The Roles of Religious Affiliation and Family Solidarity as Protective Factors against Problem Gambling Risk in a Métis Sample

by

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ABSTRACT

THE ROLES OF RELIGIOUS AFFILIATION AND FAMILY SOLIDARITY AS PROTECTIVE FACTORS AGAINST PROBLEM GAMBLING RISK IN A MÉTIS SAMPLE

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Protective factors against problem gambling are important to study, and this thesis focuses on religious affiliation and family solidarity. In this study, 100 Métis Ontarians aged 46-88 completed a cross-sectional survey. The relationships of problem gambling risk with alcohol misuse, age, gender, religious affiliation, and family solidarity were explored. Intergenerational religious concordance (passing down religious affiliation through generations) was examined in the context of healthy family functioning. A qualitative research question asked participants about the potential relationship between religious beliefs and gambling behaviour. Participants at moderate or high risk of problem gambling (score of two or more on the Problem Gambling Severity Index) were more likely than those at no or low risk to say that they perceive a relationship between their gambling behaviour and their religious beliefs.
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Introduction

During the 1990s, the availability of legal gambling increased dramatically in Canada (Korn, 2000). As a result, gambling has gained acceptance and popularity as a recreational activity. However, the legalization of gambling has been accompanied by a growing concern with problem gambling. Increased gambling availability was found to be related to increased gambling expenditures and problem gambling (Campbell & Lester, 1999; Grun & McKeigue, 2000; Ladouceur, Jacques, Ferland, & Giroux, 1999; Shaffer, Hall, & Vander Bilt, 1999). From the perspective of gambling business and government, increased gambling expenditures mean more revenue. From 1992 to 2008, Canadian government revenue from gambling increased steadily from $2.7 billion to $13.9 billion, alongside an increase in household expenditures on gambling activities (Statistics Canada, 2009). However, a disproportionately small number of people contribute to those profits. In 2006, approximately 71% of Canadians had gambled in the past year, and approximately 3% were moderate or severe problem gamblers (Wood & Williams, 2009). Williams and Wood (2004) estimate that approximately 23% of gaming revenue comes from problem and pathological gamblers.

In addition, problem gambling does not affect all Canadians equally. Aboriginal problem gambling rates are disproportional to those of non-Aboriginals. In North America, the rate of problem gambling in Aboriginals is two to sixteen times higher than the non-Aboriginal population (Wardman, el-Guebaly, & Hodgins, 2001). Therefore it is important to conduct research with Aboriginals, such as the Métis in Ontario, for whom the rate of problem gambling is not known.

Furthermore, it is imperative to study the correlates of problem gambling in order to identify people at risk, and hopefully prevent the development of problem gambling in every community. These correlates are called risk and protective factors, and they are associated with
higher or lower levels of risk for gambling problems. Gambling researchers have looked at many factors that are associated with increased problem gambling risk, including alcohol and substance misuse, age, family factors, and gender (Johansson, Grant, Kim, Odlaug, & Götestam, 2009; Welte, Wieczorek, Barnes, & Tidwell, 2006). Conversely, research on protective factors is just as important and necessary. This research is sparser, but two factors of interest include religious belief and family factors (Diaz, 2002; Dickson, Derevensky, & Gupta, 2008; Hoffman, 2000; Lam, 2006).

This thesis examines religious affiliation, healthy family functioning, family solidarity, alcohol misuse, age, and gender as potential risk and protective factors for problem gambling. The choice of risk and protective factors was guided by the research literature and the availability of measures. Tirachaimongkol, Jackson, and Tomnay’s (2010) seniors’ pathway model guided the interpretation of these factors. Furthermore, religious affiliation is an interesting and rarely studied construct in family research. Therefore, in this study its relationship with healthy family functioning will also be explored.

This research was guided by a post-positivist paradigm, under the assumption that reality can be measured quantitatively, but understanding that this measurement will always be imperfect (Guba & Lincoln, 1994). Research is evaluated critically using the previous literature and statistical knowledge. Hypotheses that are potentially falsifiable are proposed and tested. The qualitative methods used in this study are useful tools for exploration and discovery (Guba & Lincoln, 1994). Objectivity is an ideal; however, the use and purpose of this research are not value-neutral. For example, the collaborative nature of this study has emphasized the ethics of research with Aboriginal participants. Specific goals of this study include learning about the Métis and presenting that information in a respectful and positive manner.
The literature review will begin with definitions that distinguish the differences among various terms used in gambling research. Next, Tirachaimongkol and colleagues’ (2010) pathway model of problem gambling in seniors will be described in the context of this study. Protective and risk factors will be discussed, followed by an account of the research related to religious affiliation as it relates to gambling risk and family factors. A history of the Métis people will give an introduction to the culture of the participants. Then the Family Gambling Project will be introduced, of which this thesis is a part, and finally, the specific research questions, methods, and plan of analysis for this research will be presented.

**Problem Gambling, Pathological Gambling, and Gambling Risk**

The terms ‘problem gambling’ and ‘pathological gambling’ are often used interchangeably, but there are subtle differences between them, and it is important to differentiate them before continuing to discuss problem gambling and gambling risk.

Pathological gambling is the term used by the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV; American Psychiatric Association, 1994). The DSM-IV defines pathological gambling as “persistent and recurrent maladaptive gambling behaviour as indicated by five (or more)” of the following ten signs: preoccupation with gambling, tolerance to gambling resulting in the need to gamble with larger amounts of money, failed attempts to control gambling, irritability when trying to cut down on gambling, gambling to escape problems or a negative mood, chasing losses by returning to win back money, lying to others to conceal gambling, committing illegal acts to obtain money for gambling, loss of a relationship, job, or education due to gambling, and relying on others to help relieve their financial crises. Using this clinical definition, a person either is or is not a pathological gambler. Clinicians are most likely to use this terminology, and researchers generally use it only to describe those who have the most severe gambling problems (Raylu & Oei, 2002).
In contrast, problem gambling is the term used more broadly to describe people who may not meet the DSM-IV criteria for pathological gambling but still experience negative consequences from their gambling (Blaszczynski & Nower, 2002; Johansson et al., 2009; Raylu & Oei, 2002). The general consensus is that problem gambling is less severe than pathological gambling and represents a wider range of gambling consequences (Raylu & Oei, 2002; Stucki & Rihs-Middel, 2007). In this study, participants’ risk for problem gambling was measured, partly because the larger project only included problem gambling measures, but mainly because problem gambling can be measured easily in a survey, while pathological gambling must be assessed by a clinician. In addition, measures of problem gambling can assess levels of risk, whereas the DSM-IV criteria produce a dichotomous classification.

There is evidence that gambling risk exists as a spectrum that proceeds from no gambling, to low risk gambling, problem gambling, and pathological gambling (Lobo & Kennedy, 2009; Slutske et al., 2000). This perspective has resulted in classification measures such as the Canadian Problem Gambling Index (CPGI), which separates gamblers into four categories of increasing risk (Ferris & Wynne, 2001). This perspective is useful to researchers trying to understand differences between low risk and high risk gamblers. Thus, the level of risk refers to how likely a person is to experience negative consequences and/or lose control over their gambling, and “risk and protective factors” refers to factors that may be related to increased or decreased risk of having gambling problems.

Pathways Models of Problem Gambling

Problem gambling is a very complex phenomenon which is multiply determined by cognitive, psychological, ecological and biological factors (Blaszczynski & Nower, 2002). By extension, problem gamblers are not a homogeneous group. Blaszczynski and Nower theorized that there is more than one path to problem gambling, and they proposed three distinct types of
gamblers who become vulnerable to problem gambling due to the additive influences of cognitive errors, socioemotional vulnerabilities, and biological vulnerabilities. This pathways model is an excellent way of demonstrating theoretically how different people can become problem or pathological gamblers in different ways.

The model was expanded on by Tirachaimongkol et al. (2010) to describe the specific vulnerabilities of seniors to problem gambling. They found that seniors face unique challenges, and therefore a separate model of problem gambling for seniors was needed. However, the specificity of the model is not as important as its design. Instead of aiming to find types of problem gamblers, they adapted the model to group together clusters of factors that are related to problem gambling. They reviewed 77 articles on gambling in seniors, and organized the correlates of problem and non-problem gambling into categories based loosely on Blaszczynski and Nower’s (2002) framework. Their results formed three clusters: individual vulnerability factors, social and environmental factors, and behavioural regulation factors. The factors were clustered based on “the abstractness of the domains” (Tirachaimongkol et al., 2010, p. 536). It is unclear why illusion of control and competitive personality should be considered social and environmental factors, or why service barriers and lack of social support should be placed in the individual factors cluster. However, this model is still very useful for framing and understanding the relationships among factors related to problem gambling.

This model suits the post-positivist paradigm of this thesis as it incorporates many empirical studies on seniors into an existing theoretical model, adapting it to a different population. In addition, the model draws on multiple perspectives to gain a more holistic understanding of seniors’ problem gambling. This seniors’ pathways model is valuable as it allows for heterogeneity in problem gamblers and clearly shows that each cluster is interrelated.
First, individual vulnerability factors are based in each individual. For older people, a sudden or chronic distressing situation, combined with urgency to make negative feelings go away, or apathy about the ability to fix the problem, can create a vulnerability for the instant gratification and/or numbness that gambling can provide. Substance misuse, including alcohol, can be a co-morbid condition as it is another unhealthy coping mechanism. Resilience factors that can reduce risk for problem gambling include healthy coping styles, social support, and structured time away from gambling.

The second cluster is comprised of social and environmental factors. Stressors that are placed on an individual by society can include poverty and social marginalization, such as ageism and racism. Marginalized people come across more barriers to social support. Gender is another social factor. It can interact with the meaning of gambling for individuals—for example, an older woman may begin gambling as a way of expressing independence and freedom from having to take care of others (Tirachaimongkol et al., 2010). Further, the experiences of winning and being lavished with attention and promotions by casinos can make older adults, who may feel undervalued, more susceptible to harm from gambling. Gambling can be a sentimental activity, a way of reconnecting with family or cultural traditions, or it can be a way of asserting independence and finally putting oneself first. Family culture can have a positive or negative impact on gambling, depending on the meaning for gambling in that family. Unfortunately, religion was not mentioned by Tirachaimongkol and colleagues, but it would best be placed in the second cluster, as research suggests that the official values that religions hold toward gambling can influence religious adherents’ own attitudes towards gambling (Ramp & Badgley, 2009).

Tirachaimongkol and colleagues’ third cluster is behavioural regulation factors. These factors are related to brain and body changes that affect seniors’ ability to regulate their
behaviour as they age. Stroke, dementia, and medication can cause changes in the brain that reduce inhibition, judgment, and decision-making abilities. Age-related body changes can also affect mobility, which can cause stress and increase individual vulnerability and social/environmental factors. In contrast, good health can promote continued behavioural regulation. Indeed, each cluster interacts with every other cluster of factors to increase or decrease vulnerability to gambling problems.

Risk and Protective Factors

The determinants of pathological and problem gambling are complex, and researchers have taken into consideration many factors that may increase or decrease a person’s risk of developing a gambling problem (Johansson et al., 2009; Norris & Tindale, 2006; Welte et al., 2006). Johansson et al.’s (2009) review of studies on risk factors for pathological and/or problem gambling found over a dozen. These risk factors included age, gender, income, marital status, academic achievement, ethnic group, schedules of reinforcement, sensory characteristics of gambling games, depression, anxiety, obsessive compulsive disorder, alcohol and drug use, personality disorders, coping styles, impulsivity, sensation-seeking, and delinquency. Due to the placement of this thesis within the context of a larger study, the risk factors used in this study are limited to those measured by the Family Gambling Study. However, the larger study does include some of the strongest factors found by Johansson et al.’s review: age, gender, and alcohol misuse. Factors related to family relationships have been considered as risk factors in some studies and protective factors in others (Blaszczynski & Nower, 2002; Dickson et al., 2008; Moore & Ohtsuka, 1999; Norris & Tindale, 2006), and these complex factors are important to investigate. Finally, religious/spiritual belief has also been found to be a risk or a protective factor, depending on how it is measured (Ellison & McFarland, 2011; Hong, Sacco, & Cunningham-Williams, 2009; Hraba & Lee, 1995).
**Age and gender.** Age and gender are associated with problem gambling in the seniors’ pathway model through the social perception of aging and gender by society, as well as the experience of aging and gender by seniors themselves (Tirachaimongkol et al., 2010). As mentioned above, the experiences of ageism and sexism are stressors that may be temporarily relieved by gambling. Death and illness can reduce one’s social circle as a person ages. However, as found in Norris and Tindale’s (2006) study of rural seniors, older people have the advantage of experience, which has taught them whether they can rely on self-control to regulate their gambling behaviour or whether they need to rely on external strategies, such as bringing a set amount of cash and leaving the debit card at home.

Studies of older persons have generally found that they have similar or lower rates of problem gambling compared to younger age groups. Bonke and Borregaard (2009) conducted a cross-sectional survey of over 13,000 Danish and Norwegian adults aged 18-74. Using the National Research Center DSM Screen for Gambling Problems (NODS), they found that adults over the age of 65 had the lowest (0% in Denmark) or second-lowest (0.4% in Norway) rate of past-year problem gambling compared to other age groups. Another survey was conducted by Norris and Tindale (2006) with over 2000 rural seniors in Ontario, who were recruited from clubs associated with the Ontario Legion and United Senior Citizens of Ontario. They used the Problem Gambling Severity Index (PGSI), a shortened version of the CPGI, to measure gambling risk. Six percent of participants were found to be moderate risk gamblers and 1.0% of participants were problem gamblers. They concluded that rural seniors are no more at risk of gambling problems than the general population. Erickson, Molina, Ladd, Pietrzak, and Petry (2005) led a survey of 343 individuals aged 60 and older, recruited from senior centres, bingo sites, and other sites in Connecticut. Using the South Oaks Gambling Screen (SOGS) to measure problem and pathological gambling, they found that 6.4% of participants were problem gamblers.
(score of three or four on the SOGS) and a further 3.8% were pathological gamblers (five or higher). The higher rates reflect their recruitment strategy, which included gambling sites.

There may be an interaction between age and gender in problem gambling risk. Research has shown that being young and male are significant risk factors for problem and pathological gambling (Johansson et al., 2009; Tepperman, 2009). Gambling research has generally focused on males, as gambling has often been considered to be a more masculine activity (Grant & Kim, 2002). More recently, researchers looking into gender differences have found that male and female pathological gamblers play different games, begin gambling at different ages, and have different motivations for gambling (Grant & Kim, 2002; Tepperman, 2009). For example, women start gambling at an older age, and they are more likely to play bingo (Grant & Kim, 2002). In a review of five studies that examined gender, Johansson et al. concluded that males were at an increased risk of pathological gambling. It should be noted that three of the five studies were of teens.

In this study, it is expected that males will be more at risk for problem gambling. It is unclear based on the literature whether there is increased or decreased problem gambling risk across baby boomer-aged adults specifically. This research can help to distinguish if there is a gender and/or an age difference in risk for problem gambling among this group of older individuals.

**Alcohol misuse.** There is a strong association between alcohol misuse and problem gambling. In a nationally representative sample of American adults, Welte, Barnes, Wieczorek, Tidwell, and Parker (2001) reported that alcohol misuse increased the odds of being a pathological gambler by 23.1 times. Alcohol consumption is also a risk factor. In the same study, average alcohol consumption significantly predicted any gambling, frequent gambling, and problem gambling (Welte et al., 2006). Respondents who drink little or no alcohol were less
likely to gamble than were those who drink moderately or heavily. In addition, those who misused alcohol were found to be 8.4 times more likely to be problem gamblers. In a study of twin Vietnam veterans, Slutske et al. (2000) found a high co-morbidity rate between pathological gambling, problem gambling, and alcohol misuse. Those who misused alcohol were four times more likely to be pathological gamblers and 2.7 times more likely to be problem gamblers than those who did not misuse alcohol. The seniors’ pathways model would predict that alcohol misuse is related to problem gambling through all three clusters. First, alcohol use and misuse influences behavioural regulation directly through alcohol’s effect on the brain. Second, alcohol and gambling are often found in the same venue, especially casinos. This environmental factor provides a safe context for alcohol misuse to take place. Third, alcohol is often used on an individual basis as a coping strategy for a stressor. Alone, the experience of a distressing situation can help create gambling problems, and alcohol misuse can exacerbate the situation, ultimately creating more vulnerability for problem gambling. In this study, it is expected that alcohol misuse and problem gambling risk will be strongly and positively related.

Factors related to family relationships. Family relationships can affect gambling behaviour and problem gambling through their strong social influence. Although there is evidence for a genetic link in the intergenerational transmission of problem gambling (Lobo & Kennedy, 2009), this thesis focuses on the social aspect of families and whether solidarity and healthy family functioning are related to problem gambling risk and/or religious beliefs. The construct of family solidarity will be described first, followed by a review of the literature of family-related protective and risk factors.

