnaires. These questionnaires examine your mental health, your involvement in gambling activities, and sociodemographic information (for example, your age, gender, income, etc.). The questionnaires take approximately 15 minutes to complete.

Follow-Up Contact: If you provide consent to be contacted for Phase II of the study, Desne Hall may contact you at a later date and request that you complete two additional mental health questionnaires that take approximately an hour to complete (*providing permission to be contacted is not a commitment to participating in Phase II*). If you agree to follow up contact, your consent to participate in Phase II of the study will be required before completing the additional questionnaires.

Monetary Compensation: You will receive \$10.00 for completing the questionnaires in Phase I of this study. If you choose to participate in Phase II of the study, you will receive \$30.00 compensation.

Confidentiality and Anonymity: Your responses on the questionnaires will be kept completely confidential and anonymous, and you may decline to respond or withdraw your participation at any time. Code numbers will be used on questionnaires instead of any names in order to protect your identity. Your name will only appear on the consent forms, which will be kept separate from the questionnaires in a safety deposit box at a bank. The coded questionnaires will be kept in a locked filing cabinet, located in an alarmed office that is accessible only to Desne Hall and Dawn Hemingway. No personal names or identifying information will be entered into electronic files—any data that is entered into a computer will be encrypted, password protected, and stored in a secure alarmed office.

Right to Decline or Withdraw: Your participation is completely voluntary and you may choose to withdraw at any time during the study without penalty of any kind. If you decide to withdraw at any point before the study is complete, the information that you have provided thus far will be destroyed, and you will receive full compensation for participating.

Disposal of Data: All data will be kept in a secure location for three years after the completion of the study. The data will then be destroyed by shredding the questionnaires and consent forms and by deleting all computerized data files (including electronic storage devices).

Potential Risks: There are no known or anticipated risks to you by participating in this research. However, if you experience any distress as a result of participating in this study, you will be provided with a list of counselling agencies.

Dissemination of Results: A final report of the findings will be produced with a summary of all participant responses. Participant responses on the questionnaires will be kept anonymous, with no identifiable information included. The final report will be submitted to the UNBC Library, peer-reviewed journals for publication, and presented at professional conferences. *No names or identifying information will be included in the dissemination of the research results.*

Debriefing: At the end of the study, participants can request a copy of the final research report by contacting Desne Hall at (250) 640-1155 or via email at <u>halld@unbc.ca</u>).

Other important Information and Contacts: You will be given a copy of the signed informed consent form for your own files. If you have any c_{DII} ments or would like further information about this study, please contact Desne Hall by telephone at (250) 640-1155 or via email at <u>halld@unbc.ca</u>. You may also contact Dawn Hemingway, Associate Professor at the University of Northern British Columbia by telephone at (250) 960-5694, or via email at <u>hemingwa@unbc.ca</u> If you would like to verify the ethical approval of this study, or raise any concerns that you may have, please contact the Office of Research at the University of Northern British Columbia at (250) 960-5820.

Importance of This Research: The information derived from this research will be very useful to clinicians who provide screening and treatment services to seniors who gamble, and to various decision and/or policy makers in the development and evaluation of problem gambling programs and services.

Informed Consent to Participate in Phase I of a Research Study

I have read the above information and I understand that I am being asked to participate in a research study. I have received and read an information sheet that describes the study. I understand the conditions of my participation, including the requirement to complete questionnaires and that my responses to the questionnaires will be kept confidential. I also understand that there are no known or anticipated risks to me by participating in this research. I have had adequate opportunity to consider the information in the document, and to discuss or ask questions pertaining to the study. I understand that my participation in this study is voluntary, and that I may refuse to participate, decline to answer any questions, or withdraw from the study at any time without explanation or penalty of any kind.

This study was explained to me by (Print Name):

Date:

I have received a copy of this consent form and the information sheet, and my signature indicates that I agree to participate in the study.

Name of Participant:

Signature of Participant:_____ Date:_____

Printed Name of Witness: ______ Signature of Witness: ______

Informed Consent to Participate in Phase I of a Research Study Continued

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

Signature of Investigator:	Date:
-	

Informed Consent to Follow-Up Contact for Phase II of a Research Study

I agree to be contacted by Desne Hall for up to one year so that I can be invited to participate in Phase II of the research study. I understand that providing permission to be contacted is not a commitment to participate in Phase II of the study. I also understand that Phase II of the study will be explained to me along with other aspects of ethical research practices, and that if I choose to participate, I will be required to sign an informed consent form before participating in Phase II of the study.