There are many constructs related to family relationships, such as healthy family functioning, cohesion, and solidarity. For example, Hovestadt, Anderson, Piercy, Cochran, and Rine (1985) defined healthy family functioning based on a balance of autonomy and intimacy
(interconnectedness). However, Ryan, Kawash, Fine, and Powel (1994) thought it more likely measures warmth-cold rather than autonomy-intimacy. Olson (2000) defined family cohesion, or togetherness, as the emotional connection, or closeness, that family members share. However, Bengtson and Roberts (1991) found that closeness is but one (or two) aspects of solidarity. They formalized a theory of intergenerational solidarity which defines the construct as multidimensional, with six factors: association, affection, consensus, resource sharing, normative integration, and structural solidarity. These factors describe how often parents and children interact, family members’ feelings for each other, how many values they share, how often they provide support to each other, the strength of their commitment to their family roles, and the abilities of family members to interact in terms of health, number of family members, and residential distance. This theoretical construct of family solidarity is important because it identifies specific different ways that families can be close, and it is possible that these types of closeness relate to risk or protection independently. For instance, a participant’s perception of family affection may be associated with decreased gambling risk, while the amount of financial support family members provide could be potentially associated with increased risk. In this thesis, family solidarity, as theorized by Bengtson and Roberts, and healthy family functioning, as theorized by Hovestadt et al. (1985), will both be measured. Healthy family functioning will be used because it is a validated measure of family-related factors that is included in the larger study, while the measure of family solidarity has not been validated as a scale. One study found healthy family functioning to be positively related to both affection and association in Bengtson and Robert’s (1991) model, but no other research has explored the relationships among the constructs that these two models describe (Gavin & Wamboldt, 1992). In this study, the scales that embody these constructs are not positively correlated (see Appendix B), so they will be considered individually.
Family factors can be associated with protection and risk for gambling problems. When families spend time together, share common values, and feel positively about each other, they are likely to have a healthy emotional connection. Resnick et al. (1997) reported that, in a teen sample, parent-family connectedness (including warmth, caring, relationship satisfaction) was protective against drinking alcohol, smoking cigarettes and marijuana, and early sexual debut. Another two studies of teens found that family cohesion was a protective factor against problem gambling (Dickson et al., 2008; Van Hamel, Derevensky, Takane, Dickson, & Gupta, 2007). However, Van Hamel et al. (2007) found that the relationship between family cohesion and lower gambling risk was mediated by helpful coping skills. Very little research focuses on older adults and the relationship between their family context and their problem gambling risk (Norris & Tindale, 2006). Norris and Tindale studied rural seniors’ family relationships and gambling activities. They used the PGSI to measure problem gambling risk (Ferris & Wynne, 2001), and the Family of Origin Scale to measure healthy family functioning (Hovestadt et al., 1985), and found that increased healthy family functioning was related to decreased problem gambling risk in both the family of origin ($r = -0.10, p < .05$) and created family ($r = -0.11, p < .01$). ‘Family of origin’ means the family the participant grew up with, and ‘created family’ means the participant’s current family situation (see Appendix F).

The seniors’ pathways model is congruent with research on how family relationships could be protective from a social perspective (Tirachaimongkol et al., 2010). First, healthy family functioning and solidarity may reflect how families provide support to deal with distressing situations and teach an individual to cope and problem-solve in a healthy way. Second, families can provide opportunities for recreation and leisure that compete with gambling opportunities. Third, families help to shape the meaning of gambling for an individual.
Family factors can also be related to increased frequency of gambling and risk of problem gambling. Moore and Ohtsuka (1999) conducted a general population survey in Australia. They measured subjective norms by asking respondents how their families and friends felt about their (i.e., the respondents’) gambling. A sample item is: “My family would disapprove of me buying a lottery ticket.” They found that family and friends’ approval of gambling positively predicted frequency of gambling, but did not predict problem gambling. Welte et al.’s (2006) study produced similar results. They found that the strongest predictors of any gambling and frequent gambling were friends and family’s approval of gambling, followed by having traditionalist values (valuing self-discipline, family, local community, and religion, as opposed to modernist values such as hedonism, individualism, and freedom; see Gusfield, 1968). However, friends and family’s approval did not predict problem gambling.

A number of studies have found that parents often include their children in gambling behaviour, such as scratching lottery tickets together (Gupta & Derevensky, 1997; Ladouceur, Jacques, Ferland, & Giroux, 1998; Ladouceur, Vitaro, & Côté, 2001). In addition, there is evidence that those who currently have gambling problems have a family history of gambling and substance misuse. For example, Gambino, Fitzgerald, Shaffer, Renner, and Gourtnage (1993) studied a sample of war veterans presenting for substance misuse issues. They found that when participants perceived their parents to have gambling problems, they were three times more likely to score as probable pathological gamblers on the SOGS than those who did not perceive their parents to have gambling problems. Interestingly, participants were 12 times more likely to present as probable pathological gamblers when they perceived their grandparents to have gambling problems. These findings suggest that problem and pathological gambling can affect multiple generations of families through their social and environmental influence.
The seniors’ pathways model is congruent with a social perspective on risk factors for problem gambling (Tirachaimongkol et al., 2010). Family values provide context about the meaning of gambling. Family modeling and teaching about gambling becomes dangerous if gambling is taught as a coping strategy or if a child grows up thinking that problem gambling is normal.

These studies demonstrate the strong social link among family members, which can influence an individual’s gambling style and his or her understanding of what gambling means in a family context. Conversely, gambling can also influence family relationships. It is expected that, much like in Norris and Tindale’s (2006) study, healthy family functioning will be related to decreased problem gambling risk. Family solidarity will be examined in an exploratory way due to the way it was measured (see Method for more details).

**Factors related to religion/spirituality.** It is important to begin by clarifying the difference between religiosity and spirituality. Both of these terms are difficult to define and even more difficult to operationalize, as is shown by the lack of consensus in the literature (Spilka, Hood, Hunsberger, & Gorsuch, 2003; Zinnbauer et al., 1997). However, there are some characteristics of religiosity and spirituality that a majority of researchers agree upon. Increasingly, religiosity carries the connotation of an agreement to follow the rules and traditions of a religious institution, while spirituality is thought of more as a personal quest for meaning (Spilka et al., 2003). Spirituality may be considered a broad concept of which religiousness is a subset, such that a religious person is always spiritual, but a spiritual person is not necessarily religious. In a Métis context, the ideas of religion and spirituality carry specific historical and cultural meanings. Spirituality and religion are important aspects in the lives of many Métis people, though again, in this context too there is a diversity of opinion as to what those words
mean (Simon & Germain, 2009). Nevertheless, in 2006, 64% of Métis considered themselves to be at least moderately spiritual or religious (Kumar & Janz, 2010).

It has been estimated that Métis people are mainly Catholic (Barkwell, Dorion, & Hourie, 2006); therefore, religious affiliation could be an important factor to consider in studying gambling behaviour in Métis people. This thesis asks only about religious affiliation, that is, which religion (if any) a person follows. This is not to deny the existence or importance of Métis spirituality or the role that spirituality may play in relationship to gambling behaviour. In fact, spirituality is a promising avenue of research, as some evidence has pointed to spirituality as a risk factor for frequency of gambling and problem gambling (Clarke et al., 2006; Hodge, Anderek, & Montoya, 2007; Hoffman, 2000). However, because the definition and measurement of spirituality are unclear in the literature, especially in an Aboriginal context, the ability to gather data on the subject is hampered (Simon & Germain, 2009). The in-depth and exploratory questions necessary to achieve an understanding of the rich diversity in definitions and expressions of Métis spirituality are beyond the scope of this project. Appendix C contains a brief description of some research related to spirituality and gambling. However, the focus here will be on literature describing religiosity as a potential protective and/or risk factor for problem gambling.

Religiosity has been measured in a variety of ways, sometimes simply as religious affiliation, but often by combining frequency of attendance at religious services with perceived importance of faith in God, or perceived importance of religion/faith (Spilka et al., 2003). Religiosity appears to be protective against frequent gambling and problem gambling. Religiosity, as measured by frequency of religious service attendance and strength of belief in God, was found to be protective against current and lifetime problem gambling in older adult gamblers (Hong et al., 2009). Frequency of attendance at religious services has been found to be
negatively correlated with gambling frequency and the number of different types of gambling games played in a lifetime (Diaz, 2002; Hoffman, 2000; Lam, 2006). One study found that being Catholic or Protestant was a protective factor against gambling risk as measured by a scale based loosely on the SOGS (Hraba & Lee, 1995; but see also Grichting, 1986 as cited in Clarke et al., 2006). From these studies, it appears that those with an active religious belief would be less at risk for gambling problems than those with a less active participation or, possibly, those with no religious affiliation.

Religious belief can play a large role in family and individual life, affecting a broad range of attitudes and behaviours. This is in part due to the large social regulatory role that religion plays in many aspects of people’s lives, including their gambling behaviour. According to the seniors’ pathways model, religion would be placed in the social and environmental factors cluster. Religion provides a competitive environment to gambling, giving seniors structured time and the opportunity for social interaction (Tirachaimongkol et al., 2010). In addition, religion often explicitly prohibits or restricts gambling behaviour. For example, Islam prohibits any gambling, while Catholicism has more permissive views towards gambling (Al-Munajjid, 2010; Gambling, n.d.). Furthermore, in late 19th and early 20th century Canada, those who were opposed to gambling argued against it using moral reasoning based on Catholic and Protestant beliefs about vice (Ramp & Badgley, 2009). Today, the argument against gambling has taken a more secular, public health approach, but nevertheless those who are religious have inherited moral ideologies against gambling to some degree.

However, certain religious affiliations have been found to be associated with higher gambling frequency. A national telephone survey in the U.S. found that religious affiliation was an important predictor of past-year gambling (Welte, Barnes, Wieczorek, & Tidwell, 2004). Catholics were most likely to have gambled in the past year (92%), whereas Protestants were
somewhat less likely to have gambled (78%). It is important to note that in this study and the two following studies, religious affiliation did not predict gambling pathology. In a study of Las Vegas residents, Diaz (2002) found that Catholics were most likely to gamble daily (33% did so), followed by Protestants (23%), other religions (19%), no religious affiliation (17%), and Mormon (6%). In addition, a nationally representative sample of 2,610 American adults found that Catholics and mainline Protestants were more likely than conservative Protestants to be high frequency gamblers (Ellison & McFarland, 2011). Finally, Grichting (1986, as cited in Clarke et al., 2006) found that stronger self-assessed religious commitment was related to higher gambling frequency and expenditure in Catholics, but lower gambling frequency and expenditure for Protestants and those with no religious affiliation. From these studies, it appears that Catholics engage in gambling activities more often than people of other affiliations, and that strength of commitment may be associated with increased gambling in Catholics. Frequency is an important variable to consider because at least one study has linked frequency of gambling with problem gambling risk (Holtgraves, 2009).

The studies about religion as protective factors were able to link religious participation with lower gambling risk, but the studies relating to risk were only able to link religious affiliation with gambling frequency. In this study, religious affiliation was measured. It was expected that those with a religious affiliation will score lower on gambling risk than those without a religious affiliation. In addition, Catholics were expected to score higher on gambling risk than non-Catholics.

Previous research on religious affiliation and gambling behaviour has already been mentioned above. However, no research has directly asked participants about their own perception of this complex relationship. In an exploratory manner, this study will ask
participants directly about how they perceive this relationship, and allow them to draw upon their own definitions of religious belief and gambling behaviour to express their perspectives.

**Intergenerational Religious Transmission**

As noted above, the construct of religiosity is difficult to define, and it is therefore important to find the boundaries of the relationship between such a complex construct and other constructs such as healthy family functioning and gambling behaviour. As the number of people in Canada who report having no religion has increased from 7% to 16% from 1971 to 2001 (Statistics Canada, 2001), it is important to understand how incongruence in religious affiliation may affect family relationships. In this study, religious affiliation was chosen as a measure, as it has been used most often in previous gambling research and it is important to replicate previous work, especially with different populations. Few studies have explored religious affiliation in a family context. Previous research has found that religious belief generally passes on through families, although there has been a trend towards secularization on the part of adult children in the past 40 years (Bengtson, Copen, Putney, & Silverstein, 2009). A few studies have explored whether different generations of a family who share the same religious belief would be closer or feel warmer towards each other. Okagaki and Bevis (1999) found that daughters’ feelings of parental warmth were related to congruence between the daughter’s religious beliefs and her perception of her parents’ beliefs. In a study of two generations of immigrants to Holland, religious affiliation and family solidarity (defined by the authors to mean family oriented attitude and collectivist values) were positively correlated (Merz, Ozeke-Kocabas, Oort, & Schuengel, 2009). In addition, the second generation was less religious and felt less family solidarity. This study explored the potential relationships between religious affiliation and healthy family functioning over three generations. It is expected that members of families who share the same
religious affiliation with their parents and children will experience more healthy family functioning than those whose members do not share the same religious affiliation.

The Métis

One of the most interesting and rewarding parts of this research has been the opportunity to collaborate with the Métis Nation of Ontario. One significant reason to study gambling in a Métis context is that research shows that Aboriginal peoples are at a higher risk for problem gambling than the general population (Wardman et al., 2001). According to the seniors’ pathways model (Tirachaimongkol et al., 2010), the experiences of racism and poverty, common to Aboriginal people, are social and environmental vulnerability factors that can contribute to problem gambling (Highlights from the Report of the Royal Commission on Aboriginal Peoples, 1996). However, no Métis-specific research on gambling behaviour has been conducted. Métis-specific research is important as the pan-Aboriginal approach does not allow researchers and policymakers to identify the prevalence of problem gambling in this particular Aboriginal group.

An overview of the Métis and their history will provide a good introduction for those who are not familiar. Aboriginal people in Canada are categorized into three groups: First Nations, Inuit, and Métis. The Métis are the fastest-growing Aboriginal group. In 2006, they made up 33% of the Aboriginal population and 1.3% of the total population in Canada (Statistics Canada, 2008). Proportionally, they are also the most urbanized of the Aboriginal groups—in 2006, 69% of Métis lived in urban areas, compared to 45% of First Nations (Statistics Canada, 2008).

Their history began when European voyageurs working in the fur trade married (or romanced) First Nations women (Barkwell et al., 2006). The offspring of these relationships would become the Métis. Their identity as a separate nation evolved with their rejection and separation from both First Nations and European cultures (Sealey, 1978). In brief, these families
and communities developed a distinct culture that is greater than simply a mixture of cultures. They have their own language, Michif, which is a mixture of French and Cree, although today the majority of Métis do not speak it (Statistics Canada, 2008). For more than 150 years they have suffered under Western colonialism and repeated attempts to assimilate them into mainstream society (Highlights from the Report of the Royal Commission on Aboriginal Peoples, 1996; Kirmayer, Simpson, & Cargo, 2003). Métis religious and spiritual traditions are inherited from their exposure to Catholic, Protestant, and Aboriginal traditional spiritualities.

Very little research into Métis religion/spirituality has been undertaken (Barkwell et al., 2006). Barkwell and colleagues, however, did note that many Métis combine Aboriginal and Christian beliefs to build a personalized spiritual life. Religion/spirituality is one way of remaining resilient in the face of stress and health issues. In a study of how Métis and First Nations people cope with stress, one common theme was the use of traditional and Christian religious/spiritual activities, such as prayer, sweat lodges, and meditation (Iwasaki, Bartlett, & O’Neil, 2005).

The Métis have fought for many years to preserve their cultural heritage. Métis people have gone to great lengths to ensure their traditions are passed on through generations (M. Gravelle, personal communication, October 13, 2010). Consequently, the intergenerational transmission of religious/spiritual beliefs may be important in Métis families. This research will contribute to the literature by providing information about Métis people, especially problem gambling prevalence and religious affiliation. In addition, this work reflects a collaborative process between university researchers and the Métis Nation which benefits both parties. This research process has helped to (re)build a trusting work relationship between Aboriginal people and researchers, given voice to Métis research interests, and contributed to the family and gambling literature using a Métis sample.
**Family Gambling Project**

The Family Gambling Project was designed by Dr. Joseph Tindale of the University of Guelph and Dr. Joan Norris of Wilfrid Laurier University to study family relationships and gambling behaviour (Tindale & Norris, 2011). It is a three-year program funded by the Ontario Problem Gambling Research Centre, and this thesis research is part of the larger project. Year one profiled the gambling behaviours and attitudes of adults aged 50 and over in the Technology Triangle of Southwestern Ontario using a survey method. In Year two, interviews were conducted with adults aged 50-60 and their adult children to discuss family leisure and gambling attitudes and behaviours within the family context. Year three focused on ethnic variations in family leisure and gambling behaviours as well as attitudes. A survey was designed and implemented with the collaboration of the Métis Nation of Ontario (MNO) for a Métis population. The MNO is the sole representative body for the Métis in Ontario. The main purpose of the MNO is to support and further the development of self-government institutions for the Métis Nation in Ontario and to represent and advocate for the distinct interests of the Métis people of Ontario. The Métis Nation of Ontario has a Citizens Registry including approximately 18,000 citizens who have met citizenship criteria based upon genealogical evidence. The collaboration is guided by a Letter of Agreement negotiated among the parties (Métis Nation of Ontario, personal communication, November 2, 2009). The purpose of this research program is to achieve a greater understanding of gambling in terms of family relationships, and to explore the role of family solidarity in intergenerational relationships.

The contribution of this thesis is to explore how religious affiliation and family solidarity are related to problem gambling risk. This thesis will explore questions organized into three themes.
Hypotheses and Research Question

The first hypothesis is quantitative and focuses on risk and protective factors for problem gambling risk. The following variables are predicted to be related to gambling risk scores in the following ways: religious affiliation with lower gambling risk scores; healthy family functioning with lower gambling risk scores; male gender with higher gambling risk scores; alcohol misuse with higher gambling risk scores; and age related to gambling risk, but the direction unknown.

The second hypothesis is also quantitative and focuses on the relationship between religious affiliation shared between generations and healthy family functioning. It was predicted that the intergenerational transmission of religious affiliation would be related to higher scores of healthy family functioning.

The last question is qualitative and explores religious belief and gambling behaviour. Do people perceive a relationship between their religious beliefs and their gambling behaviour? If so, what are some of the characteristics of this relationship?

Method

Participants

Participants were 100 Métis people living in Ontario. The participants’ mean age was 59.3 (SD = 10.2), with a range between 46 and 88. Participants needed to be self-identified Métis and citizens of the Métis Nation of Ontario, but there were no other restrictions. Seventy-five percent of participants spoke English as their primary language. Participants were included in data collection even if their parents were deceased or if they did not have children. There were no restrictions based on gender, gambling experience, education, income, sexual orientation, marriage/family status, religious belief, or the length of time participants have been aware of their Métis heritage.
Measures

The Family Gambling Questionnaire was developed as part of the Family Gambling study and tested in a predominantly non-Aboriginal sample in the Technology Triangle (Guelph, Cambridge, Kitchener-Waterloo), although a minority of the sample was First Nations. The questionnaire was adapted as deemed necessary to ensure relevance to Métis culture (see Appendix G for the full questionnaire). Pretesting was undertaken by the Family Gambling team and the MNO to ensure that participants understood the survey questions, that the alternative answers were useful in answering the project research questions, and to ensure the cultural relevance/validity and meaningfulness of the measures. Norris and Tindale (2006) previously used most of the same measures in a pretest of First Nations participants. However, it is important to note that these measures have not previously been validated in a Métis sample. The survey includes quantitative questions regarding demographic characteristics, gambling attitudes and behaviour, problem gambling risk, depression, alcohol misuse, healthy family functioning and solidarity, and participant’s family’s gambling attitudes and behaviours. It also includes qualitative, open-ended questions regarding family leisure activities, family stories about gambling, and the religious affiliation of the participant and his or her family. This qualitative, open-ended, written section is also new and it will be important to learn how Métis participants respond to this format.

Guelph Family Gambling Items. These items were designed by Norris and Tindale for the Family Gambling study. The quantitative section is comprised of questions about demographics, gambling activities of self and family members (including what games they play, who they gamble with, how often they gamble at a casino, why they gamble, how limits are enforced), and gambling activities as a child and as an adult. The qualitative section asks short, open-ended questions, leaving one to five lines for participants to write an answer. These
questions focus on family recreational/leisure activities, stories about gambling, gambling strategies, and religious beliefs. In addition, some questions culturally relevant to the Métis were included, such as “Have the gambling activities of your family members ever caused a problem for your Métis community?”

The Guelph Family Gambling items also included a set of items designed to measure Bengtson and Roberts’ (1991) model of family solidarity. These items have been used in previous studies done by Norris and Tindale (e.g., 2006) but they have not been integrated into a scale. Eighteen of the items were quantitative, Likert-style questions (e.g., from “never” to “often”, “How often do they criticize you?”), but some were qualitative (e.g., “Who do you live with?”). The quantitative questions were used in this study. Therefore, some aspects of family solidarity, such as association and affection, had more items included than others, such as structural solidarity and associational solidarity. The author was not able to identify items related to consensus solidarity. In addition, there were no guidelines as to how to use this scale—how to add or average the scores. Thus, these items were considered individually rather than as subscales.

**Problem Gambling Severity Index (PGSI; Ferris & Wynne, 2001).** The PGSI is a nine-item scale that measures risk for problem gambling in the general population. It is part of the longer Canadian Problem Gambling Index (CPGI). One example of a question is, “Have you felt that you might have a problem with gambling?” The answer format is a four-point Likert-type scale from 0 (never) to 3 (almost always), and places people into four categories based on their summed score: no risk (0), low risk (1-2), moderate risk (3-7), and problem gambling (8 or higher). It has good internal consistency reliability (alpha = .84) and test-retest reliability ($r = .78$, $p < .01$). The internal consistency reliability of this sample was .88.
Windsor Screen (Frisch, Fraser, & Govoni, 2003). The Windsor Screen was developed to identify older adults at risk for problem gambling. Focus groups of older gamblers and their family members identified themes and an expert panel advised on them. The focus groups then decided upon wording that would be appropriate for an older audience. An example of an item is, “Have you ever spent more money than planned when gambling?” This process resulted in a 16-item screen that asks for yes or no answers. These answers are summed, and scores range between zero and 16. The Windsor Screen was found to have good internal consistency reliability in Frisch and colleagues’ sample (alpha = .94) and in this sample (alpha = .89). It is correlated with the CPGI in both samples as well, although this difference is rather large (Frisch et al., 2003, \( r = 0.89, p < .01 \); this sample, \( r = 0.44, p < .001 \)). A discussion of this difference will follow in the Results section.

CAGE Alcohol Screen (CAGE; Mayfield, McLeod, & Hall, 1974). This four-item scale is a short, simple screen for alcohol misuse. It was originally tested on 366 male psychiatric patients aged 35-55 at a Veterans hospital in the U.S. The CAGE is not a clinical diagnostic tool; rather, it is an index of suspicion that alcohol misuse may be present (Ewing, 1984). It has been tested in many populations, and it has even been adapted to be used to screen for drug misuse. An example of a question is, “Have you ever felt bad or guilty about your drinking?” The answers are dichotomous, with a yes or no response. Answers are summed, with a resulting score between zero and four. Mayfield et al. considered a score of two or more to be a cause for serious concern and other clinicians have followed that lead, but Ewing (1984) states that even one affirmative answer calls for further investigation. A review of 22 studies that used the CAGE questionnaire calculates its average reliability to be .74, with a range of .52 to .90, and older respondents giving better reliability (Shields & Caruso, 2004). In this study, reliability was 1.0. A randomized controlled trial using an online version of the CAGE found that asking
questions about quantity and frequency of alcohol consumption before administering the CAGE results in artificially lowered scores in men, especially for heavy drinkers (Etter, 2004). This finding will be taken into consideration during data analysis, as two drinking frequency questions are placed before the CAGE.

**Family of Origin Scale (FOS; Hovestadt et al., 1985).** The FOS is a 15-item self-report measure of one’s perception of the emotional warmth/coldness, expression of views and feelings, autonomy, and intimacy of one’s family of origin. In this study, the construct this scale measures will be referred to as ‘healthy family functioning’, to follow the example of Norris and Tindale (2006). An example of a question is, “My parents encouraged me to express my views openly.” Answers can range from 1 (Strongly agree that it describes my family of origin) to 5 (Strongly disagree that it describes my family of origin), in a Likert-type scale. Two week test-retest reliability is .97, and the scale has an overall internal consistency reliability alpha of .75. Scores range from 15-75, where higher scores indicate higher degrees of family closeness, acceptance, and warmth. Whereas the original authors designed it to be comprised of a number of subscales, subsequent research has found that it is best understood as a single factor related to emotions (Ryan et al., 1994). Another study found it is related to measures that capture closeness and conflict handling abilities of family members as well as warmth and closeness (Gavin & Wamboldt, 1992). Unfortunately, it is unclear what this single factor represents in terms of Bengtson and Robert’s (1991) model. Gavin and Wamboldt’s (1992) study found it to be related to Affection and Association with one’s mother and father. However, no other studies have looked at the relationship between this scale and Bengtson and Robert’s model of family solidarity. In this study, an adapted version of the two parallel scales, developed by Ryan, Powell, Kawash, and Fine (1995), will be used. In Ryan et al.’s study, Cronbach’s alphas were .95 and .94 for Form 1 and Form 2. The parallel scales were correlated highly with each other $r$
= .94, p < .001, and with the long version of the scale, r = .98, p < .001. In this study, Form 1 is included, unchanged, to measure perceptions of the family of origin, while Form 2 has been adapted into the present tense to measure perceptions of one’s current (created) family. An example of an adapted item is, “In my family, I express just about any feeling I have.” For these adapted scales, Cronbach’s alphas were .94 and .88 for Forms 1 and 2, and they were correlated at r = .41, p < .001. The lower correlation is to be expected, as they are measuring healthy family functioning in two different sets of families.

**Intergenerational religious belief.** In order to gather information regarding the intergenerational pattern of religious beliefs in the families of the participants, a short set of qualitative and quantitative questions was developed in collaboration with the MNO. One example of a question is, “What, if any, spiritual or religious belief(s) did your parents teach you? For example, Catholic and/or traditional Métis beliefs.” This question was qualitative, allowing participants to write in whatever they felt was appropriate. The subsequent questions were quantitative and asked whether those beliefs were passed on to the participant and his or her children (See Appendix A). One last open-ended question asked whether the participant’s beliefs are related to his or her gambling behaviour. These questions were not validated, nor the reliability checked previous to this study. They were pretested for tone and understanding only.

**Gambling Attitudes Scale (GAS; Kassinove, 1998).** This scale measures general attitudes towards gambling and attitudes towards specific gambling activities—lotteries, horse racing, and casino games. The original version of this scale includes six subscales with a total of 59 items. The subscales are General, Casino, Lottery, Horse Races, Liberal-Conservative Scale, and Risk-Taking Scale. In this study, the Liberal-Conservative Scale was removed, and five items focused on Americans were adapted into ten to ask about attitudes towards the gambling of Canadian and Métis people. Two of the modified items were from the GAS – General and the
other three were from the Casino, Lottery, and Horse Races subscales. For example, “I support the right of Americans to gamble as often as they want,” was modified into two separate items to read, “I support the right of Canadians to gamble as often as they want,” and, “I support the right of the Métis to gamble as often as they want.” These changes produced the 43-item scale used in the study. It is important to note that because the scale responses are summed, the additional five Métis-related items were not included in the analyses of the scale, but were analyzed separately as individual questions. The GAS uses a 6-point Likert-style response, ranging from 1 (strongly agree) to 6 (strongly disagree). Each of the subscales was summed to produce scores with a range of 0-54. Two-week test-retest reliability of the original scale was good, with coefficients for the subscales ranging from .62 to .85. Internal consistency for the subscales was good, with alphas between .82 and .90. In this study, internal consistency ranged between .83 and .87. The adapted (Canadian) scale has not been validated, but it has been used successfully in previous studies.

**Procedure**

The majority of recruitment was completed in conjunction with the MNO’s Aboriginal Diabetes Education Project. This educational initiative included visits to 14 sites across Ontario as part of an initiative to educate people who were interested in learning about the risks of diabetes and its complications. The people who participated in the program were Métis Ontario residents, approximately 40 to 80 years old, and 60% female. The program allowed anyone to participate, regardless of cultural or ethnic status or diabetes status. The events took place at MNO health site offices or community centers. At the beginning of each event, a volunteer made an announcement regarding the research project and the inclusion criteria. Another volunteer was available with the questionnaires so that participants could pick them up if desired. Neither of these volunteers was an MNO politician or research staff member. The questionnaires were
returned either at the end of the program, which was up to four hours long, or they could be mailed in or dropped off with the volunteer after the event. Approximately 78 participants in this study were recruited from these events, which over 600 people attended.

The remaining participants were recruited from three MNO community events in Timmins, North Bay, and Ottawa. The people attending these events were Métis Ontario residents, aged 30 years and older, and approximately 50% female. Questionnaires were made available for pickup at these events and participants filled them out either at the event or afterwards. Questionnaires were returned at the event or mailed in afterwards. All participants were thanked with a five dollar Tim Hortons gift card. This sample is not known to deviate from the general Métis population.

This study received Research Ethics Board clearance at the University of Guelph and Wilfrid Laurier University (see Appendix E). There was no significant risk in completing this questionnaire. Privacy of participants’ identities was ensured by keeping consent forms separate from the questionnaires (see Appendix F for information letter/consent form). Both the consent forms and the data are protected by being stored in securely locked cabinets. A Research Agreement was completed between the research team and the MNO so that both parties are clear about ownership of the data, authorship of any scientific papers resulting from the study, and each party’s role in the collection, analysis, and presentation of data. The MNO acted as full collaborators in this project, not only by ensuring the cultural relevance and validity of the questionnaire, but they also designed questions and participated in data collection, analysis, and dissemination.

**Hypotheses, Research Question and Analysis**

1. Taken together, are the following variables meaningfully related to gambling risk scores?

1a. Religious affiliation is associated with low scores of problem gambling risk.
1b. Healthy family functioning is associated with low scores of problem gambling risk.
1c. Male gender is associated with increased problem gambling risk.
1d. Alcohol misuse is associated with increased problem gambling risk.
1e. Increased age is associated with problem gambling risk, although the direction is as yet unknown.

The directions of these hypotheses are related to the literature and the predictions of the seniors’ pathways model. To test these hypotheses, a multiple regression test was conducted to explain the relationships among the constructs entered. Multiple regression tests examine the relative importance of somewhat-related constructs in predicting an outcome (Field, 2009). It is important to note that this model predicts participants’ scores on the scale of gambling risk, not future gambling behaviour, as the data are cross-sectional. Generally, every variable known to be important is entered into the model. In this case, the variables were age, gender, alcohol misuse (CAGE), religious affiliation, and healthy family functioning (FOS 1 and 2). The outcome variable predicted by the model was problem gambling risk (PGSI).

Field (2009) suggests .80 as an appropriate level of power. With six predictor variables, a conservative estimated $R^2$ of .10, and an estimated sample size of 100, the estimated power of this test is .82. (Buchner, Erdfelder, & Faul, 1997). However, the obtained sample size for this regression was only 47, and the actual power of the test was .68, much lower than expected. The low sample size occurred due to a low response rate—while the full sample size of 100 was reached, only a minority of participants filled out all the scales necessary to run the regression. Thus, separate tests were used to test the individual hypotheses in addition to the regression.

2. Intergenerational transmission of religious affiliation is related to higher healthy family functioning.
In other words, when the same religious affiliation is shared by all generations in a family, then healthy family functioning is expected to be rated higher than families in which members have different religious affiliations. In order to test this hypothesis, a repeated-measures ANOVA (RMANOVA) was conducted, in which the two healthy family functioning scales, FOS 1 and FOS 2, were within-subjects dependent variables, and intergenerational religious affiliation concordance was a between-subjects independent variable. Religious affiliation concordance was used as a categorical variable divided into two categories: concordance and discordance. Participants were allocated into the concordance category if they reported that their parents and/or children all share the same religious affiliation. However, if there was at least one discordant religious affiliation across generations, participants were placed in the discordance category. RMANOVA is an appropriate test as it takes into account the variance that is shared when two measures are related. In this case, the FOS 1 and FOS 2 are related, as they measure attitudes towards the same family, although they measure attitudes towards different family members.

Field (2009) suggests aiming for a power of .80. Using an estimate of the anticipated effect size (.10), with an alpha of .05, and accounting for two groups, approximately 100 participants are needed to achieve a power of .80 (Buchner et al., 1997). Unfortunately, only 57 participants filled out all of the above-mentioned questions/scales, which significantly reduced the power of this test. The RMANOVA was still run, with a note to keep in mind the reduced power.

3. Do people perceive a relationship between their religious beliefs and their gambling behaviour? If so, what are some of the characteristics of this relationship?

No other study as yet has attempted to reach an understanding of people’s perceptions of the relationship between their religious beliefs and their gambling behaviour. Asking this
research question qualitatively allows participants maximum freedom to describe their thoughts and could shed light on the nature of the relationship between religion/spirituality and gambling. Thematic analysis was used to develop a substantive theory by organizing the answers into categories. With 100 participants, theoretical saturation is very likely to be achieved (Daly, 2007). Answers were entered into NVivo using separate files for each participant, and coding took place within the NVivo program.

Results

Demographics

This section presents general information about the sample and some of the noteworthy results concerning the measurement of gambling risk, religious affiliation, and intergenerational religious concordance.

One hundred participants completed the survey. They were Ontario residents, 46 to 88 years old, and 60% female. Seventy-five percent of participants spoke English as their primary language, and 33% spoke French. Five percent spoke Michif, Ojibwa, Oji-Cree, or another language primarily. Participants had an average of 2.8 children, with a range of zero to 16. A majority of participants were married or in common-law relationships (59%). Nineteen percent were widowed, 14% were separated or divorced, and 8% were single. Forty-two percent of participants earned less than $30,000 a year, 39% earned between $30,000 and $59,000 a year, and 19% earned $60,000 or more.

This sample is notable for its differences from the Year 1 sample in a previous phase of the Family Gambling Project and its similarities to the general Métis population. The Métis in this sample were distinct from the Year 1 sample in a few ways. They were more likely to have children and grandchildren, more likely to be widowed, and they were much more likely to earn less than $20,000 a year (Tindale & Norris, 2011). In comparison to the general Métis
population of Ontario, this sample has similar income levels, and similar proportions speak English as a first language (Statistics Canada, 2006).

Overall, a majority of participants completed the scales (see Table 1). For the most part, participants’ responses reflected the full range of the scale. The PGSI and the GAS – General had truncated ranges; thus, none of these participants had severe gambling problems, and no participants had extremely positive attitudes towards gambling. Further, the PGSI and the CAGE were extremely positively skewed, indicating that the majority of participants were at a very low risk for gambling or alcohol problems. These results were expected due to the fact the sample was drawn from the general population. Normality tests are explained further in Appendix B.

Table 1

**Scale Demographics**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>N</th>
<th>S-W significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGSI (Problem gambling risk) range: 0-27</td>
<td>1.57</td>
<td>3.50</td>
<td>0-18</td>
<td>70</td>
<td>.00</td>
</tr>
<tr>
<td>CAGE (Alcohol Misuse) range: 0-4</td>
<td>0.63</td>
<td>1.22</td>
<td>0-4</td>
<td>83</td>
<td>.00</td>
</tr>
<tr>
<td>FOS-O (Family of Origin Scale, family of origin) range: 15-75</td>
<td>40.68</td>
<td>14.37</td>
<td>15-75</td>
<td>76</td>
<td>.37</td>
</tr>
<tr>
<td>FOS-C (Family of Origin scale, created family) range: 15-75</td>
<td>33.81</td>
<td>10.17</td>
<td>15-63</td>
<td>81</td>
<td>.07</td>
</tr>
<tr>
<td>GAS (Gambling Attitudes) General - range: 9-54</td>
<td>21.91</td>
<td>9.41</td>
<td>9-43</td>
<td>74</td>
<td>.49</td>
</tr>
<tr>
<td>GAS Casino - range: 9-54</td>
<td>26.61</td>
<td>9.57</td>
<td>9-53</td>
<td>71</td>
<td>.83</td>
</tr>
<tr>
<td>GAS Horse Racing - range: 9-54</td>
<td>17.99</td>
<td>7.83</td>
<td>9-46</td>
<td>77</td>
<td>.00</td>
</tr>
<tr>
<td>GAS Lottery - range: 9-54</td>
<td>30.81</td>
<td>8.16</td>
<td>9-51</td>
<td>79</td>
<td>.17</td>
</tr>
</tbody>
</table>

*Note. SD = standard deviation, N = number of participants. The range listed beside the scale indicates the total possible range of the scale, and “Range” indicates the range found in this sample.*

Table 2 shows the PGSI broken down by risk category. Seventy participants completed the scale, and two thirds were at no risk for problem gambling. Thirty did not complete the PGSI
scale, 11 of whom indicated elsewhere that they do not gamble at all. The estimated prevalence of problem gambling in this sample, which includes all participants who completed the CPGI as well as those who indicated that they do not gamble, is 6.2%. This prevalence may appear high for a general population sample in Ontario, as three recent large-sample surveys (1500-5000 participants) have found prevalence rates between 0.1-1.0%, all using the CPGI (Norris & Tindale, 2006; Wiebe, Single, & Falkowski-Ham, 2001; Wiebe, Single, Falkowski-Ham, & Mun, 2004). However, this is close to the estimate of problem gambling prevalence in the smaller Erickson and colleagues’ (2005) study of 343 seniors, which also found a prevalence of about 6%. In addition, four studies of Aboriginal communities in Ontario, with 150-200 participants each, have found higher rates of problem gambling using the CPGI, from 1-12% (Wynne & McCready, 2005). Thus, 6.2% is well within the range found in other small, nonrandom studies of seniors and Aboriginal people.