D (

The follow up component of this study was explained to me by

(Pri	nt Name):	and the second	Date:	
I agi	ree to be contacto	ed and invited to partic	cipate in Phase II of this study:	
	TYes	🗖 No		
If I a	agree, Desne Hal	l may contact me at the	e following telephone number:	
()	or address		

Informed Consent to Follow-Up Contact for Phase II of a Research Study Cont'd

I have received a copy of this follow-up contact informed consent form and the information sheet of the study. My signature indicates that I agree to be contacted and invited to participate in Phase II of this study.

Printed Name of Research Participant:_____

Signature of Research Participant:

Date:

Printed Name of Witness:

Signature of Witness:_____

(D-t-t NI----)

Appendix G

Informed Consent to Participate in Phase II of a Research Study

You are being invited to participate in Phase II of a research study that involves completing two questionnaires and will investigate relationships between seniors, mental health, and gambling. If you have any questions or concerns about the study, please feel free to bring your questions forward before participating.

Thesis Supervisor: Dawn Hemingway, BA, M.Sc., MSW.

Affiliation: Associate Professor, University of Northern British Columbia: Social Work Program. College of Arts, Social and Health Sciences. Telephone: (250) 960-5694.

Researcher: Desne Hall, B.Sc. (Psych) Master of Social Work Student. **Affiliation:** University of Northern British Columbia: Social Work Program. College of Arts, Social and Health Sciences. Telephone: (250) 640-1155.

This research is being conducted by Desne Hall who will produce a graduate thesis in order to fulfill the requirements for the degree of Master of Social Work at the University of Northern British Columbia (UNBC). Desne Hall will be working under the supervision of Dawn Hemingway, Associate Professor at UNBC.

Purpose: The purpose of this research is to learn about the factors that might be associated with seniors who gamble in rural BC. For example, the study will explore things like the age, gender, and income of seniors who gamble, the types of gambling activities that seniors engage in, as well as the types of mental health issues that may be associated with seniors that gamble in rural BC.

What is Required:

If you are age 55 or older, you are invited to participate in Phase II of the study, which involves the completion of two mental health questionnaires. The first questionnaire, called the Psychiatric Diagnostic Screening Questionnaire (PDSQ) is a screen for mental health disorders. The second questionnaire, called the Personality Diagnostic Questionnaire—4+

(PDQ-4+) is a screen for personality disorders. These questionnaires take approximately one hour to complete.

Monetary Compensation: If you choose to participate in Phase II of the study, you will receive \$30.00 compensation.

Confidentiality and Anonymity: Your responses on the questionnaires will be kept completely confidential and anonymous, and you may decline to respond or withdraw your participation at any time. Code numbers will be used on questionnaires instead of names in order to protect your identity. Your name will only appear on the consent forms, which will be kept separate from the questionnaires in a safety deposit box at a bank. The coded questionnaires will be stored in a locked filing cabinet, located in an alarmed office that is accessible only to Desne Hall and Dawn Hemingway. No personal names or identifying information will be entered into electronic files—any data that is entered into a computer will be encrypted, password protected, and stored in a secure alarmed office.

Right to Decline or Withdraw: Your participation is voluntary and you may choose to withdraw at any time during the study without penalty of any kind. If you decide to withdraw at any point before the study is complete, the information that you have provided thus far will be destroyed, and you will receive full compensation for participating.

Disposal of Data: All data will be kept in a secure location (with coded questionnaires kept separate from personal information) for three years after the completion of the study. The data will then be destroyed by shredding the questionnaires and consent forms and by deleting all computerized data files (including electronic storage devices).

Potential Risks: There are no known or anticipated risks to you by participating in this research. However, if you experience any distress as a result of participating in this study, you will be provided with a list of counselling agencies.

Dissemination of Results: A final report of the findings will be produced with a summary of all participant responses. Participant responses on the questionnaires will be kept anonymous, with no identifiable information included. The final report will be submitted to the UNBC Library, peer-reviewed journals for publication, and presented at professional conferences. *No names or identifying information will be included in the dissemination of the research results.* At the end of the study, participants can request a copy of the final research report by contacting Desne Hall at (250) 640-1155 or via email at halld@unbc.ca).