Table 2

*PGSI by Categories*

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Risk gamblers (0)²</td>
<td>46</td>
<td>65.7</td>
</tr>
<tr>
<td>Some Risk (1-2)</td>
<td>13</td>
<td>18.6</td>
</tr>
<tr>
<td>Moderate Risk (3-7)</td>
<td>6</td>
<td>8.6</td>
</tr>
<tr>
<td>Problem Gambler (8+)</td>
<td>5</td>
<td>7.1</td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note.* PGSI = Problem Gambling Severity Index.
²Scores fall into categories as outlined by Ferris and Wynne (2001).

The Windsor Screen, which was developed to identify risk for gambling problems in older adults, showed similar results as the PGSI (see Table 3). Of those who completed the scale, the Windsor Screen identified 64.7% at no risk and 35.3% at risk. The PGSI identified that 65.7% of those who completed the scale were at no risk of gambling problems and 34.3% were at
risk to some degree. Pearson’s R shows that they are moderately correlated, $r = .44$, $p < .001$. This correlation is lower than expected, as Frisch and colleagues’ (2003) study found a correlation of $r = 0.89$. Table 3 shows the cross tabulation of these scales, and demonstrates that even though they were very similar in the number of people determined to be at risk or not, the actual cases they identified as at risk were different for 21% of the participants who completed both scales. The reason for this difference is unknown. The PGSI was favoured for measuring problem gambling risk in this study because of its larger range, the ability to separate participants into four levels of risk, and the more common use of this scale in the studies reviewed in the literature.

Table 3

*Cross tabulation PGSI and Windsor Screen*

<table>
<thead>
<tr>
<th>PGSI Risk Categories</th>
<th>Windsor Screen Risk Categories</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No risk (0-2)*</td>
<td></td>
</tr>
<tr>
<td>No Risk (0)b</td>
<td>37</td>
<td>8</td>
</tr>
<tr>
<td>At Risk (1+)</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>43</td>
<td>23</td>
</tr>
</tbody>
</table>

*Scores fall into categories as outlined by Frisch et al., 2003).*

*Scores fall into categories as outlined by Ferris and Wynne (2001).*

Religious affiliation was measured using a free-response answer format in which participants reported the religion their parents taught them. Unfortunately, no questions about current religious beliefs were asked, so this question is at best an estimate of religious affiliation. The religious profile of this sample is mainly Catholic, Protestant, and traditional Métis (see Table 4). This study is the first to give an estimate of the religious beliefs with which Métis baby boomers were raised.
Table 4

Religious Affiliation Profile

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic only</td>
<td>53</td>
</tr>
<tr>
<td>Protestant/Other Christian/Mixed Christian</td>
<td>19</td>
</tr>
<tr>
<td>No affiliation</td>
<td>9</td>
</tr>
<tr>
<td>Métis spirituality only</td>
<td>6</td>
</tr>
<tr>
<td>Métis and Christian</td>
<td>6</td>
</tr>
<tr>
<td>Refused/missing</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

The questions related to religious affiliation were designed to compare those who claim a religious affiliation with those with no affiliation. However, there were not enough participants who claimed no religious affiliation to make a comparison ($N = 9$). Instead, those raised Catholic were compared with non-Catholics. There is some evidence that Catholics gamble more frequently than non-Catholics (e.g., Welte et al., 2004), and these results show that the majority of Métis in this sample are Catholic, so it was a logical adaptation.

Finally, Table 5 shows the religious concordance profile of the sample. Approximately 14% of those who responded did not share their religious affiliation with any of their parents or children. Twenty-eight percent shared their religious affiliation with either a parent or child. The majority of participants (58%) shared their religious affiliation with at least one person from both generations.

Table 5

Religious Concordance$^a$

<table>
<thead>
<tr>
<th>Concordance</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No concordance</td>
<td>11</td>
<td>13.6</td>
</tr>
<tr>
<td>Two generations</td>
<td>23</td>
<td>28.4</td>
</tr>
<tr>
<td>Three generations</td>
<td>47</td>
<td>58.0</td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>100</td>
</tr>
</tbody>
</table>

$^a$The number of generations that share the same religious belief.
1. Factors Related to Problem Gambling Risk

The following hypotheses were made regarding the relationship between gambling risk and the chosen risk and protective factors:

1a. Religious affiliation is associated with low scores of problem gambling risk.
1b. Healthy family functioning is associated with low scores of problem gambling risk.
1c. Male gender is associated with increased problem gambling risk.
1d. Alcohol misuse is associated with increased problem gambling risk.
1e. Increased age is associated with problem gambling risk, although the direction is as yet unknown.

To test these hypotheses, a multiple regression test was planned. Multiple regression tests examine the relative importance of somewhat-related constructs in predicting an outcome (Field, 2009). It is important to note that this model predicts participants’ scores on the scale of gambling risk, not future gambling risk, as the data are cross-sectional. Generally, every variable that is known to be important is entered into the model. In this case, the variables were age, gender, alcohol misuse (CAGE), religious affiliation, and healthy family functioning (FOS-O and FOS-C). The outcome variable being predicted by the model was problem gambling risk (PGSI).

First, analyses of the assumptions of regression were performed. Next, correlations among the variables were conducted. Following the correlations, a simultaneous multiple regression test was performed, which enters all of the variables at once. Simultaneous regression was chosen as it is most likely to be replicable (Field, 2009).

This dataset violated most of the assumptions of regression to some degree (see Appendix B for more details). Normality of distribution of the PGSI and CAGE was violated as they were highly positively skewed. The assumption of homoscedasticity of error was also violated. However, the correlation in Table 6 showed that multicollinearity was not an issue, although at
times the correlations were too low. For example, the CAGE and the PGSI only had a .05 correlation. In addition, due to a lower than expected response rate, the actual power of the test was .68, which also reduced the ability of the test to detect differences. Thus, the results do not represent the full sample (47 out of 100 potential participants filled out all of the scales), and they are less likely to be accurate (Field, 2009).

Table 6

*Scale Intercorrelations*

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>FOS-O</th>
<th>FOS-C</th>
<th>CAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOS-O</td>
<td>.08</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOS-C</td>
<td>.42**</td>
<td>.35**</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>CAGE</td>
<td>-.19</td>
<td>.02</td>
<td>.08</td>
<td>-</td>
</tr>
<tr>
<td>PGSI</td>
<td>-.10</td>
<td>.21</td>
<td>.15</td>
<td>.05</td>
</tr>
</tbody>
</table>

**p < .01

With this in mind, a simultaneous regression was performed. The overall effect size (R squared) was .20, and the adjusted R squared was .08, meaning that 20% of the variance in gambling risk was accounted for by the predictor variables in this sample, but the percent of the variance accounted for in the population may be as low as eight percent (Field, 2009). The overall ANOVA was not significant, $F(6, 40) = 1.68, p = .15$. This result suggests that there were no significant predictors in the model. Indeed, the model coefficients showed that none of the predictors was significant at $p < .05$.

However, this result should not be interpreted to mean that these variables are definitively not related to problem gambling risk, because as much as 8% of the variance in problem gambling risk could be explained by the predictor variables. Rather, the test did not have enough power to detect differences (if they do exist). Thus, further testing is warranted.

Specification errors could have influenced the power of the test. The regression did not include important variables that have been found to be influential in other studies, such as
substance misuse, cigarette smoking, and frequency of religious service attendance (Hong et al., 2009; Johansson et al., 2009; Welte et al., 2006). In addition, this regression may have included variables that are not related to problem gambling risk at all, i.e., childhood religious affiliation (see the Discussion for more on this topic).

Due to lack of confidence in the regression model, each of the hypotheses was examined individually. This approach resulted in an increased N for all of the tests, which increased the power of the individual tests. In addition, questions measuring other aspects of family solidarity were used, and gambling attitudes and gambling behaviour were also included when the literature indicated that a relationship may exist. The results of these tests are discussed in turn.

1a. Religious affiliation. This hypothesis was that participants with a religious affiliation would score lower on gambling risk than those without a religious affiliation. However, due to measurement issues discussed above, another test was run, comparing the gambling risk of those raised Catholic (N = 33) with non-Catholics (N = 37). Previous studies have found a link between Catholic religious affiliation and gambling frequency (Diaz, 2002; Welte et al., 2004). Therefore, it was expected that Catholic religious affiliation would be associated with higher scores of problem gambling risk than non-Catholics.

A chi-square test found no difference between Catholic (N = 36) and non-Catholic (N = 23) gamblers in gambling risk categories (No risk, low risk, moderate risk, problem gambling), $\chi^2(3, N = 59) = 1.77, p = .62$. When gambling risk was broken down into No risk (PGSI score of 0) and Any risk (PGSI score > 0), again, no significant results were found, $\chi^2(1, N = 59) = .61, p = .43$. Therefore, the null hypothesis was retained. Other studies found a relationship between religious affiliation and gambling frequency, not gambling risk, so perhaps an analysis of gambling behaviour would be more appropriate.
To further explore the data, gambling frequency was examined, again comparing Catholics and non-Catholics (N = 60-70). A more conservative $p$ value of .01 was chosen to reduce the chance of family-wise error in performing these post-hoc tests. When normality of the frequency items was examined, it was found that none of them were normally distributed (see Appendix B for more details). A one-way ANOVA was run with Catholic and religious non-Catholic gamblers compared on participants’ frequency of playing eight types of gambling games: bingo, raffle tickets, sports betting, lottery tickets, instant win scratch tickets, slot machines, casino games, and horse racing. Internet gambling was not included as the range was severely restricted. The ANOVA found no significant difference between Catholics and non-Catholics on how often they play any of these games, all $ps > .25$.

This study was only able to compare Catholics with non-Catholics, rather than comparing participants without a religious affiliation to those with one. The non-Catholic group included people with mixed upbringings that included some Catholic beliefs, as well as people who labeled themselves as Christian without mentioning a specific denomination. Thus, combining all non-Catholics together to compare against Catholics did not categorize participants in a theoretically optimal way to detect differences; rather, it was a practical consideration for statistical purposes. In addition, religious affiliation alone does not reflect differences among congregations and it does not control how often participants attend services or whether they follow tradition. Other issues, including the measurement of religious affiliation, are included in the discussion section.

1b. Healthy family functioning. The hypothesis was that healthy family functioning is associated with low scores of problem gambling risk. It was intended that this hypothesis should be examined using correlation and ANOVA. However, the correlation was not significant, and so the ANOVA was not performed. Following this test, a different ANOVA was performed to
test the hypothesized relationship using measures of family solidarity instead of affection, so that all six aspects of family solidarity could be tested, and another post-hoc test explored healthy family functioning and gambling frequency.

First, correlations were used to test the hypothesis that healthy family functioning is associated with low scores of problem gambling risk. Correlations among the FOS-O, FOS-C, and the PGSI were performed. The FOS-O and the FOS-C were correlated, $r = .38, p < .01, N = 67$, indicating that they are measuring similar but distinct constructs. This correlation is slightly lower, but similar to Norris and Tindale’s (2006) findings with rural seniors in Ontario ($r = .47, p < .01$). The FOS-C was not correlated with gambling risk, $r = .14, p = .28, N = 54$, and the FOS-O was not correlated with gambling risk, $r = .19, p = .18, N = 58$. No relationship was found; thus, the null hypothesis was retained. This result is surprising. It appears that healthy family functioning is not as protective in this sample as it was for the rural sample used in Norris and Tindale’s (2006) study. This would make an interesting point of departure for future research. Is healthy family functioning less protective when gaming is part of the family’s culture? Is it reduced when the families are more stressed by social marginalization and lower incomes? No further tests of this relationship were run based on the non-significant results of the correlation.

There appears to be no relationship between problem gambling risk and healthy family functioning as measured by the FOS.

To expand on this investigation, measures of family solidarity were explored. Norris and Tindale (2006) developed individual items that were designed to measure different types of family solidarity based on Bengtson and Roberts’ (1991) conceptual framework, which includes association, affection, consensus, resource sharing, normative integration, and the opportunity structure for interaction. The hypothesis is that family solidarity is associated with low scores of gambling risk.
Eighteen chi-square tests were run with PGSI dichotomized into “No risk” and “Any risk” and each question’s full range (often with four levels). A few of the tests had significance levels at or lower than .10, and they came from two of the six types of solidarity. Two items from family affectual solidarity were significant, “How often do they criticize you?” $\chi^2(3, N = 67) = 6.05, p = .10$, and “How often do they make too many demands?” $\chi^2(3, N = 66) = 6.90, p = .07$. Those at risk of problem gambling were more likely to feel criticized and demanded upon. One item from normative integration was significant, “How much obligation do you feel to drop plans if a parent is in trouble?” $\chi^2(3, N = 59) = 6.88, p = .08$. Participants at risk of problem gambling felt less obligation to drop plans if a parent was in trouble. These were small differences, but the results do suggest that different aspects of family solidarity may be more salient for gambling risk, and should be explored further in a study with more power to detect differences.

The individual questions cannot take the place of a complete, validated measure in terms of knowing what construct is being measured and incorporating the qualitative questions in some way. This idea will be expanded on in the discussion. The conclusion here is that this limited evidence suggests that a relationship may not exist between healthy family functioning and gambling risk, but there may be a relationship between family solidarity and gambling risk in this sample.

Finally, a test explored the possible relationship between healthy family functioning and gambling frequency. It was expected that healthy family functioning would be related to lower gambling frequency. However, a correlation test found that none of the gambling frequency variables were correlated with healthy family functioning as measured by the FOS-O and the FOS-C (see Table 7).
Table 7

Correlations of Family of Origin scales and Gambling Frequency

<table>
<thead>
<tr>
<th>Family of Origin Scale form 1</th>
<th>Pearson Correlation</th>
<th>N</th>
<th>Family of Origin Scale form 2</th>
<th>Pearson Correlation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family of Origin Scale form 1</td>
<td>1</td>
<td>75</td>
<td></td>
<td>.39**</td>
<td>67</td>
</tr>
<tr>
<td>Family of Origin Scale form 2</td>
<td>.39**</td>
<td>67</td>
<td></td>
<td>1</td>
<td>80</td>
</tr>
<tr>
<td>Bingo</td>
<td>-.06</td>
<td>61</td>
<td></td>
<td>-.09</td>
<td>64</td>
</tr>
<tr>
<td>Raffle tickets</td>
<td>.05</td>
<td>61</td>
<td></td>
<td>-.05</td>
<td>63</td>
</tr>
<tr>
<td>Sports betting</td>
<td>-.02</td>
<td>60</td>
<td></td>
<td>.16</td>
<td>59</td>
</tr>
<tr>
<td>Lottery tickets</td>
<td>-.02</td>
<td>64</td>
<td></td>
<td>.01</td>
<td>66</td>
</tr>
<tr>
<td>Instant win scratch tickets</td>
<td>.15</td>
<td>64</td>
<td></td>
<td>.02</td>
<td>66</td>
</tr>
<tr>
<td>Slot machines</td>
<td>.15</td>
<td>65</td>
<td></td>
<td>.08</td>
<td>65</td>
</tr>
<tr>
<td>Casino games</td>
<td>-.15</td>
<td>57</td>
<td></td>
<td>-.02</td>
<td>60</td>
</tr>
<tr>
<td>Internet gambling</td>
<td>.07</td>
<td>56</td>
<td></td>
<td>-.01</td>
<td>59</td>
</tr>
<tr>
<td>Horse racing</td>
<td>.19</td>
<td>55</td>
<td></td>
<td>-.07</td>
<td>59</td>
</tr>
</tbody>
</table>

**p < .01

The results so far provide some limited evidence that, at least in this sample, healthy family functioning and solidarity are not related to problem gambling risk, and healthy family functioning is not related to gambling frequency.

1c. Gender. The hypothesis was that male gender is associated with increased problem gambling risk. Three chi square analyses examined this possible relationship. Finally, an ANOVA examined gender and gambling frequency.

A chi square analysis with gender and the four categories of gambling risk found a significant difference between gender and risk, $\chi^2(4, N = 81) = 12.27, p < .05$. The results show more women in the low risk and problem gambling category, and more men in the moderate risk category (see Table 8). Half of the cells had expected counts less than five, and two cells has less than the minimum expected count (2.14).
Table 8

Chi-square table comparing gender and PGSI risk categories

<table>
<thead>
<tr>
<th>PGSI Risk Categories</th>
<th>Gender</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Total</td>
</tr>
<tr>
<td>No risk Gambling</td>
<td>26</td>
<td>20</td>
<td>46</td>
</tr>
<tr>
<td>Low risk Gambling</td>
<td>10</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Moderate risk Gambling</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Problem Gambling</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>30</td>
<td>70</td>
</tr>
</tbody>
</table>

Due to the small cell counts, another chi-square test was performed in which the PGSI categories were collapsed into No risk and Any risk. There was no significant difference between genders, $\chi^2(1, N = 70) = .02, p = .88$. Another test was performed using the Windsor Screen, which categorizes people into No risk (score < 3) or At risk (score 3+). A chi-square analysis of the Windsor Screen was run against gender. It also found no significant difference between genders, $\chi^2(1, N = 67) = .25, p = .62$.

These results are not easy to interpret. There is a possibility that the first, significant, result was due to random variation in the sample, especially since four of the cells had counts less than five. It is interesting to note, however, that four of the five problem gamblers were women, not men. The second test with collapsed risk categories was not significant, and a third test using the Windsor Screen to measure gambling risk was also not significant. Together, these results suggest that there is no significant difference between genders in this sample, especially for those at low risk of gambling problems. There were not enough participants who scored high in gambling risk to conclusively determine gender differences at higher levels of risk.

Previous research has found a link between gender and gambling game preferences (Grant & Kim, 2002; Tepperman, 2009). Therefore, gambling frequency was explored using a one-way ANOVA, again with a more stringent significance level of $p < .01$. The assumptions of ANOVA
were not met (see Appendix B for more details). The ANOVA found that men’s and women’s playing frequency differed for playing bingo, \( F(1,72) = 7.71, p < .01 \). The effect size (\( \eta^2 \)) was .09, which is small. On average, men had never played, and women had played a few times in their lives. There were no gender differences for any of the other games.

1d. Alcohol misuse. The hypothesis was that alcohol misuse is associated with increased problem gambling risk. To test this hypothesis, a chi square test was run using the five-point CAGE and the four-point PGSI categories. However, the cell counts were so low as to render the test meaningless. Next, the CAGE was run in another chi-square test using collapsed categories (No risk of drinking problem vs. Any risk of drinking problem) against problem gambling risk with collapsed categories (No risk vs. Any risk). The results were not significant, \( \chi^2(1, N = 64) = .19, p = .66 \), and therefore the null hypothesis was retained.

Table 9

<table>
<thead>
<tr>
<th>CAGE (score)</th>
<th>PGSI (score)</th>
<th>No Risk (0)</th>
<th>Any Risk (1-27)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Risk (0)</td>
<td>29</td>
<td>14</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Any Risk (1-4)</td>
<td>13</td>
<td>8</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>22</td>
<td>64</td>
<td></td>
</tr>
</tbody>
</table>

The finding that risk of alcohol misuse was not related to gambling risk was theoretically surprising. A strong case was made for a relationship between alcohol misuse and problem gambling through multiple pathways based on the previous literature and the seniors’ pathways model. In this study both the PGSI and the CAGE had very positively skewed distributions, which means that few participants were at high levels of risk for either the PGSI or the CAGE. Collapsing risk categories means that differences between participants at low risk to high risk
cannot be found. Therefore, it can only be concluded that there are no differences between no-risk participants and participants at any risk of gambling or alcohol problems. No conclusions can be made about differences in alcohol misuse among at-risk participants. Future research with a greater number of at-risk participants would improve the power of the test.

Previous research has found links between alcohol misuse and problem gambling, not between alcohol misuse and gambling frequency (Slutske et al., 2000; Welte et al., 2006). In addition, the relationship between gambling attitudes and alcohol misuse has not yet been explored. Therefore, no tests of alcohol misuse and gambling frequency or attitudes were conducted.

1e. Age. The hypothesis was that increased age is associated with problem gambling risk, although the direction is as yet unknown. To test this relationship, a correlation of age and PGSI score was run. No relationship between age and gambling risk was found, \( r = .00, p = .98 \) (\( N = 69 \)). It may be that the difference in age is more apparent among larger age ranges. This study had an age range of 46-88, so perhaps this finding should not be a surprise. The lack of high PGSI scores also reduces the ability to detect differences in risk at different age levels.

Theoretically, age could contribute to increased or decreased problem gambling, depending on the meaning of aging, relative health, and sociability of the individual. Therefore, a null relationship between age and gambling risk could potentially represent the interaction of multiple risks and protective factors with a similar magnitude of effects.

2. Intergenerational Transmission of Religious Affiliation

The hypothesis was that the intergenerational transmission of religious affiliation is related to higher healthy family functioning. In order to test this hypothesis, a repeated-measures ANOVA (RMANOVA) was conducted. The between-subjects independent variable was intergenerational religious affiliation concordance, and the within-subjects dependent variables
were the FOS-O and FOS-C. The RMANOVA is useful for this data because the FOS-O and FOS-C share some variance— the scales measure feelings of warmth of the same person towards different members of their family. Thus, error variability is reduced compared to between-groups subjects designs, which leads to increased statistical power and reduced likelihood of Type II error (Field, 2009). Participants were divided into three categories: no concordance (N = 8), in which participants did not share a religious affiliation with either of their parents or any of their children; two generations (N = 17), in which participants share religious affiliation with at least one parent or child; and three generations (N = 32), in which participants share religious affiliation with at least one person from each generation, parents and children. First the assumptions of RMANOVA will be assessed. The outcome of the test will then be reported.

The assumptions of normality, homogeneity of variance, and homogeneity of error variance were all generally met (see Appendix B for more details). The multivariate test of RMANOVA, Wilks’ Lambda, found a significant overall effect of healthy family functioning, Wilks’ $\lambda = .75$, $F(1,53) = 17.40$, $p < .001$, partial $\eta^2 = .25$, power = .98, but no interaction of healthy family functioning by religious concordance, Wilks’ $\lambda = .99$, $F(2,53) = .34$, $p = .71$, partial $\eta^2 = .01$, power = .10. Thus, 25% of the variance in healthy family functioning can be accounted for by shared family factors, but none of it is accounted for by religious concordance. Tests of within-subjects effects found an effect of healthy family functioning, $F(1,53) = 17.40$, $p < .001$, partial $\eta^2 = .25$, power = .98, but again, no effect of healthy family functioning by religious concordance, $F(2,53) = .34$, $p = .71$, partial $\eta^2 = .01$, power = .10. There was no main effect of religious concordance, $F(2,53) = .58$, $p = .56$, partial $\eta^2 = .02$, power = .14, therefore, pairwise comparisons will not be discussed.

In sum, the null hypothesis was retained. It appears that religious concordance is not related to healthy family functioning in this sample. However, three issues must be addressed:
the difference in number of participants among the religious concordance groups, the lack of random assignment, and the measurement of religious concordance. First, the religious concordance groups varied in size between N = 8 and N = 32. This difference influenced the error variance, as shown by the significant Levene’s test for the FOS-C. This variance reduced the ability of the test to detect differences. Second, religious concordance cannot ethically or reasonably be randomly assigned; therefore, the influence of other factors (error) will always be included and reduce the effect size in tests that include religious variables. Third, the measurement of religious concordance was based on the religious affiliation question, which is limited as it measures childhood religious affiliation. In addition, is not known whether all members of a generation shared the same religious affiliation or whether just one member shared religious affiliation with another member (see Appendix A). The way that concordance was measured did not take into account that multiple family members (such as parents) may not share the same religious affiliation in the same generation. It was left to participants to decide how to answer the question. The error in measurement could have influenced the test, ending in a null result. In addition, shared religion may not be as important as shared spirituality or shared family values in a Métis context. This point is of theoretical importance as the meaning of religion would not be as important to the family, which would reduce its strength as a protective factor.
3. Qualitative Research Question

Do people perceive a relationship between their religious beliefs and their gambling behaviour? And if so, what are some of the characteristics of this relationship? The number of respondents was lower than expected, and the amount of information in the responses was also very limited. The question asked: “If you are religious/spiritual, have your beliefs affected your gambling activities now or in the past?” Three lines were given to participants to suggest the length of the answer expected by the author (see Appendix A). Seventy-nine responses resulted, the majority of which consisted of a single word. Thematic analysis was the method used to analyze this data. It was chosen for its flexibility as a method and its fit with a post-positivist
framework (Braun & Clarke, 2006). The author read through all the answers and then sorted them by whether they were generally affirmative or negative. Sixty-five percent of participants believed that there is no relationship between their religious beliefs and their gambling behaviour. This finding was surprising, considering 84% of participants grew up with a religious affiliation.

Next, the contents of answers beyond “yes” or “no” were analyzed and sorted into the smallest number of common themes the author perceived to be appropriate. Finally, the reliability of the placement of answers into themes was tested by giving these 13 responses and the themes to a colleague to sort. The percentage agreement between the two categorizations was 85% (11 responses), showing good inter-rater reliability. The only theme that emerged for those who answered “no” was Gambling not relevant. For those who answered “yes”, the themes that emerged were Affected behaviour, Affected attitudes/beliefs about gambling, Prayer, and Relationship on structural level.

Unfortunately, only three participants who answered “no” went on to describe why that might be. However, all three answers fit into a theme of “Gambling is not relevant in my life”.

- Gambling not relevant (N = 3)
  - “no because. I do not gamble.”
  - “NO I went to a casino only once in life”
  - “No - gambling doesn't interest me unless the family gets together to play cards and bet (once every 1-3 years)”

Therefore, those who explained why their religious beliefs do not influence their gambling behaviour believe that it is so because gambling is a very small aspect of their lives. A chi square test found a significant difference in participants’ perception of whether their beliefs affect their gambling among the four PGSI risk categories, $\chi^2(3, N = 53) = 7.96, p < .05$. Visual examination suggested that this difference may be between lower-risk and higher-risk
participants. A chi square test comparing no-risk with any-risk participants found no differences, $\chi^2(1, N = 53) = 1.41, p = .23$. However, another chi square test, comparing no-risk and low-risk with moderate- and high-risk participants, was significant, $\chi^2(1, N = 53) = 7.72, p < .01$, suggesting that participants who scored 0 or 1 on the PGSI were more likely to answer “no”.

Perhaps because they are at little to no risk of gambling problems, they do not perceive any potential harm from their behaviour, so it is not relevant to their religious beliefs. Conversely, it is interesting to note that those at a higher gambling risk were more likely to say that their religious beliefs do affect their behaviour. This result could point towards effective and ineffective religious coping strategies. This idea will be brought up again in the discussion.

Of those who do believe that their religious beliefs affect (or have affected) their gambling activities, only 10 participants answered beyond one word. Again, the responses were categorized into the smallest number of common themes the author deemed possible. This analysis indicates five categories that exposed some of the perceptions people have concerning their gambling and beliefs.

• Relationship on structural level (N = 1)
  – “Catholic Church invented Bingo”

• Prayer (N = 1)
  – “help me; guide me to do well”

• Affected attitudes/beliefs about gambling (N = 4)
  – “Yes - I don't like it”
  – “Yes I believe in hard work, money is not wasted is my belief.”
  – “Yes. Gambling is not a way to make money, it is an addictive behaviour like any other addiction.”
  – “yes, outlook”
Affected behaviour (N = 4)

- “somewhat - don’t play bingo (think of story where Jesus gambled in a temple)”
- “yes, stop gambling”
- “Yes - Never started”
- “Definitely. We can see the negative impact it can have on families and do not want any involvement with gambling”

The two first categories only had one answer in them, but they are interesting nonetheless. The first category included a response that expanded the perceived relationship beyond the individual level to the structural level. It is interesting to note that there is no value judgment about whether bingo is good or bad, or whether the Catholic Church was good or bad for inventing it. The second category includes the only response that expressed the idea that one’s religious beliefs could help one win at gambling. This was also the only response that expressed a positive view of gambling.

The next two categories, with four responses each, describe the perceived relationships between religion and gambling in terms of attitudes and behaviour. Of these responses, one was value-neutral (“yes, outlook”) and the other seven expressed negative values regarding gambling—one should not gamble, it causes negative outcomes, it wastes money, and it is addictive. A tentative conclusion is that religion generally restricts gambling behaviour and encourages negative attitudes towards gambling.

Clearly this question did not reach theoretical saturation, but it has given insight into some of the reasons why some of these participants do not gamble, and how people’s religious beliefs can affect their gambling attitudes and behaviour.
Discussion

While some specific issues have been covered in the results section, general issues and patterns will be discussed in more detail here. This discussion will review the results of the study, followed by some of the limitations of this study, the importance of this study, and future directions for research.

Study Results

The first hypothesis revolved around risk and protective factors for problem gambling. It was hypothesized that healthy family functioning would be associated with low problem gambling risk, while Catholic religious affiliation, male gender and alcohol misuse would be associated with higher gambling risk. Age was thought to be related, but a direction was not hypothesized. The results were overwhelmingly inconclusive. For almost every hypothesis, whether a priori or post hoc, the null was retained. However, that is not to say that the results were not interesting. First, it was found that Catholics and non-Catholics did not differ in gambling risk. This should not have been surprising, as the literature had suggested differences in gambling frequency rather than gambling risk (e.g., Diaz, 2002). However, Catholic religious affiliation did not predict gambling frequency either. Taking into account the fact that Métis Catholicism may differ from, say, the Catholicism of Las Vegas residents, the differences among religious affiliations may not be enough to overwhelm other cultural, complex beliefs and spiritual practices that may also influence gambling behaviour. In their seniors’ pathways model, Tirachaimongkol and colleagues stress the importance of the meaning that various social and environmental factors have in the lives of individuals, and this difference may be showing up here. In this study, religious affiliation and healthy family functioning were measured without establishing the context of what these factors might mean in the lives of participants. Thus, as found in the qualitative research question, one religious person may think, “Stop gambling,”
while another may be a member of the same religion and pray, “Help me win.” The context and meaning of religion may be even more important than the religious affiliation itself.

The findings related to healthy family functioning and gambling risk were similarly surprising. Healthy family functioning was unrelated to gambling risk. A few items of family solidarity, especially affectual solidarity, were not related to gambling risk but were close to significance. Again, the seniors’ pathways model indicates that family can contribute risk or resilience. Resource sharing can be useful for developing and maintaining close relationships, but could also be detrimental for the family of a problem gambler. A warm, close family can be important to protect against gambling risk, but being warm and close alone may not be enough. Helpful coping skills, found to be a mediating factor between family cohesion and gambling risk in another study, may be a more important predictor (Van Hamel et al., 2007). Perhaps healthy family functioning is not as useful for gambling research as other family-related constructs, such as family cohesion or, potentially, family solidarity.

Gambling risk was found to be equally shared by the two genders included in this study. Previous research shows that men have a higher gambling risk than women at younger ages, but men and women’s gambling risk tends to even out as they age (Bonke & Borregaard, 2009; Norris & Tindale, 2006; Erickson et al., 2005). These previous studies generally used age 60 as the lower age boundary. This study helps to lower this age boundary, as it shows that men and women have equal gambling risk even at a baby boomer age.

The seniors’ pathways model suggests a strong link between alcohol misuse and gambling risk. However, this study did not find any relationship. The result cannot be explained away entirely by low numbers of high-risk participants. It is certainly puzzling, and should be included in future studies with the Métis. When other studies have found a strong link between alcohol misuse and problem gambling, what might be happening in this sample to keep problem
gamblers from having a problem with alcohol misuse, and/or keep those who misuse alcohol from developing gambling problems? Might the people they gamble with play a role?

The intergenerational transmission of religious affiliation was found to be unrelated to healthy family functioning. The previous studies that found a relationship measured family-related factors in different ways. One measured warmth (Okagaki and Bevis, 1999) and the other measured family oriented attitude and collectivist values (Merz et al., 2009). In this study, healthy family functioning was measured. Perhaps the affective dimension of healthy family functioning is more salient in this context than the association dimension (as outlined by Gavin and Wamboldt, 1992). Other limitations already mentioned could also have contributed to the lack of relationship.

The research question asked about participants’ perceptions of a potential relationship between religious beliefs and gambling behaviour. While the amount of information was limited, the suggestions that participants contributed were interesting and could inspire new research. For instance, it was expected that participants would credit their religious beliefs for influencing their gambling behaviour, either positively or negatively. Indeed, a number of people mentioned religion’s influence in encouraging or discouraging gambling behaviour. However, those who believed that there was no relationship between their beliefs and their gambling cited their own disinterest in gambling or their infrequent gambling as the reason their beliefs did not affect their gambling activities. This could suggest that gambling as an issue has to be relevant to people first before they consider a stance based on their religious beliefs or values. This could be an interesting line of thought to consider in future research.

Limitations

Every study has a number of limitations that need to be discussed. In this study, they included limitations related to the design of the study as well as unforeseen issues that developed
after data were collected. These limitations include cross-sectional data, a low response rate, non-normal distribution of the variables, and the measurement of religious affiliation. In addition, the measurement of the individual family solidarity questions will be discussed.

**Cross-sectional data.** The data were gathered at one point in time as part of a cross-sectional study. Therefore, this study does not have the ability to discuss the temporal direction of the relationships that were tested. The attention of the thesis was on the existence of certain relationships, not which ones cause the others. Directionality will be important to address in future research.

**Low response rate.** Power tests indicated that a sample size of 100 would be sufficient to run the proposed tests. However, despite achieving the goal of 100 participants, at times only a minority of these 100 could be used to run tests because many participants did not complete the full questionnaire, sometimes skipping questions, and sometimes only filling out the beginning of the questionnaire. Only 47 could be used to run the regression. The lack of responses severely limited the power to run tests.

**Non-normal distribution of data.** Few of the variables could be considered normally distributed, which violated one assumption of the tests that were run. ANOVA is generally robust to violations of normality (Field, 2009). However, some potential solutions to this issue do exist that were not used in this study. One solution is to apply a transformation to force the data to be normally distributed. This option was not used because transforming data changes the constructs being researched, which affects the interpretation of the data. The consequences of applying a transformation that is wrong for the dataset could be worse than the consequences of using untransformed variables (Field, 2009). Another suggestion that Field recommended was the use of more robust tests that do not require score transformation. These could be explored in
future research, especially in research that uses the PGSI in the general population, and research that uses relatively small sample sizes.