Other important Information and Contacts: You will be given a copy of the signed informed consent form for your own files. If you have any comments or would like further information about this study, please contact Desne Hall by telephone at (250) 640-1155 or via email at <u>halld@unbc.ca</u>. You may also contact Dawn Hemingway, Associate Professor at the University of Northern British Columbia by telephone at (250) 960-5694, or via email at <u>hemingwa@unbc.ca</u> If you would like to verify the ethical approval of this study, or raise any concerns that you may have, please contact the Office of Research at the University of Northern British Columbia at (250) 960-5820.

Informed Consent to Participate in Phase II of a Research Study

I have read the above information concerning Phase II of the study and I understand that I am being asked to participate in a research study. I have received and read an information sheet that describes the study. I understand that the conditions of my participation, including the requirement to complete questionnaires, is voluntary, and that I may refuse to participate, decline to answer any questions, or withdraw from the study at any time without explanation or penalty of any kind. I also understand that there are no known or anticipated risks to me by participating in this research. I have had adequate opportunity to consider the information in the document, and to discuss or ask questions pertaining to the study.

This study was explained to me by: Date:

I have received a copy of this consent form and the information sheet, and my signature indicates that I agree to participate in the study.

Printed Name of Participant: ______Signature: ______

Printed Name of Witness: ______Signature: ______

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

Signature of Investigator:	Date:
ý U	

Appendix H

Mini-Mental State Examination

Maximum Score	Sco	ore			
			ORIENTATION		
5	()	What is the: (year) (season) (date) (day) (month)		
5	()	Where are we: (state) (county) (town) (facility) (floor) REGISTRATION		
3	()	Name three objects and have person repeat them back. Give one point for each correct answer on the first trial. 1 2 3 Then repeat them (up to 6x) until all three are learned. [Number of trials]		
5	()	Serial 7's. Count backwards from 100 by serial 7's. One point for each correct answer. Stop after 5 answers. [93 86 79 72 65] Alternatively spell "world" backwards. [D - L - R - O - W]		
3	()	Ask for the names of the three objects learned above. Give one point for each correct answer.		
			LANGUAGE		
9	()	Name: a pen (1 point) and a watch (1 point) Repeat the following: "No ifs, ands, or buts" (1 point) Follow a three-stage command: "Take this paper in your [non- dominant] hand, fold it in half and put it on the floor". (3 points) [1 point for each part correctly performed] Read to self and then do: "Close your eyes" (1 point) Write a sentence [subject, verb and makes sense] (1 point) Copy design [5 sided geometric figure; 2 points must intersect] (1 point)		
Score: //	30	1	Alert Overtly Anxious Concentration Difficulty Drowsy		
CLOSE YC	UR	EY	ES		
		_			

Sentence:

Appendix I

Socio-demographic Questionnaire

Male 🗖	Female	
tatus:		
	Married	
	Widow/Widower	
	Other	
hnic background an ons I Ancestry stern erican erican nerican fic		
	Male Male	Male Female Female Female Female Female Female Female Female Female Female Female Female Female Female Female Female Female Female Female Female Fe

Other (Please Specify)_____

5) What is the level of your education? (Please check all that apply)

Secondary Complete		
Secondary Incomplete		
Some University Level		
University Degree at Bachelors or any higher level		
	 Secondary Complete Secondary Incomplete Some University Level University Degree at Bachelors or any higher level 	 Secondary Complete Secondary Incomplete Some University Level University Degree at Bachelors or any higher level

Other (Please Specify)_____

6) What is your occupation?

Accounting/Finance	
Business Owner	
Computers/Telecom	
Education/University	
Healthcare/Medical	
Human Resources	
Logging/Forestry	
Management	
Scientific	
Travel/Tourism	
Fishing	
Unemployed	
Social Assistance	
Homemaker	

Arts/Design/Media	
Clerical/Administrative	
Customer Service	
Engineering/Technical	
Hospitality/Catering	
Legal/Consulting	
Logistics/Transport	
Marketing/Sales	
Skilled Labour/Trades	
Trapping	
Disabled/On Pension	
Employment Insurance	
Retired	

Other (Please Specify)_____

7) What is your approximate yearly family income?