**Measurement of religious affiliation.** The religious affiliation questions were developed by the author with input from MNO partners. Unfortunately, the way the questions were written caused the loss of information about current religious affiliation. Childhood religious affiliation was asked first, followed by “Do you follow this today?” About a third of people raised Catholic (37.7%) and Protestant (31.6%) no longer practice the religion their parents taught them. Due to existing concerns about the loss of power in tests, the counts were maximized by changing the variable from “current religious affiliation” to “childhood religious affiliation”; that is, the religious affiliation that participants learned as children. This change was on the construct level, so the previous research that guided tests regarding the importance of religious affiliation did not apply anymore, and it is probable that childhood religious affiliation is weakly or not related to problem gambling risk or healthy family functioning, whereas current religious affiliation might be related. As an aside, it is interesting to note that all of the people who were taught Métis spirituality as children still follow those beliefs.

Finally, even if religious affiliation had been measured properly, it is still not the best measure of religiosity. Other studies have found stronger, more replicable results by measuring frequency of religious attendance, or using a religiosity scale (Diaz, 2002; Hoffman, 2000; Hong et al., 2009; Lam, 2006).

If I could redo this project, I would separate the family religion questions from the participant religion questions. Instead, the questionnaire would ask “Do you share the same religion with both of your parents?”, “Do you share the same religion with all of your children?”, and then, “what religion do you currently follow?” I would also ask two seven-point Likert-style questions asking “How religious are you?” and “How spiritual are you?” These questions would
be more reflective of modern sensibilities and research about the importance, and separateness, of religion and spirituality, as well as the spiritual sensibilities of Métis culture.

**The 18 individual family solidarity questions.** Whereas these questions are based in sound theory related to family solidarity that goes beyond the single construct of affection, they do not have the same rigour as a complete and validated scale. Thus, the lack of results using these questions could be due either to a lack of relationship, the fact that the questions were not added together to make subscales, or the lack of incorporation of the qualitative aspects of the subscales. It is interesting to observe the intercorrelations of the items, as they form a promising basis for measurement development (see Appendix D). If these items are to be used in future studies, it would be prudent to incorporate the qualitative questions and validate them as a scale with valid and reliable subscales. The theoretical underpinnings certainly make a case for a new measurement of family solidarity, especially because most other measures simply use cohesion, closeness, and/or warmth as proxies for solidarity (Dickson et al., 2008; Van Hamel et al., 2007; Resnick et al., 1997). No doubt an integrated, theory-based measure of family solidarity would be useful for researchers interested in measuring family solidarity.

**Future Directions for Research**

This section includes suggestions researchers interested in collaborating with Métis participants, and those interested in furthering the results from this study.

First, the non-normal distribution of the PGSI is not an accident. Whenever people from the general population are sampled, the distribution of the PGSI will necessarily be positively skewed, simply because there are relatively few problem gamblers. Some suggestions for solving this problem statistically have already been made: transformations and the use of more robust tests. The use of a log transformation for the PGSI in particular is highly suggested for the future. Another suggestion at the recruitment level is to oversample people who are probable
problem gamblers. These suggestions need to be considered whenever non-problem gamblers are to be compared with problem gamblers. In addition, there is a missed opportunity for gambling researchers who study the general population to ask those who do not gamble: “Why not?” Focusing on gambling risk without taking advantage of the opportunity to ask resilience questions of those who do not gamble leaves a gap in the research. Finding out why non-gamblers or non-risk gamblers act the way they do could open up new avenues for research in protective factors.

The second suggestion is for researchers who intend to work with Métis participants. In this study, many participants did not express themselves much beyond one or two words for qualitative answers. It was explained by the MNO partner that many Métis people have limited writing skills. In addition, 25% of participants did not speak English as their primary language. Thus, future researchers should keep in mind that a verbal interview with a bilingual (English-French) interviewer would likely elicit more in-depth answers than a written survey.

A common theme that emerged was that various social factors can act both as risk and protective factors for problem gambling. Families are sometimes protective, as found in Norris and Tindale’s (2006) study, and sometimes not, as found in this study. The author suspects that, as found in one study of teens, coping strategies may be a mediator between these social factors such as healthy family functioning and problem gambling risk (Van Hamel et al., 2007). The risk factor that stood out as particularly counterintuitive was religion/spirituality. As shown in Appendix C, the literature shows that spirituality can act as a risk factor. Future research could move forward by delineating which religious and spiritual coping strategies are helpful and which are hurtful. Among other activities, Aboriginal people use prayer, sweat lodges, and meditation as ways of coping with stress (Iwasaki et al., 2005). Learning how Métis people define religion and spirituality, and how they use them (effectively and not), will not only help researchers
understand the relationship between religion/spirituality and gambling more deeply, but will also help people cope more effectively and prevent gambling problems.

As mentioned above, this study has shown that it is not only seniors who have evened out the gender difference in gambling risk: baby boomers show this as well. Future research could push to find the boundary of this age difference by examining adults in their 40s.

Finally, family solidarity and religious beliefs are promising candidates as protective factors against problem gambling risk, and researchers should continue to pursue factors that contribute to mental healthiness. Investigating factors that help to prevent gambling problems as well as those that contribute to them will help individuals and families make better choices and become more resilient.

**Importance of the Research**

The main reason why this study is important is that it contributes to knowledge about the Métis. The rate of problem gamblers in this study was 5% of the sample and 6.2% of those who filled out the CPGI. As noted already, this is a higher rate than is generally found in population-based studies, although within the range found in studies with smaller samples. While such a small sample can say very little about the distribution of problem gamblers in the general population, this result does suggest that problem gambling is a significant issue for the Métis, and further research is warranted. In addition, no previous research has examined the religious affiliation of Métis people, and these results shed light on the religions that Métis baby boomers were taught when they were young. Again, no generalizations should be made to the entire population of Métis Ontarians, but some assumptions can be made about the most common religious beliefs.

This research has also highlighted Bengtson and Roberts’ (1991) model of family solidarity and attempted to use it in a problem gambling context. Hopefully, future research will
also find this model useful for family-related issues. Finally, this thesis has furthered the research of protective factors against the development of problem gambling, which is an understudied and undertheorized aspect of problem gambling research. This research has shown that factors such as religion and healthy family functioning/solidarity are complex and could potentially contribute to gambling risk or resilience depending on the meaning that they carry. This thesis has raised many valuable questions that show that the field of problem gambling is open to many possibilities for future research.
References


Appendix A

Intergenerational religious belief questions.

6. a) What, if any, spiritual or religious belief(s) did your parents teach you? For example, Catholic and/or traditional Métis beliefs.
____________________________________________________________
____________________________________________________________
____________________________________________________________

b) Do you follow those belief(s) today?

☐ Yes
☐ No

c). If you are a parent, what beliefs did you pass along to your children?

☐ The same beliefs as your parents
☐ Different beliefs from your parents
☐ No religious or spiritual beliefs

d) Do your children follow the beliefs you taught them?

☐ Yes
☐ No

7) If you are religious/spiritual, have your beliefs affected your gambling activities now or in the past?

____________________________________________________________
____________________________________________________________
____________________________________________________________
Appendix B

Statistical notes

**Relationship between the Family of Origin Scale and the family solidarity questions.**

Gavin and Wamboldt (1992) found that the FOS was related to four constructs related to Bengtson and Roberts’ family solidarity model: association with mother \( (r = .45, p < .001) \), association with father \( (r = .52, p < .001) \), affection toward mother \( (r = .61, p < .001) \), and affection toward father \( (r = .62, p < .001) \). In this study, association, as measured by a single Likert-style item asking how often the participant was in contact with family in any way (K1; see Appendix G), was negatively related with the FOS-O \( (r = -.25, p < .05) \) and unrelated to the FOS-C \( (r = -.20, p = .08) \). This means that, for the family participants grew up with, the less they were in contact, the better functioning they were perceived to be. This could be related to a higher rate of death in the family of origin of participants in this sample, or it may reflect a rosy view of the past that cannot be interrupted due to a lack of current contact for whatever reason. Affection was measured by summing the six Likert-style questions included in the survey designed to measure it (I3-I8; see Appendix G). The FOS-O was not related to affection, \( (r = -.12, p = .32) \), and the FOS-C was negatively related to affection, \( (r = -.31, p < .01) \). The interpretation is that the more affection participants perceived to feel from their family generally, the lower they rated their current family functioning (and vice versa). This result is certainly puzzling. Taken together, these results show that these scales are moderately correlated in a young, highly educated, majority Caucasian sample, but they are not in this sample of baby boomer-age, less educated, Métis sample. At the very least, these results show that these scales seem to be measuring something very different according to this sample. Thus, they were not considered to be measuring the same, or even a very similar, construct.
Normality of the Scales

To determine normality of the scales, the Shapiro-Wilk (S-W) test and visual inspection of the distributions were used. The S-W test was used because it has more power than the Kolmogorov-Smirnov test to detect differences from normality (Field, 2009). As shown in Table 1, the PGSI, the CAGE, and the GAS – Horse Racing were all found to have non-normal distributions. Visual inspection determined that the distributions of the PGSI and the CAGE were extremely positively skewed. The GAS – Horse Racing was also positively skewed, showing that the majority of participants held negative attitudes towards horse racing.

1. Factors related to Problem Gambling Risk

The null hypothesis is that none of the predictor variables listed below is related to problem gambling risk. The alternate hypotheses were:

1a. Religious affiliation is associated with low scores of problem gambling risk.
1b. Healthy family functioning is associated with low scores of problem gambling risk.
1c. Male gender is associated with increased problem gambling risk.
1d. Alcohol misuse is associated with increased problem gambling risk.
1e. Increased age is associated with problem gambling risk, although the direction is as yet unknown.

Field (2009) suggests .80 as an appropriate level of power. With six predictor variables, a conservative estimated $R^2$ of .10, and a sample size of 100, the estimated power of this test is .82 (Buchner et al., 1997). However, the obtained sample size, based on how many participants completed all six variables, is only 47. Therefore, the actual power of the test is .68, much lower than intended.

The analysis of normality of the variables examines the distribution of the outcome variables for each level of the predictor variable. The distributions of continuous variables were
analyzed for each category of the PGSI. For categorical variables, the distribution of the PGSI at each level of the variable was analyzed. This analysis included a visual examination of histograms and checking the ratio of the skewness and kurtosis statistics against their standard errors. If the statistic was greater than twice the standard error, the scale was considered skewed or kurtotic (Field, 2009). The FOS-O and FOS-C were normally distributed. Age was slightly positively skewed. Each gender was highly positively skewed and kurtotic, which was expected based on the overall distribution of the PGSI. The CAGE was also highly skewed and kurtotic, and featured very few participants at the upper end of the scale. This sample has very few heavy drinkers. In addition, asking questions about drinking frequency and quantity before the CAGE, which has been shown to artificially lower men’s scores on the CAGE, may have encouraged skewness (Etter, 2004). Religious affiliation was also highly positively skewed and kurtotic. These results show that most of the predictor variables were not normally distributed, which could indicate a violation of assumptions of regression.

Next, the residuals of each scale were examined visually using P-P plots. These plots showed that the errors for each of the predictor variables, with the exception of the FOS-O and the FOS-C, were heteroscedastic. The distribution of the errors did not appear as a random cluster; rather, they clustered in groups or in a triangular shape. These results indicate that the assumption of homoscedasticity of error has been violated.

A correlation test was also performed, which showed that multicollinearity is not present, which meets one of the assumptions of regression (Field, 2009). Ideally, all the variables should have low to moderate intercorrelations. As shown in Table 6, age, the FOS-O, FOS-C, and PGSI have low to moderate intercorrelations, although they tend to be too low. For example, a number of variables are not correlated at all, which violates an assumption of regression. An outlier was removed from these analyses. One participant scored very high on the FOS scales and the PGSI,
and the case was highly influential and problematic for more than one analysis. Therefore it was removed from any tests that involved the FOS scales or the PGSI.

The Durbin-Watson statistic was 2.20, suggesting that the variables were not as correlated enough to be ideal, but they were close enough to still be acceptable.

1a. Religious affiliation is associated with low scores of problem gambling risk.

The null hypothesis was that religious affiliation is not related to low scores of problem gambling risk. Normality testing found that all the gambling frequency items were not normally distributed. The S-W test found all of them significant at \( p < .01 \). The Levene statistic, measuring homogeneity of variance, found none of the gambling variables significant (all \( ps > .08 \)). Thus, one assumption of ANOVA was met, even if the assumption of normality was not met.

1b. Healthy family functioning is associated with low scores of problem gambling risk.

For the hypothesis that family solidarity is associated with low scores of gambling risk, normality was tested. The range of the individual questions was only four to eight points, making it more difficult to ascertain normality and group differences. Levene’s homogeneity of variance test found only one item that had a significant difference in variances between No risk and Any risk. Therefore the assumption of homogeneity of variance was met. With only four participants in the problem gambling category and only six in the moderate risk category, the power of the test was too low. Therefore, the PGSI was recoded into No risk and Any risk categories. The resulting power of this test was still too low, approximately .20. Thus, the results of this test should be considered tentative.

1c. Male gender is associated with increased problem gambling risk.

The assumptions of ANOVA were examined for gambling game frequency. The S-W test found that none of the gambling frequency variables were normally distributed. This result was
due mainly to the positive skew of most of the variables. In addition, Levene’s test of homogeneity of variance found that Bingo, Sports betting, and Slot machine all had variances that differed significantly between genders, $p < .05$.

2. **Intergenerational transmission of religious affiliation is related to higher healthy family functioning.**

   The outlier mentioned above in this Appendix was removed for this test. Normality of the variables was tested by examining each dependent variable at each level of the independent variable. This was accomplished by visual examination of histograms in addition to skewness, kurtosis, and S-W statistics. The visual examination of the variables found that they generally appear normal, except perhaps for the No concordance category, which had very few participants. None of the skewness statistics exceeded twice the standard error, and the same was true of the kurtosis statistics. In addition, the S-W statistics were all non-significant, indicating that the FOS-O and FOS-C were all normally distributed at each level of religious concordance. Thus, the assumption of normality was met.

   Box’s M was not significant, $M = 12.40, F(6, 3892.44) = 1.90, p = .08$. Therefore, the assumption of homogeneity of variance was met. Sphericity was not assessed as healthy family functioning had only two measurements. Homogeneity of error variance was met for the FOS-O as measured by Levene’s test, $F(2, 53) = 1.00, p = .37$, but not for the FOS-C, $F(2,53) = 4.85, p < .05$. This result is unsurprising due to the difference in cell sizes among concordance levels.
Appendix C

Spirituality and gambling literature

The literature supports the idea that people’s religious beliefs affect their gambling behaviour and their risk for problem or pathological gambling. However, spirituality may not be as relevant to gambling behaviour. One study explored the role of spiritual lifestyle profiles (i.e., spiritual but not religious, religious and spiritual, and not religious or spiritual; Hodge et al., 2007). The researchers found that those who were spiritual and religious had the lowest frequency of tobacco use, alcohol use, and gambling, and spent the least amount of money on gambling. Those who were spiritual but not religious had the highest rates, although the effect sizes of the differences were small ($\eta^2 < .10$) in all cases. In another study, Hoffman (2000) found that frequency of attendance at religious services was negatively related to participation in gambling and number of lifetime gambling problems. Those who attended religious services weekly were 21% less likely to have gambled than those who did not attend religious services. However, “Importance of faith in God”, defined by the authors as a spiritual dimension, only slightly reduced participation in gambling and was not related to lifetime gambling problems (Hoffman, 2000). Further, a study of New Zealand gamblers found that problem gamblers were more likely to endorse the following reason for gambling: “Gambling gives me hope and opportunity for a better life,” which was correlated with spirituality (Clarke et al., 2006). These findings suggest that the social rules of religion are more salient as a protective factor than spirituality, and in fact in some cases spirituality may play a role as a risk factor. It would be a promising endeavour to explore the roles of religiosity and spirituality from a Métis perspective. Among other activities, Aboriginal people use prayer, sweat lodges, and meditation as ways of coping with stress (Iwasaki et al., 2005). Learning how Métis people define religion and spirituality, and how they use them, will not only help people cope effectively and help prevent
gambling problems, but will also help researchers understand religion and spirituality more deeply.
Appendix D

Intercorrelations of the 18 individual family solidarity questions

<p>|                                | 1.     | 2.     | 3.     | 4.     | 5.     | 6.     | 7.     | 8.     | 9.     | 10.    | 11.    | 12.    | 13.    | 14.    | 15.    | 16.    | 17.    | 18.    | 19.    | 20.    |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1. Family of Origin Scale form 1 Pearson Correlation | -      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Sig. (2-tailed)                |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| N                              | 75     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 2. Family of Origin Scale form 2 Pearson Correlation | .378** | -      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Sig. (2-tailed)                | .002   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| N                              | 67     | 80     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 3. How much do family care about you Pearson Correlation | -.121  | -.305**| -      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Sig. (2-tailed)                | .307   | .006   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| N                              | 73     | 79     | 92     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 4. How much do family understand how you feel Pearson Correlation | -.125  | -.159  | .622** | -      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Sig. (2-tailed)                | .296   | .162   | .000   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| N                              | 72     | 79     | 88     | 88     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 5. How much can you rely on them Pearson Correlation | -.238**| -.359**| .772** | .613** | -      |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Sig. (2-tailed)                | .042   | .001   | .000   | .000   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| N                              | 73     | 79     | 91     | 88     | 91     |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 6. How much can you open up to them Pearson Correlation | -.203  | -.252**| .656** | .738** | .647** | -      |        |        |        |        |        |        |        |        |        |        |        |        |        |
| Sig. (2-tailed)                | .085   | .025   | .000   | .000   | .000   |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
| N                              | 73     | 79     | 91     | 88     | 91     | 91     |        |        |        |        |        |        |        |        |        |        |        |        |        |
| 7. How often do they make too many demands Pearson Correlation | .300** | .150   | .011   | -.180  | -.123  | -.106  | -      |        |        |        |        |        |        |        |        |        |        |        |        |
| Sig. (2-tailed)                | .011   | .193   | .920   | .098   | .253   | .326   | .381   |        |        |        |        |        |        |        |        |        |        |        |        |
| N                              | 71     | 77     | 88     | 86     | 88     | 88     | 89     |        |        |        |        |        |        |        |        |        |        |        |        |</p>
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<th></th>
<th>8. How often do they criticize you</th>
<th>9. How often do they let you down</th>
<th>10. How often do they get on your nerves</th>
<th>11. Obligation to drop plans, parent in trouble</th>
<th>12. Obligation to call, write, or visit</th>
<th>13. Obligation to drop plans, nonparent in trouble</th>
<th>14. Obligation to take a family member into your home</th>
<th>15. How often are you in contact with family?</th>
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<td>16. How many hours of emotional support do you give?</td>
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<td>17. How many hours of emotional support do you receive?</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
<td>-.345***</td>
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<td>18. How many hours of help do you give?</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
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<td>19. How many hours of help do you receive?</td>
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<td>20. How much money do you receive from family?</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
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*p < .05, **p < .01.
Appendix E

Research Ethics Board status report for year 3

University of Guelph Research Ethics Board (REB)

Status Report

Submit one copy to the Administrative & Research Ethics Assistant, Sarah Peacock at reb@uoguelph.ca

<table>
<thead>
<tr>
<th>TITLE OF RESEARCH PROJECT: Gambling Among Intergenerational and Multi-ethnic Families</th>
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<th>Today’s Date: Thursday, August 12, 2010</th>
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<th>Date of Original REB Approval: August 18, 2006 to August 18, 2010</th>
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<th>PHONE</th>
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<tr>
<td>Faculty: Principal/Co-Investigator(s)</td>
<td>Joseph Tindale</td>
<td>Family Relations &amp; Applied Nutrition</td>
<td>ext. 53796</td>
</tr>
<tr>
<td></td>
<td>Joan Norris (Wilfrid Laurier University)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Student: Investigator(s)</th>
<th></th>
<th></th>
<th></th>
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</thead>
</table>

1. When did this study begin? 6 August 2006

2. Is this study still active? **Yes ☒ No □**
   i) If Yes, when will the interaction with human participants be completed? 31 August 2010
   ii) If No, when was the interaction with human participants completed?