Less than \$10,000	
\$10,000 - \$19,999	
\$20,000 - \$29,999	
\$30,000 - \$39,999	
\$40,000 - \$49,999	
\$50,000 - \$59,999	
\$60,000 - \$69,999	
\$70,000 - \$79,999	
\$80,000 - \$89,999	
\$90,000 - \$99,999	
Over \$100,000	

8) Have you ever sought help for concerns related to:

A. Alcohol use				
B. Other drug use				
D. Gambling				
E. Mental Health (Please specify)				
F. Other (Please specify)				
9) Have you gambled in the last 12 months	?	Yes 🗖	No 🗖	

(e.g., bingo, lottery tickets, casino, raffle tickets etc.)

10) If you have ever gambled, approximately what age were you when you first participated in any form of gambling activity?

11) If you have ever gambled, what was the first type of gambling activity that you engaged in?

12) From the responses below, please choose the best response that describes why you gamble:

Fun/Excitement/Entertainment	
Have No Other Activities	
Boredom	
Loneliness	
Grief	
Relationship Break Up	
Shame or Guilt	
To Socializing with Other People	
To Win Money	
To Cope with Financial Stress	
To Win Back Lost Money	

Please comment on any other reasons or motivations for gambling (please describe)

Thank you once again for your participation your input was very helpful!

Name:		Date:		Birth date:
	CANA	DIAN PROBLEM	I GAMBL	ING INDEX
Ple	ase consider the following	g questions in the c	ontext of th	e past twelve (12) months
1	Have you bet more than	you could really a	fford to los	e? Would you say:
	Never		Almos	t always
	Sometimes		Don't l	know
	Most of the time		I do no	ot wish to answer this question
2	Have you needed to gat excitement?	nble with larger an	ounts of m	oney to get the same feeling of
	Never		Almos	t always
	Sometimes		Don't 1	know
	Most of the time		I do no	ot wish to answer this question
3	When you gambled, did	l you go back anoth	er day to tr	ry to win back the money you
	Never		Almos	t always
	Sometimes		Don't]	know
	Most of the time		I do no	ot wish to answer this question
4	Have you borrowed mo	ney or sold anythin	g to get mo	oney to gamble?
	Never		Almos	t always
	Sometimes		Don't	know
	Most of the time		I do no	ot wish to answer this question
5	Have you felt that you	might have a proble	m with gan	nbling?
	Never		Almos	t always
	Sometimes		Don't 1	know
_	Most of the time		I do no	ot wish to answer this question
6	Has gambling caused y	ou any health probl	ems, includ	ling stress or anxiety?
	Never		Almos	t always
	Sometimes		Don't	know
	Most of the time		I do no	ot wish to answer this question
7	Have people criticized regardless of whether o	your betting or told r not you thought it	you that yo was true?	ou had a gambling problem,
	Never	~	Almos	t always
	Sometimes		Don't	know
	Most of the time		I do no	t wish to answer this question

8	Has your gambling caused any financial pr	roblems for you for your household?
	Never	Almost always
	Sometimes	Don't know
	Most of the time	I do not wish to answer this question
9	Have you felt guilty about the way you gai	mble or what happens when you gamble?
-	Never	Almost always
	Sometimes	Don't know
	Most of the time	I do not wish to answer this question
10	Have you lied to family members or others	s to hide your gambling?
	Never	Almost always
	Sometimes	Don't know
	Most of the time	I do not wish to answer this question
11	Have you bet or spent more money than yo	ou wanted to on gambling?
	Never	Almost always
	Sometimes	Don't know
	Most of the time	I do not wish to answer this question
12	Have you wanted to stop betting money or	gambling, but didn't think you could?
	Never	Almost always
	Sometimes	Don't know
	Most of the time	I do not wish to answer this question

Please consider the following questions in the context of the past twelve (12) months

GAMING ACTIVITY	HOURS SPENT PER WEEK	MONEY SPENT
What is your preferred gambling a	ctivity?	
Do you consider alcohol and/or dr	ug use to be a problem for yo	u?
Yes No		

Appendix K

Neme:				Age:	0 #	
Deler		iender:	C Maie	C Female	Education (Nears Completed	t
Ellainter - Lant	C Ingh. Miles America	n CH			C Native Hendrigs-Other Profile Vennet	C ### 200#



This form asks you about emotions, mouds, thoughts, and behaviors. For each question, check the box in the He column if it describes how you have been acting, feeling, or thinking. If the rism does not apply to you, check the box in the As column. Please assess every question.