3. What is the funding status of the project?

   ▒ **Funded**
   Agency: Ontario Problem Gambling Research Centre
   Funding Period: 2006 to 2010

   □ **Funding Sought**
   Agency:
   Funding Period: to

   □ **Unfunded**
4. Have there been procedural or other changes to this protocol since its original ethics clearance?

☐ No

☒ Yes  ☐ i) A Change Request form has been filed

☐ ii) A Change Request form is attached

5. Since original ethics clearance was granted, have any ethical concerns arisen or have any participants experienced adverse events as a result of their participation in the study?

☒ No

☐ Yes  (Please describe in detail using the Further Information section, or append additional page)

6. Have you any comments or suggestions relating to Ethics Review process, either for this study or generally?

Faculty Investigator Assurance

I confirm that the information provided in this Renewal/Completed Status Report is correct and that for so long as this study remains incomplete, I continue to be bound by the terms of the assurance provided by me on the original application for research ethics approval.

Name of Faculty Investigator / Supervisor (signature not required): Joseph Tindale
Date: 13 August 2010

Further Information:

The end report will follow shortly after the end date (31 August 2010.)
This is a study being conducted by the Métis Nation of Ontario, Joseph Tindale, University of Guelph, and Joan Norris, Wilfrid Laurier University. It is about your family relationships and recreational gambling activities. We are interested in knowing whether being Métis plays a part in recreational gambling. This survey is comprised of a group of scales and individual questions that should take about 60 minutes to complete. On the survey, you will be asked to what degree you agree with some statements regarding your gambling beliefs and activities. A sample statement with an ‘agree – disagree’ question would be: "I enjoy buying lottery tickets." We will also ask you to answer some background questions about yourself: for example, your age and how many children you have.

If you consent to participate, you understand that

- participation is voluntary
- any personal information will be strictly confidential
- you are completely free to withdraw consent and to discontinue participation at any time
- you may skip a question if you do not wish to answer
- data will be summarized and no individual could be identified from these summarized results
- only the researchers will have access to your completed survey
- results will be made available to you upon request.
- the questionnaires will be securely stored. Data will be destroyed at the completion of the study.

Your participation will help to improve our understanding of the meaning that people find in recreational gambling. As well, it may help us to improve supports and services for those who experience gambling problems.

As a thank you for participating in this study you will receive a $5 Tim Horton’s gift card.

If you have any questions about gambling, or gambling problems, you may also contact, in confidence, the Ontario Problem Gambling Helpline at 1-888-230-3505 or info_ref_services@dart.on.ca.

Thank you for participating.
This project has received ethics clearance through the Wilfrid Laurier University and the University of Guelph Research Ethics Boards. If you have any questions or concerns about your participation in this study, please contact Sandy Auld at the University of Guelph Office of Research, sauld@uoguelph.ca or (519) 824-4120 ext. 56606. This study is sponsored by the Ontario Problem Gambling Research Centre.

GUELPH · ONTARIO · CANADA · N1G 2W1 · (519) 824-4120, EXT 53796 · FAX (519) 766-0691

I, __________________________, (please print your name) consent to participate in the study Gambling Among Intergenerational and Multi-Ethnic Families being conducted by Joseph Tindale, Joan Norris and the Métis Nation of Ontario.

______________________________  __________________________
(Participant Signature)           (Date)

______________________________  __________________________
(Witness signature)              (Date)

The Final Report for this project will be posted on the web site of our funding organization, The Ontario Problem Gambling Research Centre. It will be posted shortly after the report is approved at www.gamblingresearch.org. A link to the Final Report will likewise be presented on the Métis Nation of Ontario web site and in the Voyageur. Copies will also be available at MNO Health sites.
Appendix G

Family Gambling Study

A: Background Information

Home postal code (first 3 characters) _____________

1) What is your gender?
   - Male
   - Female

2) In what year were you born? _________________

3) What is your marital status?
   - Married or common law
   - Single
   - Separated or Divorced
   - Widowed

4) How many children do you have? _____________

5) How many grandchildren do you have? __________

6) What is the approximate total annual pre-tax income of your family household?
   - 0—$29,000
   - $30,000—$59,000
   - $60,000—$89,000
   - $90,000 and above
7) Please indicate your primary language spoken:
- English
- French
- Ojibwa
- Cree
- Oji-cree
- Michif
- Other, please specify: ________________________

8) What are your favourite recreational activities? Please check all that apply.
- Making Métis music
- Making non-Métis music
- Voyageur games
- Vigorous sports like hockey, tennis, snowshoeing, skiing
- Moderate activities like walking, swimming, golfing
- Theatrical performances
- Gambling
- Going out to the movies
- Renting a movie and watching it at home
- Eating at a restaurant
- Visiting with friends
- Visiting with family
- Reading
- Volunteering for a church or service group
- Hobbies such as sewing, woodworking or other crafts
- Taking a course
- Hunting, fishing and trapping
- Snowmobiling (skidooing, sledding)
- Other, please specify ______________________________
B: Gambling Activities
In this section we are interested in learning about a variety of gambling activities.

1) Using the following scale, please indicate the number that best represents your gambling frequency for each statement.

<table>
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<th>Never</th>
<th>1</th>
<th>Once or twice in my life</th>
<th>2</th>
<th>Several times in my life</th>
<th>3</th>
<th>Maybe once a year</th>
<th>4</th>
<th>A few times a year</th>
<th>5</th>
<th>Monthly</th>
<th>6</th>
<th>At least every week</th>
<th>7</th>
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</table>

Bingo (play at Bingo Halls or by satellite)
Raffle tickets (fundraising hospitals, cancer etc.)
Sports betting pools or on games of skill
Lottery tickets such as 6/49, Lotto Max
Instant win scratch tickets or Nevadas
Slot machines in casinos or bars
Casino games other than slots
Internet gambling
Horse racing
Other

_If other, please specify _________________________________._

*If you answered *Never* to all options in B.1 then skip to B.16.*

2) If you have stopped gambling, at approximately what age did you stop gambling?

- [ ] 30 and younger
- [ ] 31 – 40 years
- [ ] 41 – 50 years
- [ ] 51 – 60 years
- [ ] 61 – 70 years
- [ ] 70+
3) At approximately what age did you begin gambling?
   - 30 and younger
   - 31 – 40 years
   - 41 – 50 years
   - 51 – 60 years
   - 61 – 70 years
   - 70+

4) Why do you choose to gamble? Please check all that apply.
   - For entertainment and enjoyment purposes
   - To win
   - To socialize with others such as family or friends
   - The incentives offered by the casino such as cheap meals
   - To pass the time
   - To escape from feelings of boredom and loneliness
   - For the excitement of gambling
   - To escape any of your troubles
   - The excitement of the attractions
   - To try something new
   - With my income I can afford the risk
   - To support community organizations/charities
   - Because it is part of my Métis culture
   - Because I participate with people of my Métis heritage
   - Other, please specify______________

5) Does your geographic location influence your ability to gamble (e.g. there is a casino within/near your community)?
   - Yes
   - Sometimes
   - No

6) Does being Métis influence your gambling activity?
   - Yes
   - No

If yes, how much (Please circle):
   1 2 3 4 5
   Hardly at all A little A great deal
7) With whom do you gamble? Please check all that apply.
   - Mother
   - Father
   - Uncle
   - Aunt
   - Cousin
   - Spouse
   - Child
   - Brother or sister
   - Métis friends
   - Non-Métis friends
   - Alone
   - Other, please specify ____________________

8) How often do you go to a casino to gamble?
   - Never
   - Every few years
   - Once or twice a year
   - At least once a month
   - At least once a week
   - Every day

   If you answered Never, skip to Question B.15

9) How much do you spend gambling on an average trip to the casino?
   - Under $100
   - Over $100

10) Do you set a spending limit for yourself while you are at the casino?
    - Yes
    - No

11) If yes, how do you enforce your limit? Please check all that apply.
    - Leave bank and credit cards at home
    - Take a pre-set amount of cash
    - Do not borrow from friends or family
    - Self-control
    - Set a time limit
    - Other people help me
    - Other, please specify ____________________
12) Do you ever spend more than you budget?
   ☐ No
   ☐ Yes, How often?_________________

13) What games do you play while at the casino?
   ___________________________________________________________
   ___________________________________________________________

14) On average how long do you spend at the casino?
   ☐ Less than 4 hours
   ☐ More than 4 hours

15) Do gambling establishments (e.g. Woodbine Raceway) in Ontario accommodate any special needs that you may have?
   ☐ Not Applicable
   ☐ Yes
   ☐ No

16) Do your friends like to gamble?
   ☐ Yes
   ☐ No
   ☐ Don’t know

17) During her lifetime, what kinds of gambling did/does your mother participate in? Using the following scale, please indicate the number that best represents her gambling frequency for each item.

<table>
<thead>
<tr>
<th>Never / Don’t know</th>
<th>Once or twice in her life</th>
<th>Several times in her life</th>
<th>Maybe once a year</th>
<th>A few times a year</th>
<th>Monthly</th>
<th>At least every week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Bingo (play at Bingo Halls or by satellite)
Raffle tickets (fundraising hospitals, etc.)
Sports betting pools or on games of skill
Lottery tickets such as 6/49, Lotto Max
93

### Instant win scratch tickets or Nevadas

<table>
<thead>
<tr>
<th>Never to my knowledge</th>
<th>Once or twice in her life</th>
<th>Several times in her life</th>
<th>Maybe once a year</th>
<th>A few times a year</th>
<th>Monthly</th>
<th>At least every week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Slot machines in casinos or bars
Casino games other than slots
Non-casino games for money with family/friends
Internet gambling
Horse racing
Other

*If other, please specify ___________________________

*If you answered Never to all, skip to Question B.20.

### 18) Why do you think your mother liked/likes to gamble? Please check all that apply.

- [ ] For entertainment and enjoyment purposes
- [ ] To win
- [ ] To socialize with others such as family or friends
- [ ] The incentives offered by the casino such as cheap meals
- [ ] To pass the time
- [ ] To escape from feelings of boredom and loneliness
- [ ] For the excitement of gambling
- [ ] To escape any of her troubles
- [ ] The excitement of the attractions
- [ ] To try something new
- [ ] With her income she can afford the risk
- [ ] To support community organizations/charities
- [ ] Because of her Métis culture
- [ ] Because she participated/participates with people of Métis heritage

- [ ] Other, please specify ___________________________
19) Please indicate the impact your mother’s gambling has/had on your life and the life of other people in your family using the following scale:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally positive impact</td>
<td>Generally positive</td>
<td>Only good for 1 or 2 people</td>
<td>Totally neutral or balanced impact</td>
<td>Only hurt 1 or 2 people</td>
<td>Generally negative</td>
<td>Totally negative impact</td>
</tr>
</tbody>
</table>

20) During your father’s lifetime, what kinds of gambling did/does your father participate in? Using the following scale, please indicate the number that best represents his gambling frequency for each item.

<table>
<thead>
<tr>
<th>Never to my knowledge</th>
<th>Once or twice in his life</th>
<th>Several times in his life</th>
<th>Maybe once a year</th>
<th>A few times a year</th>
<th>Monthly</th>
<th>At least every week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

- Bingo (play at Bingo Halls or by satellite)
- Raffle tickets (fundraising hospitals, cancer etc.)
- Sports betting pools or on games of skill
- Lottery tickets such as 6/49, Lotto Max
- Instant win scratch tickets or Nevadas
- Slot machines in casinos or bars
- Casino games other than slots
- Non-casino games for money with family/friends
- Internet gambling
- Horse racing
- Other

*If other, please specify ________________________________*

*If you answered Never to all, skip to Question B.23.*
21) Why do you think your father liked/likes to gamble? Please check all that apply.

- For entertainment and enjoyment purposes
- To win
- To socialize with others such as family or friends
- The incentives offered by the casino such as cheap meals
- To pass the time
- To escape from feelings of boredom and loneliness
- For the excitement of gambling
- To escape any of his troubles
- The excitement of the attractions
- To try something new
- With his income he can afford the risk
- To support community organizations/charities
- Because of his Métis culture
- Because he participated/participates with people of Métis heritage

- Other, please specify ______________________

22) Please indicate the impact your father’s gambling has/had on your life and the life of other people in your family using the following scale:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally positive impact</td>
<td>Generally positive</td>
<td>Only good for 1 or 2 people</td>
<td>Totally neutral or balanced impact</td>
<td>Only hurt 1 or 2 people</td>
<td>Generally negative</td>
<td>Totally negative impact</td>
</tr>
</tbody>
</table>

23) Did you ever gamble as a child or young adult with members of your family?

- Never
- Occasionally
- On a regular basis

*If you answered Never, please skip to Question B.26.*
24) With whom did you gamble as a child or young adult? Please check all that apply.
- ☐ Mother
- ☐ Father
- ☐ Brother or Sister
- ☐ Uncle
- ☐ Aunt
- ☐ Cousin
- ☐ Friends
- ☐ Other, please specify_________________

25) What type of gambling was it? Please indicate which members of your family you gambled with in each activity. Please check all that apply.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Mother</th>
<th>Father</th>
<th>Sibling</th>
<th>Uncle</th>
<th>Aunt</th>
<th>Cousin</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bingo (play at Bingo Halls or by satellite)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raffle tickets (fundraising hospitals, cancer etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sports betting pools or on games of skill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lottery tickets such as 6/49, Lotto Max</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instant win scratch tickets or Nevadas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slot machines in casinos or bars</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casino games other than slots</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-casino games for money with family/friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet gambling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horse racing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

*If other, please specify__________________________*
26) What kinds of gambling do your children participate in? Using the following scale, please indicate the number that best represents your child/ren’s gambling frequency for each item, even if you think that your children no longer gamble.

If you answered ‘No children’ in Question A.4 skip to Question B.29.

<table>
<thead>
<tr>
<th>Never to my knowledge</th>
<th>Once or twice in their life</th>
<th>Several times in their life</th>
<th>Maybe once a year</th>
<th>A few times a year</th>
<th>Monthly</th>
<th>At least every week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

- Bingo (play at Bingo Halls or by satellite)
- Raffle tickets (fundraising hospitals, cancer etc.)
- Sports betting pools or on games of skill
- Lottery tickets such as 6/49, Lotto Max
- Instant win scratch tickets or Nevadas
- Slot machines in casinos or bars
- Casino games other than slots
- Non-casino games for money with family/friends
- Internet gambling
- Horse racing
- Other

If other, please specify __________________________

If you answered Never to all, skip to Question B.29.

27) Why do you think your children like to gamble? Please check all that apply.

- ☐ For entertainment and enjoyment purposes
- ☐ To win
- ☐ To socialize with others such as family or friends
- ☐ The incentives offered by the casino such as cheap meals
- ☐ To pass the time
- ☐ To escape from feelings of boredom and loneliness
- ☐ For the excitement of gambling (more on next page...)
- To escape any of their troubles
- The excitement of the attractions
- To try something new
- With their income they can afford the risk
- To support community organizations/charities
- Because of their Métis culture
- Because they participate with people of Métis heritage
- Other, please specify ________________________

28) Please indicate the impact your child(ren)’s gambling has on your life and the life of other people in your family using the following scale:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totally positive impact</td>
<td>Generally positive</td>
<td>Only good for 1 or 2 people</td>
<td>Totally neutral or balanced impact</td>
<td>Only hurt 1 or 2 people</td>
<td>Generally negative</td>
<td>Totally negative impact</td>
</tr>
</tbody>
</table>

29) Do you ever gamble as an adult with members of your family?
- Never
- Occasionally
- On a regular basis

If you answered Never, skip to Question B.34.