Yes .	No		DURING THE PAST 2 WEEKS			
		1.	did you feel and or depressed?			
		2.	did you feel and or depressed for			
		3.	did you get less joy or pleasure tri			rmaily enjoy?
		4.	were you less interested in almost			ty interested in?
		5.	was your appetite significantly an		S	• · · · · · · · · · · · · · · · · · · ·
		8.	was your appetite significantly pr			
		7.	did you sloop at least 1 to 2 hours			•
			did you along at least 1 to 2 hours		\leq	7
		9.	did you feel very jumpy and physic			uble sitting calmiy in a chair, nearly every day?
		10.	did you feel tired out nearly every		H	
		11.	did you frequently feel guilty abou			and a second
		12.	did you put yourself down and her		[1]	If nearly every day?
		13.	did you feel like a failure nearly et	7	\cap	
		14.	did you have problems concentral	2	\leq	
		15.	was declaten meldag more difficu	9	4	
		16.	did you frequently think of dying is	H	F	and not waking up?
		17.	did you wish you were dead?	H		
		18.	did you think you'd be better off d	0		- G
	0	19.	did you have thoughts of suicide, i	R		to 117
		20.	did you serievely consider taking 1		×	
		21.	did you think about a specific way	G	\mathbf{O}	
-	-	4.4		E	7	
U O	0	22	Have you over experienced a traumen	[1]	5	Baust, Sexual source, or any other extremely upsetting events
	Ľ	23.	Here you aver intelessed a traumetic		Q	tone dying in an accident, or any other extremely upsetting incident?
			DURING THE PAST 2 WEEKS			
		24.	. did thoughts about a traumatic eve		\frown	
		25.	did you frequently get upset becau			natic event?
		28.	were you frequently bothered by m		\circ	event?
		27	dad reminders of a traumatic event		P	P
		28.	did you try to block out thoughts of			ent?
	-	29	did you try to avoid activities, place		1	a traumatic event?
		30	Jid you have flashbacks, where is t			nc event?
0	_	31	did reminders of a traumatic event			sweat or have a racing heart?
Ξ		32	3rd you 'est distant and cutoff 'mire			per ellind a traumatic avant?
-		33	3rd you feet emetionally numble a			atc event?
-		34	did you give up on goals for the fut.		-	a traumatic event?
-		35	did you neep your guard up because of	having experien	voed a traumi	the event?

Yes	No		DURING THE PAST 2 WEEKS					
		37.	did you often go on eating binges (eating a very large amount of food very quickly over a short period of time)?					
		38.	did you often teel you could not control how much you were eating during an eating binge?					
		39.	did you go on eating binges during whi	h you als so much that you felt uncomfortably full?				
		40.	did you go on eating binges during whi	h vou ate a large amount of food even when you didn't feel hungry?				
		41.	did you eat alone during an eating	used by how much you were eating?				
		42.	did you go on eating binges and th	orward?				
		43.	were you very upset with yourself	tinges?				
		44.	to prevent gaining weight from an	lists or exercise excessively?				
		45.	to prevent weight gain from an est	vomit or use laxatives or water pilla?				
		46.	was your weight, or the shape of y	nt things that affected your opinion of yourself?				
			DURING THE PAST 2 WEEKS	P				
		47.	did you warry obsessively about d					
		48.	did you werry absessively that sor	e you forgot to do something important—like locking the door, turnin				
			off the stove, or pulling out the ele	Z				
		49.	were there things you felt competi	1/2 hour per day) that you could not stop doing when you tried?				
		50.	were there things you felt compali	h they interfered with getting other things done?				
		51.	did you wash and clean yourself of					
		52.	did you obsessively and excessive	Ver and over again?				
	u	53.	die you count tinings doos servery a	OR Y				
			DURING THE PAST 2 WEEKS					
		54.	did you get very scared because y					
		55.	did you get very scared because y	H C				
		56.	did you get very scared because y					
		57.	did you get sudden attacks of inter	om out of the blue, for no reason at all?				
		58.	and you get sudden attacks of very going crazy, or losing control?	ich you thought something terrible might happen, such as your dying				
		59.	did you have sudden, unexpected a	had three or more of the following symptoms: heart racing hear, or facting faird?				
		60.	did you warry a lat about having u					
		61.	did you have anxiety attacks that c	ns or to change your behavior or normal routine?				
	~							
-	-	63	CUMINE THE PAST & WEEKS					
		52		you were your magnessor?				
·		64	did with thirds that with users in decrees the	n w metaning paul, teleking atoptit you, or spylling on YOU?				
		14	and your union areas your every in addinger of	nemen environme av me functional an unit a Antil L				

did you think that some outside force or power was controlling your body or mind?

did you hear voices that other deople dids t hear, or see things that other people dids't see?

30

67

Yes	No		DURING THE PAST & MONTHS						
		68.	did you regularly avoid any situations because you were afraid they'd cause you to have an anxiety attack?						
		69.	did any of the following make you feel fea	ertui, anxious	s, or nervous b	ecause you were afraid you'd have an anxiety attack in the situation?			
		2	going outside far away from home						
		ь.	being in crowded places			1			
		c.	standing in long lines		TO				
		đ.	being on a bridge or in a tunnel		-				
		6.	traveling in a bus, train, or plane						
		t.	driving or riding in a car		7				
		9.	being home alone						
		h.	being in wide-open spaces (like a par						
		70.	did you almost always get very and			the above situations?			
		71.	did you avoid any of the above situ			atxious or fearful?			
		72.	DURING THE PAST & MONTHS	TON	ON	that you were shull or faultsh?			
		73.	did you worry a loc unar you might o						
		75	were you extremely nervous in annually	F	ĸ				
		78	did was received a wait any situation	0		to or say something to emberrans yourself?			
	4	77	did you warry a lot about doing or a	R		realf in any of the following situations?			
			oublic speaking		Õ				
		b.	eating in front of other people		\mathbf{U}				
		C.	using public restrooms	H	7				
		d.	writing in front of others	(T)	0				
		8.	saying something stupid when you we		Q				
		t.	asking a question when in a group of p						
		g.	business meetings		\frown				
		h.	parties or other social gatherings						
		78.	did you almost always get very anxie		0	the above situations?			
		79.	did you avoid any of the above situa		P	Itaxious or fearful?			
			DURING THE PAST & MONTHS		Y				
		30.		TOCH ?					
		51.	. did anyone in your family think or say that	you were dr	nniung tao mu	th or that you had an alcohol problem?			
Ω	9	32.	did friends, a doctor, or anyone else think	or say that y	ou were drink	ng too much?			
		33	and you think about cutting down or limitin	g your drinki	ing?				
	_	34	did you think that you had an alcohol prob	lam?					
		15	pecause of your drinking did you have pro or in any other important area of your life?	blems n you	r mærriage lat	your you, with your friends or family; doing household chores;			

NOTE: MOST OF THE FOLLOWING QUESTIONS REFER TO THE PAST 6 MONTHS.

tes .	No		DURING THE PAST & MONTHS		
		88.	did you think that you were using drugs	too much?	
		87.	did anyone in your family think or say t	nat you were using drugs to	oo much, or that you had a drug problem?
		88.	did friende, a doctor, or anyone sia	4. 34. 41. A	drugs too much?
		89.	did you think about cutting down o		
		90.	did you think you had a drug proble	T)	
		91.	because of your drug use did you i	A	t your job; with your friends or family; doing household chores;
_	_	_	or in any other miportain area or y		
			DURING THE PAST & MONTHS	IP	
		92.	were you a nervous person on mos	Ē	17.7 mm
		93.	did you worry a lot that bad things		close to you?
		94.	dld you worry about things that oth	(T)	y about?
		95.	were you worried or anxious about	\cap	fe on most days?
		96.	did you often feel restiese or on ad	$Z \simeq$	
		97.	did you often have problems failing	O	ig about things?
		98.	did you often feel tension in your m	J L	u7
		99 .	did you often have difficulty concer		your worries?
		100.	were you often snappy or irritable	F	ing stressed out?
		101.	van it hard for you to control or std	OF D	
			DURING THE PAST & MONTHS		1
		102.	have you had a lot of stomach and		a, vomiting, excessive gas, stomach bloating, or diarrhea?
		103.	have you been bothered by aches a		l your body?
		104.	Do you get sick more than most people		
		105.	Has your physical health been poor m	$\mathbf{\Sigma}$	
		106.	Are your doctors usually unable to find	Γ	ll symptoms?
			DURING THE PAST & MONTHS	C	
		107.	did you often worry that you might	0	
		108.	was it hand to stop worrying that yo	P	
		109.	did your doctor say you didn't have		rd to stop thinking about it?
		110.	did you worry so much about having		with your activities or it caused you problems?
		111.	did you visit the doctor a lot becaus		serious ohysical (Inexa?

Personality Questionnaire

P

Developed by Steven E. Hyler, M.D. of the New York State Psychiatric Institute. The items included in the PDQ-4 were adapted from the diagnostic criteria of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, fourth edition, (DSM-IV) and contains items originally included in the PDQ and the PDQ-R personality questionnanes. Investigators who wish to use this instrument should contact Dr. Hyler, New York State Psychiatric Institute, Unit # 130, 1051 Riverside Drive, New York, N.Y. 10032. Telephone (212) 543-5656.

Your Name
Today's Date
Your Age
57
Your Sex
Your Marital Status
Your race/ethnic group
CO^*
Highest level of education
20
oll
M
SA
T
Instructions

The purpose of this questionnaire is for you to describe the kind of person you are. When answering the questions, think about how you have tended to feel, think, and act over the past several years. To remind you of this, on the top of each page you will find the statement: "Over the past several years..."

T (True) means that the statement is generally true for you.

F (False) means that the statement is generally false for you.

Even if you are not entirely sure about the answer, indicate "T" or "F" for every question.

For example, for the question:

xx. I tend to be stubborn.

If, in fact you have been stubborn over the past several years, you would answer <u>True</u> by circling T.

T

If, this was not true at all for you, you would answer False by circling F.

There are no correct answers.

SAMPLEDO

You make take as much time as you wish.

1.	I avoid working with others who may criticize me.	Т	F
2.	I can't make decisions without the advice, or reassurance, of others.	Т	F
3.	I often get lost in details and lose sight of the "big picture."	Т	St
4.	I need to be the centre of attention.	P	F
5.	I have accomplished far more than others give me credit for.	ł	F
6.	I'll go to extremes to prevent those who I love from ever leaving me.	Т	F
7.	Others have complained that I do not keep not with my work or commitments.	Т	F
8.	I've been in trouble with the law several times (or would have been if I was caught).	Т	F
9.	Spending time with family or friends just doesn't interest me.	Т	F
10.	I get special messager from things happening around me.	Т	F
11.	I know that people will take advantage of me, if I let them	Т	F
12.	Sometimes I get upset.	Т	F
12	I make friends with people only when I am sure	Т	F

14.	I am usually depressed.	Т	F
15.	I prefer that other people assume responsibility for me.	Т	F
16.	I waste time trying to make things too perfect.	Т	F
17.	I am "sexier" than most people.	5)	F
18.	I often find myself thinking about how great a person I am, or will be.	Т	F
19.	I either love someone or hate them, with nothing in between.	Τ	F
20.	I get into a lot of physical fights.	Τ	F
21.	I feel that others don't understand or appreciate me.	Τ	F
22.	I would rather do things by myself than with other people.	Τ	F
23.	I have the ability to know that some things will happen before they actually to.	Τ	F
24.	I often wonder whether the people I know can really be trusted	Τ	F
25.	Occasionally Italk about people behind their backs.	Τ	F
26.	I am inbilined in my intimate relationships because I am afraid of being ridiculed.	Т	F
27. Č	I fear losing the support of others if I disagree with them.	Т	F

103

28.	I suffer from low self-esteem.	Т	F
29.	I put my work ahead of being with my family or friends or having fun.	Т	F
30.	I show my emotions easily.	T	V F
31.	Only certain special people can really appreciate and understand me.	y?	F
32.	I often wonder who I really am.	Τ	F
33.	I have difficulty paying bills because I don't stay at one job very long.	Т	F
34.	Sex just doesn't interest me.	Τ	F
35.	Others consider me moody and "hot tempered."	Т	F
36.	I can often sense, or feel things, that others can't.	Τ	F
37.	Others will use what I tell them against me.	Т	F
38.	There are some people I don't like.	Τ	F
39.	I am more sensitive to criticism or rejection than most people.	Т	F
40.	I find it difficult to start something if I have to do it by myself	Т	F
41.	I have a higher sense of morality than other people.	Т	F
42.	I am my own worst critic.	Т	F
43.	Duse my "looks" to get the attention that I need.	Τ	F

44.	I need very much for other people to take notice of me or compliment me.	Т	F
45.	I have tried to hurt or kill myself.	Τ	F
46.	I do a lot of things without considering the consequences.	T	F
47.	There are few activities that I have any interest in.	J	F
48.	People often have difficulty understanding what I say.	Т	F
49.	I object to supervisors telling me how I should do my job.	Т	F
50.	I keep alert to figure out the real meaning of what people are saying.	Т	F
51.	I have never told a lie.	Т	F
52.	I am afraid to meet new people because I feel inadequate.	Т	F
53.	I want people to like me so much that I volunteer to do things that I would rather not do.	Т	F
54.	I have accumulated lots of things I don't need that I can't bear to throw out.	Т	F
55.	Even though I talk a lot, people say that I have trouble getting to the point.	Т	F
56.	I weery a lot.	Т	F
57	I expect other people to do favors for me even though I do not usually do favors for them.	Τ	F

58.	I am a very moody person.	Т	F
59.	Lying comes easily to me and I often do it.	Т	F
60.	I am not interested in having close friends.	T	F
61.	I am often on guard against being taken advantage of.	S	F
62.	I never forget, or forgive, those who do me wrong.	Т	F
63.	I resent those who have more "luck" than I.	Т	F
64.	A nuclear war may not be such a bad idea.	Т	F
65.	When alone I feel helpless and unable to care for myself.	Т	F
66.	If others can't do things correctly I would prefer to do them myself.	Т	F
67.	I have a flair for the dramatic.	Т	F
68.	Some people think that I take advantage of others.	Τ	F
69.	I feel that my life is dull and meaningless.	Т	F
70.	I am critical of others	Т	F
71.	I don't care what others have to say about me.	Т	F
72.	I have difficulty relating to others in a one-to-one situation.	Т	F
72	People have often complained that I did not realize that they were upset.	Т	F

74.	By looking at me, people might think that I'm pretty odd, eccentric or weird.	Т	F
75.	I enjoy doing risky things.	Т	F
76.	I have lied a lot on this questionnaire.	T	F
77.	I complain a lot about my hardships.	y?	F
78.	I have difficulty controlling my anger, or temper.	Т	F
79.	Some people are jealous of me.	Т	F
80.	I am easily influenced by others.	Т	F
81.	I see myself as thrifty but others see me as being cheap.	Т	F
82.	When a close relationship ends, I need to get involved with someone else immediately.	Т	F
83.	I suffer from low self esteem.	Т	F
84.	I am a pessimist.	Т	F
85.	I waste no time in getting back at people who insult me.	Т	F
86.	Being around other people makes me nervous.	Т	F
87.	In new situations I fear being embarrassed.	Т	F
88.	I am terrified of being left to take care of myself.	Т	F
88	People complain that I'm "stubborn as a mule."	Т	F

90.	I take relationships more seriously than do those who I'm involved with.	Т	F
91.	I can be nasty with someone one minute then find myself apologizing to them the next minute.	Т	F
92.	Others consider me to be stuck up.	S	S F
93.	When stressed, things happen. Like I get paranoid or just "black out."		F
94.	I don't care if others get hurt so long as I get what I want.	Т	F
95.	I keep my distance from others.	Т	F
96.	I often wonder whether my wife (husband, girlfriend, or boyfriend) has been unfaithful to me.	Т	F
97.	I often feel guilty.	Т	F
98.	I have done things on impulse (such as those below) that can get me into trouble.	Т	F
Ch	eck all that apply to you:		
	a. Spending more money than I have		
	b. Having six with people I hardly know		
	c. Brinking too much		
~	d. Taking drugs		
C	e. Eating binges		
	f. Reckless driving		

99. When I was a kid (before age 15) I was somewhat of a juvenile delinquent, doing some of the things below.

Check all that apply to you:

a juvenne dennquent, doing some of the things below.
Check all that apply to you:
(1) I was considered a bully
(2) I used to start fights with other kids
(3) I used a weapon in fights that I had
(4) I robbed or mugged other people
(5) I was physically cruel to other people
(6) I was physically cruel to animals
(7) I forced someone to have sex with me
(8) I lied a lot
(9) I stayed out at night without my parents permission
(10) I stole things from others
(11) I set fires
(12) I broke windows or destroyed property
(13) I ran away from home overnight more than once
(14) thegan skipping school, a lot, before age 13
(15) broke into someone's house, building, or car

Т

F