30) With whom do you gamble? Please check all that apply.
- Mother
- Father
- Brothers or sisters
- Uncle
- Aunt
- Cousin
- Spouse
- Child(ren)
- Child(ren)-in-law
- Grandchild(ren)
- Niece or Nephew
- Other, please specify:________________________
31) **In which type of gambling do you participate together with the family you grew up in? Please indicate which members of your family you gambled with in each activity.**

<table>
<thead>
<tr>
<th>Gambling Type</th>
<th>Mother</th>
<th>Father</th>
<th>Sibling</th>
<th>Grandparent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bingo (play at Bingo Halls or by satellite)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raffle tickets (fundraising hospitals, cancer etc.)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sports betting pools or on games of skill</td>
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<tr>
<td>Lottery tickets such as 6/49, Lotto Max</td>
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<td></td>
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</tr>
<tr>
<td>Instant win scratch tickets or Nevadas</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Slot machines in casinos or bars</td>
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</tr>
<tr>
<td>Casino games other than slots</td>
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</tr>
<tr>
<td>Non-casino games for money with family/friends</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet gambling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horse racing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*If other, please specify_____________________________________________________

32) **In which type of gambling do you participate together with family beyond partner and any children? Please indicate which members of your family you gambled with in each activity.**

<table>
<thead>
<tr>
<th>Gambling Type</th>
<th>Uncle</th>
<th>Aunt</th>
<th>Cousin</th>
<th>Niece/ nephew</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bingo (play at Bingo Halls or by satellite)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raffle tickets (fundraising hospitals, cancer etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sports betting pools or on games of skill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 33) In which type of gambling do you participate together with the family you created? Please indicate which members of your family you gamble with in each activity.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Spouse</th>
<th>Child</th>
<th>Child-in-law</th>
<th>Grandchild</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bingo (play at Bingo Halls or by satellite)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raffle tickets (fundraising hospitals, cancer etc.)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Sports betting pools or on games of skill</td>
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</tr>
<tr>
<td>Slot machines in casinos or bars</td>
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<td></td>
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</tr>
<tr>
<td>Casino games other than slots</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-casino games for money with family/friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet gambling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horse racing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
34) Do you ever have family arguments over your gambling?
   □ Never  
   □ Occasionally  
   □ On a regular basis  

   a. If you ever have family arguments about your gambling, please tell us with whom you argue and what each of you is arguing about:

   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________

35) Does your gambling interfere or cause you to stop participating in any other leisure or recreational activities?
   □ Yes  
   □ No  

36) If no, has your gambling allowed you to participate in new activities?
   □ Yes  
   □ No  

37) Do you know anyone with a gambling problem?
   □ Yes  
   □ No  

38) If yes, are they currently receiving some sort of support for this problem?
   □ Yes  
   □ No  
   □ Don’t know  

39) Have the gambling activities of any of your family members ever caused a problem for the family?
40) If yes, which family members?
   - Mother
   - Father
   - Sibling
   - Uncle
   - Aunt
   - Cousin
   - Spouse
   - Child(ren)
   - Child(ren)-in-law
   - If other, please specify ______________

   If yes, what kind of problem and how did it affect you?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

41) Have your gambling activities ever caused a problem for your Métis community?
   - Yes
   - No

   If yes, what kind of problem and how did it affect your community?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

42) Have the gambling activities of your family members ever caused a problem for your Métis community?
   - Yes
   - No

   If yes, what kind of problem and how did it affect your community?
   __________________________________________________________
### C: Experiences in the Family you grew up in

This section is about the family that you grew up in. Please use the following scale to indicate how much you agree with each statement.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. The atmosphere in my family was usually unpleasant.
2. My parents encouraged family members to listen to each other.
3. My family taught me that people were basically good.
4. My parents openly admitted it when they were wrong.
5. Resolving conflicts in my family was a very stressful experience.
6. My parents encouraged me to express my views openly.
7. My attitudes and my feelings frequently were ignored or criticized in my family.
8. In my family, I felt free to express my own opinions.
9. The atmosphere in my family was cold and negative.
10. In my family, I felt I could talk things out and settle conflicts.
11. Mealtimes in my home were usually friendly and pleasant.
12. We were usually able to work out conflicts in my family.
13. I found it easy in my family to express what I thought and how I felt.
14. My parents discouraged us from expressing views different from theirs.
15. My family had an unwritten rule: Don’t express your feelings.
D: Experiences in the Family You Created
This section is about your current family situation. Please use the following scale to indicate how much you agree with each statement.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. In my family, we encourage each other to develop friendships.
2. Conflicts in my family never get resolved.
3. I find it difficult to understand what other family members say and how they feel.
4. In my family, I express just about any feeling I have.
5. My family is receptive to the different ways various family members view life.
6. I often have to guess at what other family members think or how they feel.
7. My family members rarely express responsibility for their actions.
8. Sometimes in my family I do not have to say anything, but I feel understood.
9. I find it easy to understand what other family members say and how they feel.
10. I find it difficult to express my own opinions in my family.
11. In my family, no one cares about the feelings of other family members.
12. In my family, certain feelings are not allowed to be expressed.
13. My family members usually are sensitive to one another’s feelings.
E: Gambling Attitudes
This section is about general attitudes toward gambling and about specific attitudes toward gambling on horse races, on lotteries, and on casinos. Please use the following scale to indicate how much you agree with each statement. We understand that the following questions may seem repetitive, but we greatly appreciate your time in completing each of them.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I enjoy gambling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I think gambling is good for Canada.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I support the right of the Métis to gamble as often as they want.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I enjoy buying lottery tickets.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I enjoy betting on horse races.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I support the right of Canadians to gamble in casinos as often as they want.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I detest betting on horse races.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I gamble in casinos when the opportunity arises.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9. I think gambling is good for the Métis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I want to bet on horse races.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I detest gambling casinos.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I want to buy lottery tickets.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I enjoy gambling in casinos.</td>
<td></td>
<td></td>
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<tr>
<td>14. I think betting on horse races is good for Canada.</td>
<td></td>
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<tr>
<td>15. I feel excited when I am around people who bet on horse races.</td>
<td></td>
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</tr>
<tr>
<td>16. Gambling in casinos is acceptable.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>17. The lottery is detrimental to our Métis community.</td>
<td></td>
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</tr>
<tr>
<td>18. I gamble when the opportunity arises.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree 1</td>
<td>Moderately Agree 2</td>
<td>Mildly Agree 3</td>
<td>Mildly Disagree 4</td>
<td>Moderately Disagree 5</td>
<td>Strongly Disagree 6</td>
<td></td>
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<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>19. I feel comfortable around people who frequently play the lottery.</td>
<td></td>
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</tr>
<tr>
<td>20. I support the right of Canadians to gamble as often as they want.</td>
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</tr>
<tr>
<td>21. I am a thrill seeker.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>22. I want to gamble.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Buying lottery tickets is acceptable.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. When people talk about betting on horses, I want to bet.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>25. I think betting on horse races is good for the Métis.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. I feel excited when I am around people who gamble.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. When people talk about buying a lottery ticket, I want to buy one.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. When people talk about gambling, I want to gamble.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. Betting on horse races is acceptable.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30. I feel comfortable around people who frequently gamble in casinos.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. I bet on horse races when the opportunity arises.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. It’s OK if there is gambling in my town.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. I want to gamble in casinos.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. I feel upset when I see advertisements that promote the lottery.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. It’s OK if there is betting at horse races in my town.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36. The lottery is detrimental to our society.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>Moderately Agree</td>
<td>Mildly Agree</td>
<td>Mildly Disagree</td>
<td>Moderately Disagree</td>
<td>Strongly Disagree</td>
<td></td>
</tr>
<tr>
<td>---------------</td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

37. It would be better if casino gambling was banned in my province.

38. I support the right of the Métis to gamble in casinos as often as they want.

39. I buy lottery tickets when the opportunity arises.

40. I like to take risks.

41. It’s OK if there is casino gambling in my town.

42. Gambling is acceptable.

43. I detest lotteries.

If you answered Never to all gambling in Question B.1, skip all section F, Gambling Consequences

F: Gambling Consequences

In this section we are interested in your perceptions of others' reactions to, and consequences of, your gambling. If you have stopped gambling, please answer the following questions in terms of when you were still gambling.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Since you started gambling, have you felt more depressed, either after gambling or in general?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2. Have you ever hidden your gambling activities, for example, where you were, or how much you won or lost?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3. Have you ever spent more money than planned when gambling?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>4. When you lose money gambling, do you return to try and win it back?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>5. Does gambling give you a sense of excitement or a ‘high’ which makes you feel more alive?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>6. Have you ever been surprised by the amount of time that has passed when you’ve finished gambling?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Has gambling filled a void in your life and helped you to feel less lonely?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. Have you borrowed money from friends, family, credit cards, or financial institutions so you can gamble?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Since you started gambling do you find yourself losing interest in social or other activities?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. Have your close relationships suffered since you started gambling?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>11. Do you find yourself thinking more and more about gambling and looking for ways to do it?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>12. Since you started gambling, have you had trouble paying household and personal expenses, such as rent, food or bills?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>13. When you’re feeling bad, does gambling make you feel better?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>14. Have you experienced extreme mood swings since you started gambling?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>15. When you are gambling do you stop thinking about day-to-day problems?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>16. Each time you go gambling do you believe that you could win big?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Never</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Thinking about the last 12 months, have you bet more than you could really afford to lose?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>18. Still thinking about the last 12 months, have you needed to gamble with larger amounts of money to get the same feeling of excitement?</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>19. When you gambled, did you go back another day to try to win back the money you lost?</td>
<td></td>
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<td></td>
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<tr>
<td>20. Have you borrowed money or sold anything to get</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
money to gamble?

21. Have you felt that you might have a problem with gambling?

22. Has gambling caused you any health problems, including stress or anxiety?

23. Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?

24. Has your gambling caused any financial problems for you or your household?

25. Have you felt guilty about the way you gamble or what happens when you gamble?

**G: Recent Mood**

In this section we are interested in a number of issues related to your moods and emotions.

Please indicate how often you felt or behaved this way during the past week.

Please use the following scale:

<table>
<thead>
<tr>
<th>Less than 1 day</th>
<th>1 – 2 days</th>
<th>3 – 4 days</th>
<th>5 – 7 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**During the past week:**

<table>
<thead>
<tr>
<th>1. I was bothered by things that usually don’t bother me.</th>
<th>1 2 3 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. I did not feel like eating; my appetite was poor.</td>
<td></td>
</tr>
<tr>
<td>3. I felt that I could not shake off the blues even with help from my family or friends.</td>
<td></td>
</tr>
<tr>
<td>4. I felt that I was just as good as other people.</td>
<td></td>
</tr>
<tr>
<td>5. I had trouble keeping my mind on what I was doing.</td>
<td></td>
</tr>
<tr>
<td>6. I felt depressed.</td>
<td></td>
</tr>
<tr>
<td>7. I felt that everything I did was an effort.</td>
<td></td>
</tr>
</tbody>
</table>
8. I felt hopeful about the future.  
9. I thought my life had been a failure.  
10. I felt fearful.  
11. My sleep was restless.  
12. I was happy.  
13. I talked less than usual.  
15. People were unfriendly.  
16. I enjoyed life.  
17. I had crying spells.  
18. I felt sad.  
19. I felt that people disliked me.  
20. I could not get “going.”

**H: Alcohol Use**

We would like to know about your alcohol use.

1) **How often do you drink liquor, wine, or beer?**

- Never
- Less than once a month
- 1-3 drinks a month
- 1-6 drinks a week
- One drink a day
- More than one drink per day

2) **If you no longer drink but used to, how often did you drink liquor, wine, or beer?**

- Less than once a month
- 1-3 drinks a month
- 1-6 drinks a week
- One drink a day
- More than one drink per day
The following is a short questionnaire about your alcohol use.

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Have you ever felt you should cut down on your drinking?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>4.</td>
<td>Have people annoyed you by criticizing your drinking?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>5.</td>
<td>Have you ever felt bad or guilty about your drinking?</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>6.</td>
<td>Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (eye opener)?</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

I: About your Family
For the following questions, please write down your responses.

1) With which members of your family do you have regular contact?
________________________________________________________________________

2) Who do you live with?
________________________________________________________________________

The following are questions about family relationships. Think about your family in general, not just an individual family member. Please check the appropriate response.

<table>
<thead>
<tr>
<th></th>
<th>Never or not at all</th>
<th>A little or rarely</th>
<th>Some or sometimes</th>
<th>A lot or often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

3. How much do members of your family care about you?

4. How much do they understand the way you feel about things?

5. How much can you rely on them for help if you have a serious problem?
6. How much can you open up to them if you need to talk about your worries?

7. How often do members of your family make too many demands on you?

8. How often do they criticize you?

9. How often do they let you down when you are counting on them?

10. How often do they get on your nerves?

**J: Family Expectations**

1) **How much obligation would you feel…**

<table>
<thead>
<tr>
<th>None</th>
<th>A little</th>
<th>Some</th>
<th>A lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>To drop your plans when a parent seemed very troubled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To call, write, or visit your family on a regular basis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To drop your plans when a family member other than your parent seemed very troubled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To take a family member into your home</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**K: Family Contact**

1) **How often are you in contact with any members of your family, that is, any of your brothers, sisters, parents or children who do not live with you, including visits, phone calls, letters, text or e-mail messages?** (Please circle)

<table>
<thead>
<tr>
<th>Never or hardly ever</th>
<th>Less than once a month</th>
<th>About once a month</th>
<th>Two or three times a month</th>
<th>About once a week</th>
<th>Several times a week</th>
<th>About once a day</th>
<th>Several times a day</th>
</tr>
</thead>
</table>
2) What activities do you like to do with your family?

___________________________________________
___________________________________________
___________________________________________

a. Do these activities include anyone else? Who?

___________________________________________
___________________________________________
___________________________________________

b. Has this changed in the past few years? If so, in what way?

___________________________________________
___________________________________________
___________________________________________

c. What special holidays or celebrations does your family observe together?

___________________________________________
___________________________________________
___________________________________________

d. Do you ever play games together? Of what type?

___________________________________________
___________________________________________
___________________________________________

e. Do any of these games ever involve a bet, or gambling?

___________________________________________
___________________________________________
L: Family Support

1) About how many hours per week do you give to the emotional support of members of your family? (Please circle)

<table>
<thead>
<tr>
<th>Less than 1 hour</th>
<th>1-2 hours</th>
<th>3-5 hours</th>
<th>More than 5 hours</th>
</tr>
</thead>
</table>

2) About how many hours per week of emotional support do you receive from members of your family? (Please circle)

<table>
<thead>
<tr>
<th>Less than 1 hour</th>
<th>1-2 hours</th>
<th>3-5 hours</th>
<th>More than 5 hours</th>
</tr>
</thead>
</table>

3) Other than emotional support, about how many hours per week do you spend helping members of your family? (Please circle)

<table>
<thead>
<tr>
<th>Less than 1 hour</th>
<th>1-2 hours</th>
<th>3-5 hours</th>
<th>More than 5 hours</th>
</tr>
</thead>
</table>

4) Other than emotional support, about how many hours per week of help do you receive from members of your family? (Please circle)

<table>
<thead>
<tr>
<th>Less than 1 hour</th>
<th>1-2 hours</th>
<th>3-5 hours</th>
<th>More than 5 hours</th>
</tr>
</thead>
</table>

5) About how much money do you receive from your family each month? (Please circle)

<table>
<thead>
<tr>
<th>$0</th>
<th>Less than $100</th>
<th>$101-$500</th>
<th>$500-$1000</th>
<th>More than $1000</th>
</tr>
</thead>
</table>
6. a) What, if any, spiritual or religious belief(s) did your parents teach you? For example, Catholic and/or traditional Métis beliefs.

______________________________________________________

______________________________________________________

b) Do you follow those belief(s) today?

☐ Yes
☐ No

c). If you are a parent, what beliefs did you pass along to your children?

☐ The same beliefs as your parents
☐ Different beliefs from your parents
☐ No religious or spiritual beliefs

d) Do your children follow the beliefs you taught them?

☐ Yes
☐ No

7) If you are religious/spiritual, have your beliefs affected your gambling activities now or in the past?

______________________________________________________

______________________________________________________

8) What does the idea of “family leisure” mean to you?

______________________________________________________
a. Can you tell us about some examples of leisure activities you engage in with your family?

b. Please list family leisure activities that involve more generations than parents and their children, e.g., taking the kids to visit grandparents.

*If you have never gambled with a family member, skip to L.17.*

9) Please tell us about a time when you gambled with your family. Where were you? Who were you with? What were you doing? How did it turn out?

10) Do you go to a casino with your family?
- Yes
- No
- Sometimes

11) How would you describe these outings?
117

117

117

a. Would you describe this as a leisure activity you do with your family?

b. If not, how would you describe these outings?

12) Do you go on gambling trips to celebrate any occasion? For example, do you go on yours or someone else’s birthday, or the May long weekend?

13) Has your gambling with family members always involved the same people?
   a. If yes, who?
   b. If no, how has it changed over time?

14) Have your family gambling outings always been good experiences?
   a. If yes, what happened to make the outing positive?
   b. If not, what happened that was not positive?
c. Were you able to resolve this issue? How?

15) Do the family members you gamble with or know about, (please identify relationships), have similar gambling patterns to you?

   a. Do they play the same/different games?

   b. Do they bet the same/different amounts of money per gambling event?

16) Have you learned any winning strategies from family members on these outings?

   a. If yes, what?

   b. Have family members told you how to stay out of trouble when you gamble?

   c. If yes, what have they told you?
17) What about friends; do you gamble with friends?

______________________________________________________________

______________________________________________________________

a. Are they friends you only gamble with, or do you also join them for other activities? E.g. go to a movie.

______________________________________________________________

18) Do you ever combine friends and family on the same gambling outing?
If yes/no, why/not?

______________________________________________________________

______________________________________________________________

______________________________________________________________

19) If you described the pleasure you get from gambling with friends and with family, would there be a difference in your description of one from the other?

______________________________________________________________

______________________________________________________________

______________________________________________________________

a. If yes, what would that difference be?

______________________________________________________________

______________________________________________________________
THANK YOU FOR COMPLETEING OUR SURVEY!

At this time we would ask you to consider if there is anything that we did not ask you about that you would like us to know. If so, please feel free to write it in the space provided below: