



Conseil Crie de la santé et des services sociaux de la Baie James
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 Cree Board of Health and Social Services of James Bay



Centre universitaire de santé McGill
 McGill University Health Centre



Les Impacts Sociaux et Psychologiques Des Jeux De Hazard Parmi Les Cries Du Québec

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The Social and Psychological Impact of Gambling in the Cree
 Communities of Northern Québec

Revised Final Report
 July 30, 2010

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Fonds de recherche
 sur la société
 et la culture
 Québec 

Santé
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The “In Search of Peace of Mind” Project
Gambling, Addiction and Mental Health in Eeyou Istchee



Photo courtesy of George Diamond

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SOMMAIRE

Le jeu représente une activité sociale traditionnelle au sein des sociétés autochtones partout dans les Amériques, y compris chez les peuples de la région subarctique. Traditionnellement dans les petites collectivités isolées sur le territoire des Cris, le jeu rassemble depuis toujours les gens dans une activité sociale qui redistribue la richesse dans une société fermée. Au cours des dix ou vingt dernières années, le jeu et ses activités connexes ont pris de l'ampleur à mesure que la taille, la complexité sociale et la richesse de la population se sont accrues. Le jeu au sein de ces collectivités et sous contrôle local portait essentiellement sur les équipes sportives locales et régionales, les jeux sur les chiffres, les tirages et les jeux de bingo à la radio. Plus récemment, une « nouvelle » économie du jeu s'est établie, mais qui échappe au contrôle des collectivités Cris. On compte les casinos des régions métropolitaines de Montréal et de Gatineau, mais aussi les appareils de loterie vidéo (VLT) à Val-d'Or, à Chibougamau et à Radisson. Au sein des collectivités, les commerces locaux vendent des cartes à gratter et des jeux sur les chiffres offerts sous licence par Loto-Québec. Trois collectivités Cris comptent désormais des appareils de loterie vidéo installés en vertu d'ententes de location-utilisation. Les bénéficiaires de deux de ces appareils sont réinvestis dans divers programmes pour la collectivité, tandis que le troisième appareil est exploité par une entreprise privée. Les collectivités Cris semblent combiner le jeu traditionnel de ses sociétés et les activités plus récentes qui s'inscrivent dans l'économie du jeu au Québec.

Le projet *In Search of Peace of Mind* a été mis sur pied à la demande du Conseil Cri de la santé et des services sociaux de la Baie James (CBHSSJB) et représente un partenariat entre les chercheurs universitaires et les représentants du CBHSSJB. L'équipe de recherche se compose de Kathryn Gill, Ph. D., Jill Torrie, M.A., et Jeffrey Derevensky, Ph. D. Kathryn Gill est professeure adjointe au Département de psychiatrie de l'Université McGill et membre du Réseau national de recherche en santé mentale chez les Autochtones. Jill Torrie est chercheuse en anthropologie social-culturel, chercheuse qualitative et directrice de recherche et de services spécialisés, Service de la santé publique, CHBSSJB. Jeffrey Derevensky, Ph. D., est professeur au Département de psychopédagogie et de psychologie du counseling de l'Université McGill.

Ce projet avait pour objectifs de décrire les comportements de jeu par rapport aux facteurs démographiques, sociaux, psychologiques et économiques; de mener un sondage sur le jeu, la dépendance et la santé mentale chez les Cris au moyen d'instruments normalisés, et d'examiner les liens entre les comportements de jeu, la toxicomanie et les problèmes sociaux et psychologiques connexes. On a mené un sondage détaillé sur le jeu, la dépendance et la santé mentale au moyen d'instruments semi-structurés et structurés, auprès de répondants sélectionnés au hasard (n=507) parmi quatre collectivités Cris : Wemindji, Mistissini, Waswanipi et Chisasibi. Ce projet a été réalisé avec le concours du Service de santé publique et du Programme de santé mentale du Conseil (CBHSSJB), ainsi que des Services de santé publique et des Centres de mieux-être de chacune des collectivités Cris participantes.

Des analyses des données ont montré que 68.4% de l'échantillon total avaient pris part à une activité quelconque de jeu au cours de la dernière année. La différence entre hommes et femmes se limitait à leur participation aux bingos. Les femmes étaient davantage portées à jouer au bingo (56,6 % des femmes, comparativement à 35,1 % des hommes, et elles jouaient au bingo plus souvent (20,8 % des femmes jouaient une fois par semaine ou plus). Toutefois, aucune différence importante n'a été relevée entre hommes et femmes au chapitre de la fréquence de la dépendance au jeu. Environ 3,2 % des répondants qui avaient pris part à une activité quelconque de jeu au cours de la dernière année s'inscrivaient dans la catégorie à risque élevé (excessif) au jeu de l'Indice canadien du jeu excessif (ICJE). Il existait

d'importantes différences entre les groupes à risque pour ce qui est des taux de participation à une activité quelconque de jeu, de la fréquence et du temps passé à jouer, et du montant d'argent joué. De façon générale, les joueurs à problèmes affichaient des niveaux plus élevés de problèmes psychologiques, entre autres la dépression et l'anxiété, comparativement aux joueurs à faible risque. En outre, le jeu compulsif était associé à des taux plus élevés de tabagisme (56,3%) et de toxicomanie courante. En effet, on a trouvé qu'environ 38,3 % des joueurs à problèmes avaient un problème concomitant de toxicomanie.

Pour résumer, les taux élevés de comorbidité permanente entre le jeu compulsif, la dépendance à la nicotine, la toxicomanie et d'autres problèmes psychologiques donnent à croire que chez certains Cris adultes, le jeu s'inscrit dans des tendances à adopter des comportements à risques élevés qui entraînent d'importantes conséquences négatives à long terme sur la santé. Ces résultats indiquent que des interventions ciblant les désordres liés au jeu ne doivent pas cibler uniquement le jeu, mais plutôt la myriade de comportements dysfonctionnels qui risquent de perturber ces personnes.

SUMMARY

Gambling has been a traditional social activity of Aboriginal societies throughout the Americas, including sub-Arctic peoples. In small isolated communities of the Cree territory, gambling traditionally brought people together in a social activity that redistributed wealth within a closed system. In the past ten to twenty years gaming and gambling activities have increased as the population has grown in size, social complexity, and wealth. Intra-community, locally-controlled gambling was focused on local and regional sports teams, numbers games, draws and radio bingos. More recently, a "new" gambling economy, controlled from outside the Cree communities has developed. This includes the metropolitan casinos of Montreal and Hull, as well as the VLTs of Val d'Or, Chibougamou and Radisson. Within communities, local stores sell scratch cards and numbers games licensed through Loto-Quebec. VLTs have been installed inside three Cree communities, through lease-use arrangements. The profits from two VLT operations are turned back into community programming, while the third is a privately-owned operation. Cree communities appear to combine traditional community-based gambling with newer activities that form part of the gambling economy of Quebec.

The "In Search of Peach of Mind" project was developed at the request of the Cree Board of Health Social Services of James Bay (CBHSSJB), and represents a partnership between academics and representatives of the CBHSSJB. Members of the research team included Kathryn Gill Ph.D., Jill Torrie M.A., and Jeffrey Derevensky Ph.D. Kathryn Gill is an Associate Professor, Psychiatry Department, McGill University; a member of the National Network for Aboriginal Mental Health Research. Jill Torrie is a social-cultural anthropologist; a qualitative researcher; and the Director of Research and Specialised Services of the Public Health Department of the CBHSSJB. Jeffrey Derevensky Ph.D. is Professor in the Department of Educational and Counselling Psychology at McGill University.

The objectives of the project were to describe patterns of gambling in relation to demographic, social, psychological and economic factors; to conduct a survey of gambling, addiction and mental health among the Cree using standardized instruments and to examine the relationships between patterns of gambling, substance abuse and associated social and psychological problems. A detailed survey of gambling, addiction and mental health was conducted using semi-structured and structured instruments in randomly selected respondents (n=507) from 4 Cree communities including Wemindji, Mistissini, Waswanipi and Chisasibi. This project involved the regional Public Health Department and Mental Health Program of the CBHSSJB,

as well as the Public Health Departments and Wellness Centres from each of the participating Cree communities.

Analyses of the data found that 68.4% of the total sample took part in any gambling/gaming activities over the past year. Men and women differed only in terms of their participation in bingos. Women were significantly more likely to play bingo (56.6% of women compared to 35.1% of men), and they also played bingo more frequently (20.8% of women played once/week or more often). There were no significant differences between men and women in terms of the frequency of problem gambling. Approximately 3.2% of the individuals who had participated in any gambling or gaming activities over the past year were categorized in the high risk (problem) gambling category on the Canadian Problem Gambling Index. The high risk group showed significantly higher participation in various gambling/gaming activities, as well as more time and money spent on gambling/gaming. In general, problem gamblers showed significantly higher levels of psychological problems, including depression and anxiety, compared to low risk gamblers. In addition, problem gambling was associated with higher rates of cigarette smoking (56.3%) and current substance abuse. Approximately 38.3% of the problem gamblers were found to have a concurrent substance abuse problem.

In summary, the high rates of lifetime comorbidity between problem gambling, tobacco dependence, substance abuse and other psychological problems suggest that for some Cree adults gambling is part of a pattern of high-risk behaviours that carry significant negative long-term health consequences. These results suggest that interventions for gambling disorders should not focus on gambling alone, but rather the constellation of dysfunctional behaviours that pose a risk to “Peace of Mind.”

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Centre universitaire de santé McGill
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Programme des Actions concertées - Impacts socioéconomiques des jeux de hasard et d'argent
FQRSC
140, Grande-Allee Est, bureau 470
Quebec, Quebec
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Re: REVISED Final Report for grant 2005-JH-103348

I am writing at this time to send you the revised final report for the grant “2005-JH-103348 – Les impacts sociaux et psychologiques des jeux de hasard parmi les Cries du Québec. This revision incorporates the requested changes, an updated literature review, and some reanalysis of the data. Note that the cover page acknowledges that the study was financed by both the FQRSC and the Ministère de la Santé et des Services Sociaux. In this context however, it should be noted that considerable funding for the project also came directly from the Cree Board of Health and Social Services of James Bay (CBHSSJB). The summary of the report has been presented in both French and English.

There were many logistical and financial barriers to completing this project exactly as described in the original grant proposal. As mentioned in our previous communications, this was a complex project to organize and there have been many delays. This project was initiated at the request of the CBHSSJB, and there are some important issues that should be outlined at the top of this report. First, the geographical distances involved in conducting this research project were enormous, and in many instances the only access to several of the Cree villages was by airplane, particularly in winter. The costs of air travel for the research team was entirely paid for by the CBHSSJB. In addition, working in collaboration with the Cree Nation required consultation with multiple levels of government and multiple partners, within a framework of participatory-action research. Although the CBHSSJB initiated the project, all of the Cree communities that took part in the research (Wemindji, Mistissini, Chisasibi and Waswanipi) were consulted in terms of the objectives and design.

Each Cree community has local governance in the form of a Band Council. The initiation of the research project involved informing and consulting with the Band Councils, and obtaining Band Council Resolutions (BCR) from all the communities involved in the survey. The BCR is a “stamp of approval” from the governing body in each community concerning the aims and methods of the research study. The BCRs were essential to conducting research, allowing us to form local Research Advisory Committees in each community. The Advisory Committees were involved in informing the community about the research, formulating the advertisements and radio messages specific to each community, and they aided recruitment of subjects for the survey. Dealing with Band Councils and Research Advisory Committees led to variations in the time line followed to get the research up and running in each community.

In addition to governance, there were significant issues related to literacy, as well as language - both in terms of the spoken Cree language (northern vs. southern dialects of the Cree language), and the written

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language (the use of syllabics vs. roman phonetics). The southern (inland) and northern (coastal) versions of Cree are different and the posters, radio messages, research instruments and letters to participants were translated and produced in both versions of Cree. In order to produce a Cree Lexicon to be used in the research several workshops were held with the PI (K. Gill) as well as elders, psychologists, social workers, translators and members of the community fluent in Cree, in order to produce a consensus document of terminology related to addiction and mental health. It should be noted in this context that fluency in English, French or Cree was variable among the various communities, depending on the age group surveyed. In addition, the ability to read English, French or Cree varied considerably – and the ability to read Cree syllabics was not universal.

Issues related to literacy and language required complex solutions, and considerable time to produce useable, functional documents for the research study. A large quantitative survey of addiction, gambling and mental health was completed and there are several significant points related to instruments that are worth noting:

- ❑ All the research instruments were translated into Cree. This included the consent form, the Canadian Problem Gambling Index, the Addiction Severity Index, and self-reports including the Beck Depression Scale and Brief Symptom Inventory. In addition the full Diagnostic Interview Schedule used to assess mental health problems related to depression, anxiety disorders, alcoholism and drug abuse was translated into Cree.
- ❑ Furthermore, the translation of all the research instruments involved production of both the Cree syllabic and roman phonetic versions. Finally, computerized administered, audio-taped Cree versions of the consent form, and the self-report instruments (Beck Depression Inventory, Brief Symptom Inventory) were produced to facilitate the collection of data from those unable to read.
- ❑ The team of trained interviewers included two Cree-speaking interviewers, George Bordeleau (trilingual English, French, Cree) and Darryl Diamond (bilingual Cree, English). See the poster in the Appendix introducing the members of the team. Posters were distributed throughout each community prior to the arrival of the interview team. The team had logistical support from a research administration technician (Tracy Wysote) paid from the budget of the CBHSSJB. Tracy provided secretarial and logistical support for the research project by organizing regular team conference calls and meetings, distributing minutes and other research materials, and arranging travel and accommodation for team travel to the north.
- ❑ The Executive Committee of the CBHSSJB named the research project “In Search of Peace of Mind,” and this title was used throughout the community discussions, and on all research materials, consent forms, advertisements etc., within each community.

Due to financial constraints, we were unable to complete one of the original objectives of the proposal, specifically the development of community case studies. The case studies were originally designed to characterise access to gambling, the forms of gambling, as well as the costs and benefits of gambling within the Cree communities. The large translation and travel costs associated with this study limited the ability to complete all of the original objectives of the proposal. Financially, we were only able to involve 4 Cree communities in the project overall. In an effort to access 2 coastal and 2 inland communities, we focused our efforts on these first.

The remaining sections of this final report include a literature review related to gambling among Aboriginal communities, a section on the methods and instruments utilized in the research, as well as the results and discussion.

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Information contained in this report has been partially disseminated to the communities and band councils – via a Highlights report (September, 2009). We are in the process of producing a popular report based on the enclosed revised data analysis. Additional dissemination will be completed shortly by sending out the enclosed final report, a popular report and a videotaped presentation of the data. These materials will be sent out to the Band Councils in each community. The Band Councils will make decisions regarding the methods for further dissemination within each community. This may involve community-wide discussions of the results and implications of the study, additional conference presentations, as well the preparation of manuscripts for publication in scientific journals. Members of the CBHSSJB and the co-investigators will be involved in all aspects of the dissemination process.

Respectfully submitted,
July 30, 2010

Kathryn Gill

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BACKGROUND LITERATURE REVIEW

It is known that rates of gambling vary by gender, subgroup and cultural group (Korn 2000). It has long been known that gambling is a traditional social activity of Aboriginal societies throughout the Americas (Gabriel 1999; Hill & Clark 2001; Dyall 2010). Fenelon (2006a) notes that Indian gaming has produced some of the most contentious debates in American society, calling into question historical and contemporary perspectives on the identity of American Indians and Native nations. This debate is well illustrated in a paper by Dyall (2010) which suggests that gambling is a “poison chalice for Indigenous peoples”. Dyall notes that Aboriginal peoples increasing involvement in gambling operations throughout North America has brought about new economic and social developments that have led to rapid change and potential threats to overall well-being. Dyall (2010) stated that “there now needs to be wide discussion and engagement with First Nation peoples to identify and define from their different perspectives as to what constitutes gambling harm and secondly, how it should be eliminated”. Incorporating current Indigenous perspectives regarding the impacts of modern gambling is critical in order to understand and prevent the potentially harmful impacts of gambling within communities.

Direct observation of the effects of Indian gaming in the U.S.A however, has frequently failed to find negative consequences. Examination of “traditional” Lakota and Dakota gaming practices identified positive effects on cultural sovereignty, development and social change with comparatively few or small negative effects or conflicts (Fenelon 2006b; Hosmer 2008). In some Aboriginal communities, funds gathered from local gambling have been directed towards community development including health programs, community centres and youth programs. For example, Napoli (2002) provided evidence that many tribes use casino profits to build schools, and provide scholarships for students. In their study of the social impact of American Indian casino gaming, Peacock et al (1999) noted that gambling has provided much needed employment on the reservations, with a positive effect on personal and community self-esteem, productivity, and economic stability. These findings were supported by case studies such as the report entitled, “Beyond the Casino: Sustainable Tourism and Cultural Development on Native American Lands” (Paradis et al., 2005). This report highlighted both the overt and covert benefits of the Yavapai-Apache Nation's development of a casino. Qualitative analysis was utilized in an attempt to understand the benefits that exist beyond revenues, such as employment creation and the revitalisation of local business and traditions (Paradis et al., 2005). The study concluded that First Nations gambling is an acceptable means for achieving sustainable community development. These conclusions were supported by another case study of gaming-based economic development on the Pechanga Reservation. As outlined by Contreras (2006) the Pechanga government's gaming and resort revenues have allowed the tribe to eliminate its reliance on the federal government accompanied by a sense of independence and self-determination among Pechanga citizens. Similarly, Costello et al (2003) noted the positive effects of casino revenues and income supplements on reducing the rates of psychiatric symptoms (in particular conduct disorder and oppositional defiant disorders) among Indian children whose families moved out of poverty follow the casino development.

In contrast to the U.S.A., there are few studies of gambling among First Nations within Quebec (Papineau 2009) and Canada (Wardman et al., 2001). Canada's First Nations communities make up a unique component of Canada's gambling industry (Kulig & Mackinnon 2005). A section of The Law Commission of Canada's document, “The Legalization of Gambling in Canada” is devoted to logistical details of First Nations gambling. According to this report, Canadian First Nations ventures are regulated in one of three ways: (1) a First Nation community applies for a license like other charitable organizations; (2) a First Nation enter into an agreement with the province to operate a casino (depending on the province this may be on or off the reserve); or (3) a licence to conduct gambling events is obtained from a provincially

approved First Nation licensing body (Campbell et al., 2005). In Quebec, charitable gaming licenses are regulated by either the First Nations Gaming Commission (FNGC) or *Le Régie des alcools, des courses et des jeux* (RACJ.) Electronic gaming machines (EGMs) which includes VLTs are operated by a subsidiary of Loto-Quebec called, *Société des loteries vidéo du Québec* (SLVQ) and are regulated by RACJ (Canadian Partnership for Responsible Gambling, 2004). The amount and types of gambling allowed in First Nation communities is determined by provincial governments and varies among provinces (Campbell et al., 2005). Similar to the consensus in the U.S.A., the approval for gambling in First Nations communities is rooted in the rationale that gambling proceeds are “a vehicle of financial autonomy that will improve social and economic conditions of reservations” (Campbell et al., 2005). The small body of research that does exist on the topic often consists of overly generalized data that lacks region specific considerations (Dixon & Moore 2006; Papineau 2009).

Problem gambling in Aboriginal communities

Despite the potential positive effects of profits from gambling on communities, some North American First Nations have expressed concern over the social and political implications of gambling, citing corruption of the local tribal leaders, alcohol abuse, gambling addiction, deterioration of traditional values, youth gangs, and reduced child supervision as negative consequences of Aboriginal gaming (Zitzow 2003; Kulig & Mackinnon 2005). Several cross-sectional studies have shown higher prevalence rates of problem gambling among Aboriginals compared to the general population (Zitzow 1996; Volbert & Abbott 1997; Wardman et al., 2001). Papineau (2009) noted that research from Canada, Australia, the United States and New Zealand has consistently indicated higher rates of problem gambling among Aboriginal populations when compared to non-Aboriginals. For example, the Canadian Community Health Survey identified Aboriginals as one of the highest risk groups for problem gambling, however this study excluded individuals living on reserves or those in remote regions (Marshall & Wynne 2003). Wardman et al (2001) note that there extensive variation in estimates of risk for problem gambling; odds ratios indicate that the Aboriginal population has a rate of problem gambling behaviour 2.2 to 15.69 times higher than the non-Aboriginal population.

It has been shown that increased accessibility to legal gambling is related to increased gambling activity, an increase in the maximum amount of money lost in one day and increased rates of problem gambling (Jacques et al., 2000). Problem gambling has also been linked to the introduction of video lottery terminals (VLTs) (Wiebe & Cox 2001). The 2002 National Survey of Gambling Problems revealed that 12-month prevalence of gambling problems in Canada was 2% with some variations between provinces. With the exception of Quebec, the highest prevalence rates emerged in areas with high concentrations of VLTs (Cox et al., 2005). In general, it appears that the highest prevalence of problem gambling occurs in locations with high per capita concentrations of VLTs and permanent casinos (Smith & Campbell, 2007).

VLTs are said to “posses a greater addictive potency” than older more traditional forms of gambling (Smith et al., 2004). VLTs often have built in structural characteristics that promote persistence of gambling, spark feelings of false-hope as well as feelings of heightened exhilaration within players (Smith et al., 2004). A 2005 CBC radio documentary entitled “Le crack de la loterie vidéo” claimed that the most vulnerable citizens (e.g. elderly and welfare collectors), were frequent users of VLTs. In the documentary, several interviewees observed increased levels of unemployment, school drop-out and child neglect as well as decreased levels of traditional practices, such as hunting and fishing following the installation of VLTs (Panasuk 2005). Quebec has emerged as one of the provinces with the highest number of VLTs; of 39,109 VLTs in Canada, 37% were located in Quebec (Azmier et al., 2005).

Gaming and Gambling in the Cree Communities of Northern Québec¹

In small isolated communities of the Cree territory, gambling traditionally brought people together in a social activity that redistributed wealth within a closed system. In the past ten to twenty years gaming and gambling activities have increased as the population has grown in size, social complexity, and wealth. Intra-community, locally-controlled Cree gambling is focussed on local and regional sports teams, numbers games, draws and radio bingos (Torrie 2004). As noted above, local, intra-community gambling has been widely perceived as beneficial, providing social activities, as well as financial support for local sports teams and radio stations.

There is evidence that the Cree are becoming involved in a "new" gambling economy, controlled from outside the Cree communities. These new forms of gambling take place in the metropolitan casinos of Montreal and Hull, as well as the VLTs of Val d'Or, Chibougamou and Radisson - all external points of contact of the Cree transfer economy. Local corner dépanneurs sells scratch cards and numbers games licensed through Loto Quebec and VLTs have been installed inside three Cree communities, through lease-use arrangements (Sabbagh 2001). The profits from two VLT operations are turned back into community programming, while the third is a privately-owned operation. The issue of whether for-profit gambling should be allowed inside Cree communities is controversial at the present time; some communities have voted against the introduction of VLTs, and three others narrowly for.

The increase in gambling opportunities in the Cree region is part of larger trend throughout Canada. Canadians have steadily increased their wagering, from an estimated \$2.7 billion in 1992 to about \$11.3 billion in 2002 (Marshall & Wynne 2003). Also, in the last fifteen years provincial governments in Canada have expanded legalized First Nations gambling to include on-reserve charitable gaming, VLTs, and casinos, along with arrangements for the sharing of gaming profits. In Quebec, gambling is occurring in some First Nations communities without provincial authorization (Kiedrowski et al., 2001).

It is the cultural context that determines the social role of gambling (Pasquaretta 2001). However, the literature on the social role of modern Aboriginal gambling in Quebec and Canada is very limited. The extent to which the existing studies can be generalised to the Cree is not known. However, the conditions linked to an increase in gambling problems exist in the Cree region: an increase in access to legal gambling; the growth of the state-sponsored gambling economy in the region; the relative wealth of the Cree transfer economy; and the increasing regional mobility between the north and the south. There have been increasing anecdotal reports of individuals showing problem and pathological gambling behaviour (Sabbagh 2001).

Relationships between gambling, substance abuse and psychological problems

Prevalence studies of comorbidity between gambling and alcohol use/abuse have found variation according to cultural group and socio-economic status (Welte et al., 2001). The relation between gambling and use of alcohol/drugs has not been studied in the Cree region, and it has been little studied among other Aboriginal groups in Canada and the U.S. (Elia & Jacobs 1993;

¹ The Cree territory in northern Quebec, known as Eeyou Istchee, was subject to the *James Bay and Northern Quebec Agreement* (1975). The size of Newfoundland, it covers the waters flowing north and west into James Bay from Labrador on the east and from the headwaters to the south. Today, most of the 13,000 Cree live in 9 communities within the territory, 5 along the Hudson and James Bay coasts and 4 inland. See map on page 16.

Volbert & Abbott 1997). Substance² abuse alone has been shown to exact a considerable toll in Aboriginal communities in terms of deteriorated health as well as increased depression, suicide, family violence and disruption, accidents and legal problems (Petawabano et al., 1994; Health and Welfare 1999; Jacobs & Gill 2002). In 1991, Sante Quebec conducted a random survey of 400 households in nine Cree communities. Overall, 22.2% of the population reported occasional drinking, and 26.7% reported habitual drinking (defined as drinking at least once/month) (Daveluy et al., 1994). The majority of respondents in the survey identified excessive consumption of alcohol as the most significant social problem in their communities. This may be related to the consequences of "binge" drinking in the population. A large proportion of occasional and habitual drinkers reported that although they tended to drink infrequently, their consumption on drinking days was very high--typically five drinks or more--to the point of inebriation (Daveluy et al., 1994). The idea of a sequential shift from problem drinking to problem gambling may have similarities to the notion of multiple addictions that occur alternately in an individual life history (Bayle et al., 1996).

Pathological gamblers have been shown to engage in multiple impulsive and dysfunctional behaviours including suicide attempts, alcohol/drug abuse, compulsive shopping and spending, and compulsive sexual behaviour (Kausch 2003). A relationship between gambling, substance abuse and increased sexual risk behaviours (Kausch 2003; Petry 2000) also raises a flag in a region where sexually transmitted diseases are higher than the provincial rates (Schnarch 2001). In addition, a review of the literature examining the relationship between mood disorders and problem gambling (Martin 2004) concluded that there is a greater prevalence of mood disorders, substance abuse and suicidality among pathological gamblers. A study by Bourget et al (2003) analysed 75 suicides linked to gambling in Quebec from 1994 to 2000. Of the 75 victims, 81% experienced severe financial difficulties, as well as marital problems (35%). An active psychiatric illness at the time of death could be determined for 39 of the 75 victims (52%). In summary, the potential inter-relationships among gambling, other addictions, and psychological distress and suicide are collectively of concern to the Public Health Department of the CBHSSJB, and to the leadership in the Cree communities.

Summary

In summary, the Cree appear to combine a modern version of their traditional community-based gambling with newer activities that form part of the gambling economy of Quebec. On the one hand, it could be hypothesised that community-based and Cree-controlled gambling is continuing to affirm community values while providing cultural continuity (Pasquaretta 2001). On the other hand, there is no information about the rates or impact of gambling among Cree adults at casinos and VLTs, or the net social, psychological, cultural and economic effects of for-profit gambling outside communities. Vulnerability to problems associated with gambling is directly related to risk factors in the family and community. Risk factors for problem gambling identified by Derevensky & Gupta (2004) include traumatic life events, learning disabilities, anxiety and depression, impulsivity, and drug/alcohol abuse. The Royal Commission on Aboriginal Peoples (RCAP 1996) identified elevated rates of suicide, family violence, substance abuse and related mental health problems in many Aboriginal communities.

The present study examined gambling behaviour among adult Cree. Standardized instruments and structured interviews were used to collect quantitative data on gambling behaviour, as well as various social and psychological problems. Multiple variables potentially related to gambling risk were measured, including individual factors (demographics, SES, education, psychological

² The term "substance" refers to alcohol or other drugs such as cannabis, cocaine, heroin, benzodiazepines, narcotic analgesics as well as inhalants.

problems and distress), family of origin factors (family history of gambling and alcohol/drug abuse) and community factors (gambling opportunities).

THE RESEARCH TEAM and CREE COMMUNITY PARTNERS

Kathryn Gill Ph.D. is an Associate Professor, Psychiatry Department, McGill University, a member of the National Network for Aboriginal Mental Health Research, and the Director of Research, Addictions Unit, McGill University Health Centre. Her primary expertise is in qualitative and quantitative methods, specifically related to substance abuse and mental illness. She was responsible for the overall design and implementation of the research project. Her role included hiring and supervision of the research co-ordinator and other staff, training assistants, verifying data coding and entry, and monitoring all data collection procedures in order to ensure uniformity over the study period as well as the final data analysis, interpretation, report writing and dissemination of results.

Jill Torrie M.A. is a social-cultural anthropologist and qualitative researcher. She is currently the Director of Specialised Services in the Public Health Department of the Cree Territory, Cree Board of Health and Social Services of James Bay (CBHSSJB). In this capacity she runs the research, surveillance, evaluation, clinical preventive services, training and communication activities of the Public Health Department. As the primary representative of the CBHSSJB on the project, Ms. Torrie brought considerable experience with research within the Cree region and among other aboriginal groups. She was responsible for the design, data gathering, report writing and the project logistics and co-ordination with community partners in the Cree region.

Jeffrey L. Derevensky, Ph.D., is a Professor of School/Applied Child Psychology, Department of Educational and Counselling Psychology at McGill University. He is Associate Editor of the *Journal of Gambling Studies*. He is actively involved in treating youth with severe gambling problems, and is the co-director of the International Centre for Youth Gambling Problems and High-Risk Behaviors at McGill University. He provided advice on methodology as well as the choice of instruments for measuring pathological gambling.

The project involved community partners from the Cree region, including the regional Mental Health Program of the Cree Board of Health and Social Services of James Bay, as well as Public Health Departments from specific Cree communities (Chisasibi, Mistissini, Waswanipi and Wemindji). The contacts for the community partners were the Public Health Officers or Wellness Coordinators in each of the Cree communities. Their formal involvement was established through *Letters of Understanding* signed between the local governments and the Cree Board of Health.

OBJECTIVES AND METHODS

1. To describe patterns of gambling in relation to demographic, social, and psychological factors.
2. To examine the relationships between patterns of gambling, substance abuse and associated social and psychological problems among adult Cree.
3. To examine the individual and familial risk and protective factors influencing the vulnerability to problem gambling among adult Cree.

Sampling and Procedures

Methods included a detailed survey of gambling and associated impacts using semi-structured and structured instruments in randomly selected respondents from each of the participating Cree communities (n=507). The primary instrument was the Canadian Problem Gambling Index (CPGI). Severity of addictive behaviour was assessed using the Addiction Severity Index (ASI)

(McLellan et al., 1990), and psychological problems and distress were measured using self-reports including the Brief Symptom Inventory (BSI), and the Beck Depression Inventory (BDI).

Language

English to Cree translation (and back translation) of all instruments was completed prior to initiating the study. There were significant issues related to literacy, as well as language - both in terms of the spoken Cree language (northern vs. southern dialects of the Cree language), and the written language (the use of syllabics vs. roman phonetics). The southern (inland) and northern (coastal) versions of Cree are different and the posters, radio messages, research instruments and letters to participants were translated and produced in both versions of Cree. In order to produce a Cree Lexicon to be used in the research, several workshops were held with the PI (K. Gill) as well as elders, psychologists, social workers, translators and members of the community fluent in Cree, in order to produce a consensus document of terminology related to addiction and mental health. It should be noted in this context that fluency in English, French or Cree was variable and dependent upon the age group surveyed. In addition, the ability to read English, French or Cree varied considerably – and the ability to read Cree syllabics was not universal. *(See the Mental Health and Addiction Lexicon attached in the Appendix).*

As shown below on the map of Eeyou Istchee below, the Cree communities of Northern Quebec are geographically dispersed, covering a wide geographical area. The nine Cree communities vary in size from 450 to 3,500. In each participating community a random sample was collected using housing lists, stratified by age and gender. The number of subjects per community was proportional to age and population size, with weights applied to oversample communities in which different forms of gambling (VLTs, access to casinos) were more readily available. In general, accessibility to gambling was defined by access to venues inside of the community, in neighboring Cree communities, and in other regional centers. Posters and pamphlets informing community members about the study were made available throughout each community in public venues, and via service organizations. In addition, a community wide advertising campaign (local newspapers, radio programs, newsletters) inform community members about the ongoing study. *(See example of the poster and letters attached in the Appendix. These notices were distributed throughout the communities with purpose of introducing the members of the interview team and the project).*

Randomly selected subjects in each community completed interviews after obtaining informed consent. Information was gathered over the course of two separate 2-hour interview sessions by trained interviewers. Combined, the instruments described below collected extensive information on sociodemographic variables, legal status, family/social functioning as well as details on the severity and consequences of gambling, mental health and substance abuse problems. In addition, standardized instructions, and tape-recorded self-report instruments were available in order to avoid problems related to literacy. *(See the informed consent form attached in the Appendix. Note that an audio version of the consent form was also available for participants that were unable to read. The audiofile could be displayed using a laptop computer carried by each interviewer).*

The interviews began with a brief initial questionnaire including basic sociodemographic data to establish a broad overview and profile of the participants. The second portion of the interview involved assessment of gambling activities, in terms of frequency, amount of money spent and consequences using the CPGI. The severity of problems and the need for intervention in a number of life domains including employment, health, psychological status, drug/alcohol intake, legal status, family/social relations were measured using the Addiction Severity Index (ASI).

Self-reported psychological distress was measured using the BSI and BDI (*Note that audiotaped versions of both the BSI and BDI could be administered using a laptop computer carried by each interviewer. See example in the Appendix.*)

The participating communities included two northern coastal villages (Chisasibi and Wemindji), as well as two inland southern villages (Waswanipi and Mistissini). It is of note that VLTs were directly available inside the communities of Wemindji and Waswanapi, whereas individuals seeking gambling venues were required to travel some distance from Chisasibi to Radisson in order to play VLTs. Similarly, from Mistissini the closest VLTs were located in Chibougamau (see map on the following page).

The geographical distances involved in conducting this research project were enormous, and in many instances the only access to several of the Cree villages was by airplane, particularly in winter. The costs of air travel for the research team was paid by the CBHSSJB.



Photo courtesy of Darryl Diamond



Instruments - Measurement of Gambling, Addiction and Psychological Impacts in Adults

All instruments and standardized instructions were available in both English and Cree. Standardized instructions were read to all subjects in their language of choice, and interviews were conducted by bilingual (English/Cree) interviewers. All self-report questionnaires were tape-recorded in Cree, and subjects were able to listen to the questionnaire items on a laptop computer, in order to avoid potential comprehension problems due to poor reading skills. Cree speaking interviewers were available to clarify items on the self-reports where necessary.

The **Canadian Problem Gambling Index** (CPGI) has been used extensively in recent Quebec (Ladouceur et al., 2004) and Canadian (Marshall & Wynne 2003) national gambling surveys. It is considered to be a more appropriate measure for the general population than other well known clinical instruments (Ferris & Wynne 2001). The instrument assesses gambling involvement, problem behaviour, adverse consequences, and classifies respondents as non-gamblers; none, low, moderate risk gamblers; or problem gamblers. Gambling severity is determined using 9 question subscale called the "Problem Gambling Severity Index (PGSI). The PGSI assesses gambling problems over the past 12 months using a 4 point scale (0-3), yielding a quantitative severity index score ranging from 0 to 27. Test-retest reliability for the instrument is good with values up to 0.78.

The **Addiction Severity Index** (ASI) is a structured interview that can be administered by a trained interviewer in approximately 30-40 minutes. It assesses general problems in a wide range of life domains, including health, drug and alcohol use, family and social functioning, employment, legal problems and psychological distress. Within each of these domains, a quantitative severity index is produced based on the number, duration, frequency and intensity of symptoms experienced during the past 30 days. These composite severity indices yield "impact ratings" in a number of domains (health, family/social functioning, legal problems) that are of general relevance in relation to gambling. Thus, the composite scores reflect the severity (and need for treatment) in a wide range of domains of interest in the present study. Information is also gathered in relation to past history of drug/alcohol problems, as well as family history of psychological and substance abuse problems (in grandparents, parents, brothers, sisters, aunts, uncles). The psychometric properties of the ASI have been found to be excellent, with interrater reliability ranging from 0.86 - 0.96 and test-retest reliabilities of 0.92 (Alterman et al., 1994; McLellan et al., 1990). The ASI has been widely employed in Quebec, and has been recommended by the Le Comité-Conjoint MSSS-Réseau sur la sélection d'instruments d'évaluation de la clientèle, Quebec (Boivin, 1990).

The **Brief Symptom Inventory** (BSI) is a 53 item standardized self-report inventory covering nine specific areas of psychological distress (e.g. depression, anxiety) experienced in the past week. The instrument has been shown to have sound psychometric properties (internal consistency for various subscales range from 0.77-0.90; test-retest reliability from 0.78-0.90). *(see appendix for copy of the Cree/English version of the BSI, and the audiofile).*

The **Beck Depression Inventory** (BDI) is a 21 item self-report that rates cognitive, affective, somatic and vegetative symptoms of depression on a four-point scale, with the total score reflecting overall level of depression experienced in the week prior to the test (Beck, 1987).

The **CDIS-IV** is a computerized version of the Diagnostic Interview Schedule (DIS). The DIS Version IV is a fully structured interview designed to ascertain the presence or absence of major psychiatric disorders as outlined in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed. [DSM-IV]; American Psychiatric Association [APA], 1994) (Robbins et al.,

2000). The DIS Version IV attempts to mimic a clinical interview by using questions to determine whether psychiatric symptoms endorsed by a respondent are clinically significant and are not explained by medical conditions or substance use. The interviewers were trained to administer the CDIS, and all sections utilized (substance use, mood and anxiety disorders) were translated to Cree syllabics and phonetics. Due to the fully structured nature of the DIS, non-clinicians are capable of administering the DIS with adequate reliability and validity (Robbins et al., 2000). <http://epi.wustl.edu/dis/Dishome.htm>

ETHICAL CONSIDERATIONS

The protocol and consent form were submitted to the Research Ethics Board (REB) of McGill University for approval (*see ethics approval letter from the REB attached in the Appendix*). Following approval, further ethic review was conducted by the Ethics Committee of the CBHSSJB through the process outlined in the Cree Board of Health's research procedures manual (Torrie 2001). The community partners for this project were the Cree Nation local governments, represented by their Public Health Officers or Wellness Coordinators. Partial financing for the project was obtained from the FQRSC, with additional funds provided by the Public Health Department of the CBHSSJB. *Letters of Understanding* were signed between each Cree Nation government and the Cree Board of Health to spell out mutual obligations and responsibilities involved with the partnership. A Steering Committee was formed consisting of the principal investigator (K. Gill), J. Torrie, who also represented the CBHSSJB Research Committee, a CBHSSJB representative for health and social services, and local government representatives. In addition, Research Advisory Committees were formed in each of the participating Cree Communities.

DATA ANALYSIS

Data for each participant across all variables (e.g. frequency of various gambling activities, demographics, CPGI, ASI scores etc.) were coded and entered into a database using the Microsoft Excel. Data coding and entry was independently checked for accuracy by the research coordinator. Statistical analyses were conducted using the micro-computer version 17 of SPSS. Associations were examined using the chi square test for categorical data and Kendall's tau for ordinal and dichotomous data.

In descriptive analyses, data from the entire sample were analyzed together and then stratified by sex, age, marital status, education level and income in order to describe the characteristics of gambling within the sample in a number of ways. Chi-square analysis was used to make group comparisons on the distribution of gambling as well as on the frequency of particular gambling behaviours (bingos, VLTs, casino). Comparison between groups was made on quantitative variables including money spent, psychological distress (scores on the ASI severity ratings, BDI and BSI etc) using t-tests or ANOVA as appropriate. All analyses were corrected for multiple comparisons.

Comparisons between groups formed on the basis of gambling severity (no/low, moderate, high risk gamblers) on quantitative variables (age, income, gambling severity ratings, Beck Depression scores, ASI severity scores etc) were conducted using Analysis of Variance techniques, including those for multiple variables (MANOVA). Combined, these analyses produced a thorough description of the characteristics of gambling in the Cree region, along with information on the social and psychological impact of gambling behaviour.

RESULTS AND DISCUSSION

Qualitative data collected in the Cree region: During the development of this project, interviews were conducted with a total of 46 key informants within 5 of the 9 Cree communities. Key informants were identified by the Public Health Officer in each community, and included social workers, financial officers, church leaders, elders, youth protection workers and community health workers in Chisasibi, Wemindji, Eastmain, Mistissini and Waskaganish. Informants were interviewed by a Cree-speaking employee of the CBHSSJB, following an interview guide. The results were presented and discussed in a preliminary fact-finding report (Couchees 2005), thus only a brief outline of the results will be presented here. There was notable consistency in the key informant reports. First, it was widely acknowledged that multiple forms of gambling (radio bingos, Nevada tickets, lotto tickets, VLTs, scratch cards) were practiced in the communities. Problems were considered to be largely hidden, and several communities were considered to be "in denial" regarding the extent of gambling addictions. Problems were currently attributed to the overwhelming involvement in "bingos" as well as to the introduction of Loto Quebec terminals, VLTs and casino gambling, with people traveling longer distances to Val d'Or, Radisson, Ottawa and Montreal to gamble. Notably, elders stated that the availability of VLTs, casinos and bingo had produced a marked shift in the extent and patterns of traditional gambling. This appeared to be most notable in Chisasibi, where there is ready access to VLTs close by in Radisson. Problems cited in relation to excessive gambling included child neglect, financial problems (lack of money for food, heating, car loans). It was also noted that excessive drinking often occurred in conjunction with gambling. Within the Cree region, it would appear that gambling has become the predominant leisure social activity. The following quote from the interview with an Elder in Waskaganish illustrates current opinions within the communities regarding the effects of gambling.

“Gambling did not exist before, now it is very crazy. Wild game used to be distributed to the community for free, now people sell their kill, just to use the money to gamble. There is another thing they do is, sell food plates, this you see when it is bingo night. People also borrow money from each other to play bingo. Before bingo was played every night, the community asked the Band to reduce bingo nights. Bingo has created a big problem. People do not attend public meetings because they decide to play bingo. Agreements cannot go through because not enough people have attended the public meeting”

Data from the quantitative survey:

Sociodemographic Information: Statistical comparisons between men and women were conducted as shown in Table 1. Analyses were conducted to determine whether there were gender differences age, education, employment status, substance abuse problems, psychological status and gambling behaviour. The sample breakdown was 43% male (n=217), and 57% female (n=289). In general there were few demographic differences between men and women. They were alike in terms of age, education and marital status; both groups were equally likely to have ever been married or in a common-law relationship.

Women were significantly more likely to be unemployed, with a lower mean monthly income compared to males ($p < 0.05$). Note that there were missing data on some variables due to questions that were not answered by individual respondents. Thus, sample sizes varied slightly for several variables, however starting sample size values were listed at the top of the tables for clarity.

Table 1: Selected Demographic, Education and Employment Variables Stratified by Gender (n=506)			
	Males (n= 217)	Females (n=289)	Full Sample (n=506)
Mean Age (± SEM)	44 ± 0.9	44 ± 1.0	44 ± 0.67
Marital Status			
Married/Common-law	78.1%	70.6%	73.8%
Never Married	14.4%	14.2%	14.3%
Satisfied with Marital Status **			
No	2.8%	11.8%	8.0%
Yes	92.1%	82.6%	86.7%
Living Arrangements **			
With partner & children	69.8%	58.0%	63.2%
With partner only	7.9%	6.3%	7.0%
With children only	3.7%	13.9%	9.5%
Alone/Nothing stable	5.1%	5.6%	5.4%
Number of Dependents (± SEM)	2.3 ± 0.15	2.1 ± 0.13	2.19 ± 0.09
Education			
No schooling	8.1%	7.5%	7.7%
Completed elementary school	2.8%	6.1%	4.7%
Some high school	42.2%	34.3%	37.7%
Completed high school	12.3%	10.7%	11.4%
Employment Pattern (past 3 yrs) **			
Employed (full time)	61.6%	55.6%	58.2%
Unemployed or Student/Retired	19.9%	34.0%	25.9%
# Days Paid Employment (past month) (± SEM)	14.1 ± 0.65	11.2 ± 0.6	12.42 ± 0.45
Mean Monthly Income from Employment (± SEM) **	\$2298 ± 151	\$1562 ± 98	\$1879 ± 87
Days Experienced Employment Problems (past month) (± SEM)	4.4 ± 0.7	5.3 ± 1.2	3.6 ± 0.9
<p>Values are presented as % of the sample, or group mean with the standard error (± SEM). Males and females were compared using Student's t-tests and Chi-square analysis.</p> <p>** significant differences between men and women, p< 0.05 corrected for multiple comparisons.</p>			

Gender Comparisons of Physical and Mental Health: In general, there were few differences between men and women with regards to physical health as shown on Table 2. Women had a slightly higher number of days of medical problems (past 30 days). However, there were no differences between men and women with regards to their experience of chronic medical illness, their use of prescribed medications, or the number of hospitalisations over their lifetimes.

Table 2 also reports the current and lifetime experience of psychological distress. Note that this information was gathered during the first interview using the Addiction Severity Index (ASI), and it cannot be considered as diagnostic of a mental illness. Rather, the ASI specifically asked respondents to decide whether they had ever experienced periods of serious depression, anxiety or psychosis that were not the direct result of the use of drugs or alcohol. For each question “serious” was defined as a symptom resulting in significant impairment and distress.

It is notable that women experienced higher rates of depressive and anxiety-related symptoms over their lifetimes, and they were more likely to be prescribed a medication for a psychological problem in the past year ($p < 0.05$). Also, the analysis indicated that Cree men and women were equally likely to have experienced physical abuse in their lifetime; however women had significantly higher rates of sexual abuse.

Gambling Activities and Problem Gambling: During the process of developing this study, Chevalier (2005) reported on the analysis of the Canadian Community Health Survey (2003) from the Eeyou Istchee Region that had been conducted by the CBHSSJB and INSPQ. Compared to the rest of Quebec, preliminary analyses conducted by Chevalier found a lower overall rate of gambling among adult Cree (81% in Quebec vs. 69% Cree). However, he found a higher rate of problem gambling among Cree adults (9.5% vs. 1.7% in southern Quebec). In general, Cree women (10.3%) had a higher risk than men (6.9%).

Analysis of the current survey data found a slightly different pattern of results compared to Chevalier (2005). The current study utilized the Canadian Problem Gambling Index (CPGI) which assess gambling involvement, adverse consequences, and risk of problem gambling. Gambling behaviour for men and women is presented in Table 3. Note that some questions on the CPGI were not answered by individual respondents, leading to a small amount of missing data. Thus, sample sizes varied slightly for several variables, however starting sample size values were listed at the top of the tables for clarity.

Similar to Chevalier (2005), the analysis indicated that 68.4% of the overall sample took part in some type of gambling or gaming activity over the past year as shown in Table 3. Men and women differed only in terms of their participation in bingo. Women were more likely to play bingo (56.6% of women compared to 35.1% of men, $p < 0.05$), and they also played bingo more frequently (20.8% of women played once/week or more often).

Assessment of Problem Gambling Behaviour: Analysis of problem gambling was conducted using the 9-question subscale of the CPGI called the "Problem Gambling Severity Index (PGSI). The PGSI assesses gambling problems over the past 12 months using a 4 point scale (0-3), yielding a quantitative severity index score ranging from 0 to 27.

Table 2: Physical and Mental Health Status Stratified by Gender (n=506)			
	Males (n= 217)	Females (n=289)	Full Sample (n=506)
Has a chronic medical problem that interferes with functioning	43.1%	48.4%	46.1%
Taking prescribed medication for health problem (past year)	43.8%	50.2%	47.4%
# Days Medical Problems (past month) (± SEM) **	2.4 ± 0.40	4.6 ± 0.5	3.7 ± 0.3
# Times Hospitalised in Lifetime (± SEM)	2.3 ± 0.28	2.1 ± 0.18	2.2 ± 0.14
Current Smoker	43.3%	41.1%	42.1%
History of Psychological Distress Reported on the Addiction Severity Index (Lifetime)			
Depression **	46.8%	64.5%	56.9%
Anxiety **	45.3%	55.1%	50.9%
Hallucinations/Psychosis	9.8%	9.5%	9.7%
Violent Behaviour	33.0%	28.9%	30.7%
Suicide Attempts	13.1%	19.9%	17.0%
Prescribed Psychiatric Medication in (past year) **	9.4%	17.2%	13.9%
# Days Experienced Psychological Problems (past month) (± SEM) **	2.97 ± 0.51	4.5 ± 0.53	3.8 ± 0.37
Mean Beck Depression Inventory Score (± SEM)	7.2 ± 1.0	8.3 ± 0.56	7.8 ± 0.40
History of Abuse in Lifetime			
Physical Abuse	44.0%	49.5%	47.1%
Sexual Abuse **	23.1%	34.7%	29.7%
<p>Values are presented as % of the sample, or group mean with the standard error (± SEM). Groups were compared using Student's t-tests and Chi-square analysis. Note that sample size varies due to missing data on some variables.</p> <p>** significant differences between men and women, p< 0.05 corrected for multiple comparisons.</p>			

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Using the scale of 0) never 1) sometimes 2) most of the time 3) almost always, individuals were asked to respond to questions which assessed the extent and consequences of their gambling behavior such as:

- Have you bet more than you could really afford to lose
- Have you needed to gamble with larger amounts of money to get the same feeling of excitement
- When you gambled, did you go back another day to try and win back the money you lost
- Have you borrowed money or sold anything to get money to gamble
- Have people criticized your betting or told you that you had a gambling problem

Analysis of the sample that completed the 9 questions on the PGSI (n=315) demonstrated that the majority fell into the no-risk group as shown at the bottom of Table 3. Unlike the Chevalier (2005) study, there were no significant differences between men and women in terms of the frequency of problem gambling. Approximately 3.2% of the sample of current gamblers was categorized in the high risk (problem) gambling category on the PGSI.

Table 3: Gambling Behaviour Stratified by Gender (n= 506)			
	Males (n= 217)	Females (n=289)	Full Sample (n=506)
Any Gambling/Gaming Activities (past year)	67.8%	68.8%	68.4%
Lottery Tickets (649, Pick3, Nevada)	57.2%	48.2%	52.1%
Any Bingo **	35.1%	56.6%	47.3%
Any Casino Gambling	21.0%	18.1%	19.3%
Other Gaming (sports pools, cards, poker)	34.3%	27.9%	30.7%
Frequency of Bingo			
Once/week or more **	3.8%	20.8%	13.5%
Once per month	19.1%	21.9%	20.7%
1-5 times/year	12.0%	13.9%	13.0%
Average Amount of Money Spent on Gambling/Gaming (past month) (\pm SEM)	\$130.45 \pm \$17.0	\$93.78 \pm \$10.5	\$109.62 \pm \$9.5
Problem Gambling Severity Index (PGSI) (risk category among those with any gambling/gaming activity in the past year)	(n = 140)	(n=175)	(n=315)
No Risk	57.1%	64.6%	61.3%
Low Risk	19.3%	17.1%	18.1%
Moderate Risk	17.9%	17.1%	17.5%
High Risk	5.7%	1.1%	3.2%
Values are presented as % of the sample, or group mean with the standard error (\pm SEM). Groups were compared using Student's t-tests and Chi-square analysis.			
** significant differences between men and women, $p < 0.05$ corrected for multiple comparisons.			

Comparison of Low and High Risk Gamblers: The sample of individuals with any gambling/gaming activities over the past year were stratified into two groups: no/low risk gamblers and moderate/high risk gamblers using the PGSI scale. The two groups were compared in terms of frequency of all gambling activities, as well as amounts of money spent. As expected, there were significant differences among the two gambling risk groups in terms of participation in various gambling/gaming activities, the frequency and time spent on gambling/gaming, as well as the amount of money spent (see Table 4 below). It is worth noting that the high risk gamblers spent approximately \$346 per month on gambling/gaming activities, and 21% of them had gambled while high or drunk in the past year. Thus, high risk gamblers were characterized by a significantly greater number of gambling activities, higher average monthly spending, a higher maximum amount spent, as well as other risk factors including drug or alcohol use. Further analysis of the correlates of gambling behavior are provided in the following section.

Table 4: Gambling Behaviour Stratified by Gambling Risk Category (n= 315)		
	No/Low Risk Gamblers (n=250)	Moderate/High Risk Gamblers (n=65)
Gambling/Gaming Activity (past year)		
Lottery Tickets (649, Pick3, Nevada)	69.1%	83.1%
Any Bingo **	66.1%	83.1%
Any Casino Gambling	25.2%	38.5%
Other Gaming (sports pools, cards, poker) **	36.8%	75.4%
Frequency of VLT/Slot Machines		
Once/week or more **	8.4%	27.0%
Mean \$\$ Spent on Gambling/Gaming (past month) (\pm SEM) **	\$121.01 \pm \$10.4	\$345.63 \pm \$47.9
Maximum \$\$ Spent Gambling/Gaming (on one occasion, past year) (\pm SEM) **	\$204.68 \pm \$19.18	\$630.00 \pm \$168.82
Beliefs about Gambling **		
Agrees that after losing many times, they are more likely to win	14.3%	40.0%
Agrees that they could win more if they used a certain system or strategy	12.7%	40.0%
Gambled while drunk/high (past year) **	9.6%	21.0%
<p>Values are presented as % of the sample, or group mean with the standard error (\pm SEM). Groups were compared using Student's t-tests and Chi-square analysis.</p> <p>** significant differences between groups, $p < 0.05$ corrected for multiple comparisons.</p>		

Gambling Behaviour and Risk for Social, Financial and Psychological Problems: This section summarizes the relationships between gambling risk, substance abuse and associated social and psychological problems. Among the original 507 participants in the study, 455 (89.7%) completed the Addiction Severity Index, provided information on their gambling/gaming activities and psychological distress, as well as their beliefs related to gambling practices. In order to examine the correlates of gambling behaviour in terms of physical and psychological functioning, the sample of 455 individuals was stratified into three groups (non-gamblers, no/low risk gamblers, moderate/high risk gamblers) based on their history of gambling/gaming over the past 12 months. Of this sample, 140 participants (30.8%) reported that they did not participate in any gambling activities in the past 12 months, and 315 participants (69.2%) completed the questionnaires (such as the CPGI) focusing on gambling risks and patterns. Among the 315 individuals that reported some gambling/gaming activities over the past 12 months, 65 (20.6%) were classified as moderate/high risk gamblers. As shown in Table 5, the moderate/high risk gamblers were significantly younger, than the non-gamblers and they were more likely to have attended or completed high school. There were no other notable differences between the three groups in terms of demographic variables.

Table 5: Characteristics of Sample Stratified by Gambling Risk Category (n=455)			
	Non Gamblers (n=140)	No/Low Risk Gamblers (n=250)	Moderate/High Risk Gamblers (n=65)
Mean Age (\pm SEM)**	48 \pm 1.3	44 \pm 1.0	41 \pm 1.5
Gender (% women)	59.3%	57.2%	49.2%
Highest Level of Education**			
Elementary School	29.5%	17.1%	6.5%
High school	40.3%	53.5%	62.9%
Employment Status (past 3 years)			
Employed (full-time/part-time)	74.1%	76.2%	84.6%
Mean Income from Employment (past month) (\pm SEM)	\$1832 \pm 188	\$1968 \pm 120	\$1889 \pm 234
Values are presented as % of the sample, or group mean with the standard error (\pm SEM). Groups were compared using ANOVA and Chi-square analysis.			
** significant differences between groups, $p < 0.05$ corrected for multiple comparisons.			

Overall, approximately 47% of the participants reported that they had a chronic medical problem. There were no significant differences between the three groups (non-gamblers, no/low gambling risk, and moderate/high gambling risk) in terms of health problems. Approximately 20% of the participants reported recent depressive and anxiety symptoms (past month). In general, moderate/high risk gamblers reported significantly higher levels of psychological problems, including depression and anxiety compared to no/low risk gamblers. As measured by the Beck Depression Inventory, levels of depression (past week) were highest in the moderate/high risk gambling group as shown on Table 6.

Table 6: Psychological Status Stratified by Gambling Risk Category (n=455)			
	Non Gamblers (n=140)	No/Low Risk Gamblers (n=250)	Moderate/High Risk Gamblers (n=65)
Depressive Symptoms (BDI>19) (past week) **	10.2%	8.1%	19.0%
Relationship Problems with Spouse (past month) **	11.4%	9.2%	22.0%
Prescribed Psychiatric Medication (past year) **	9.4%	17.2%	13.9%
Reported Serious Anxiety (past month) **	25.9%	14.5%	24.6%
Values are presented as % of the sample. Groups were compared using Chi-square analysis. ** significant differences between risk categories, $p < 0.05$ corrected for multiple comparisons BDI = Beck Depression Inventory			

Smoking Behaviour and Substance Abuse Among Gamblers: Problem gamblers had higher rates of cigarette smoking, as shown below in Table 7. While rates of smoking were higher, the average number of smoking days/week and the average number of cigarettes smoked/day were identical between the three risk groups, Dickerson et al (2009) found high rates of lifetime nicotine dependence, as well as psychiatric and substance use comorbidities in a sample of American Indian male veterans. Lifetime nicotine dependence (23.3%) was associated with all lifetime disorders studied, including alcohol use and drug use disorders, affective and anxiety disorders, PTSD, pathological gambling and antisocial personality disorder. In the present study, current smoking was very high among the moderate/high risk gamblers with a rate of 56.3%.

In addition, approximately 38.3% of the moderate/high risk gamblers were found to have a concurrent substance abuse problem, as measured by the Addiction Severity Index. Moderate/high risk gamblers spent considerably more money on alcohol and drugs than the other groups. In addition, the percentage of participants who consumed alcohol in the past 30 days ranged from 17% (non-gamblers) to 41.5% (moderate/high risk gamblers). The percentage of participants reporting problems with alcohol or drugs was the highest in the moderate/high risk gambler group, and a significant proportion of this group reported that they considered treatment for substance dependence a priority.

Psychiatric Diagnoses Measured Using the CDIS (Computerized Diagnostic Interview Schedule): Three hundred and fifty-eight participants (78.7%) completed some or all of the CDIS questions (see Table 8 below). Approximately 30% of them were diagnosed with substance abuse or dependence. The data collected using the CDIS confirmed the high rates of substance dependence detected using the Addiction Severity Index. The moderate/high risk gamblers showed the highest rates of substance dependence, as well as elevated levels of mood disorder and tobacco dependence.

Table 7: Smoking, Substance Use and Legal Problems Stratified by Gambling Risk Category (n=455)			
	Non Gamblers (n=140)	No/Low Risk Gamblers (n=250)	Moderate/High Risk Gamblers (n=65)
Current Smoker**	30.7%	44.8%	56.3%
Current Substance Abuse **	19.8%	20.9%	38.3%
Any alcohol consumption (past month)	17.4%	30.8%	41.5%
Mean \$\$ Spent on Alcohol (past month) (± SEM) **	\$13.50 ± 4.97	\$19.07 ± 3.01	\$37.58 ± 11.62
Mean \$\$ Spent on Drugs (past month) (± SEM) **	\$13.07 ± 6.26	\$12.59 ± 79.16	\$82.31 ± 30.57
Ever Received Treatment for Substance Abuse (lifetime) **	6.8%	4.6%	17.2%
Any legal problems (past month)	11.7%	14.8%	23.3%
Awaiting charges (currently)	0.7%	2.0%	3.1%
<p>Values are presented as % of the sample, or group mean with the standard error (± SEM). Groups were compared using ANOVA and Chi-square analysis.</p> <p>** significant differences between groups, p< 0.05 corrected for multiple comparisons.</p>			

Table 8: Psychiatric Diagnoses Measured Using the CDIS Stratified by Gambling Risk Category (n= 358)			
	Non Gamblers (n=140)	No/Low Risk Gamblers (n=250)	Moderate/High Risk Gamblers (n=65)
Completed the CDIS Interview	72.1%	82.0%	80.0%
Any Substance Dependence**	27.3%	27.1%	46.2%
Any Anxiety Disorder	7.5%	7.1%	10.4%
Any Mood Disorder	25.7%	20.0%	36.5%
Tobacco Dependence	18.8%	13.7%	23.5%
<p>Values are presented as % of the sample. Groups were compared using Chi-square analysis.</p> <p>** significant differences between groups, p< 0.05 corrected for multiple comparisons.</p>			

In this context, it should be noted that Westermeyer et al (2005; 2008) have consistently found that gamblers have higher rates of psychological problems compared to non-gamblers. For example, the prevalence and clinical correlates of pathological gambling were examined among 1228 American Indian and Hispanic American veterans in the southwest and north central regions of the United States. American Indian veterans had the highest rate of pathological gambling (10%), that was accompanied by comorbid substance abuse, as well as mood and antisocial personality disorders (Westermeyer et al., 2005).

In summary, the very high rates of lifetime comorbidity between moderate/high risk gambling, tobacco smoking, substance abuse and other psychological problems suggest that gambling is part of a constellation of high-risk dysfunctional behaviours that collectively carry significant long-term psychological and health consequences (see Figure 1 below). These results suggest that interventions for gambling disorders should not focus on gambling alone, but rather the constellation of dysfunctional behaviours that pose a risk to “Peace of Mind.”

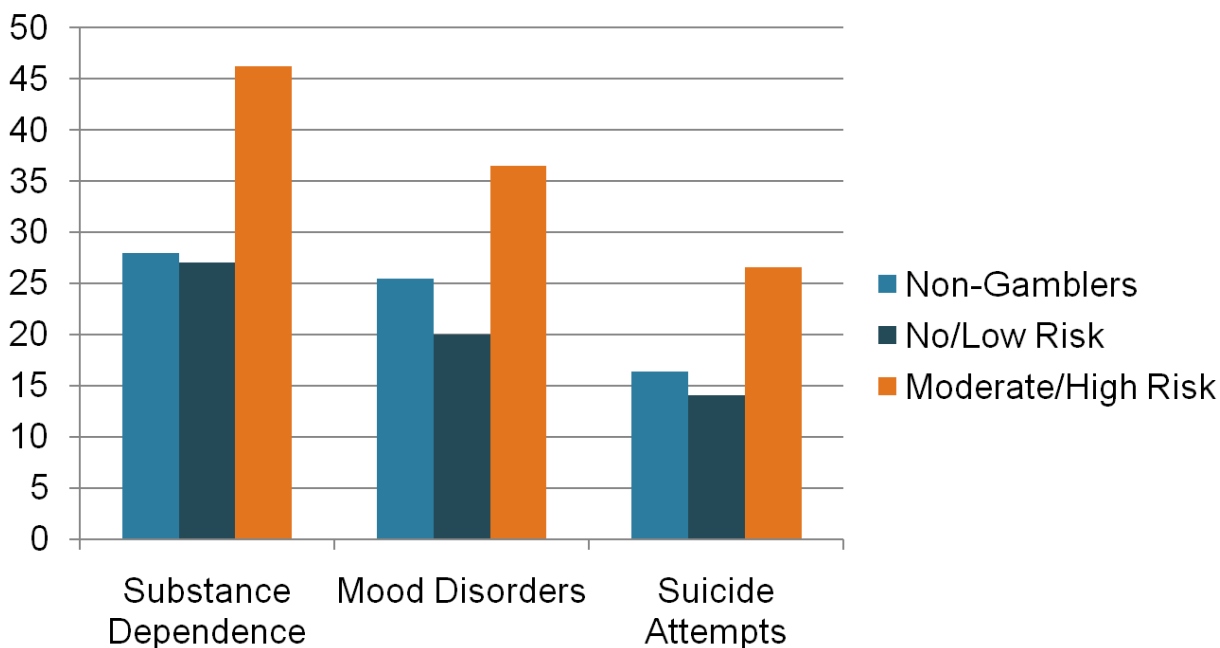


Figure 1. The rates of lifetime substance dependence or mood disorders as well as the proportion of the sample with any suicide attempts were higher in the moderate/high risk gamblers in comparison to the other groups.

PLAN FOR THE TRANSFER OF KNOWLEDGE

There are three targets for the transfer of knowledge from this project: the scholarly community; the service planning and delivery sector; and the Cree community. Standard methods of scientific dissemination (conference presentations, journal articles) will be utilized by the investigators, in addition to dissemination via existing and newly developing networks, both inside and outside of Quebec. These include the National Network for Aboriginal Mental Health Research (K. Gill) and the National Network on Gambling Issues and Research (J. Derevensky). These contacts through formal networks will help to ensure that the linkage happens between the scholarly analysis and interpretation on the one hand, and strategic planning in the areas of policy and programming on the other hand.

The strategy for reaching the service planning and delivery sector will be more varied because of the nature of the target. The CBHSSJB will prepare popular-language summaries of the research reports, and these will be widely disseminated throughout the region to counselors, social workers, Public Health Officers and Wellness Coordinators. The reports will also be disseminated through the Public Health network of Quebec and through the Aboriginal Health networks of Canada.

Third, the Cree communities, and the Aboriginal community in general will be reached through the development of a media plan worked out by the Research Committee of the CBHSSJB. This committee has developed processes for ensuring that people are notified about research findings, for disseminating the summaries of findings, and for developing strategies to implement findings.

CHALLENGES TO STUDY COMPLETION

This was a complex project to organize and there were many logistical and financial barriers to overcome. The distance travelled, multiple translations, extensive training of interviewers and the development of partnerships and collaboration with Band Councils are some examples. These issues had an important impact on the study completion.

As discussed earlier, working in partnership with the Cree Nation required consultation with multiple levels of government and multiple partners—within a framework of participatory-action research. Although the CBHSSJB initiated the project, each of the Cree communities that took part in the research (Wemindji, Mistissini, Chisasibi and Waswanipi) were consulted in terms of the objectives, instruments and design. The initiation of the research project involved obtaining Band Council Resolutions (BCR) from all the communities involved in the survey. The BCRs were essential to conducting research, allowing the formation of local Research Advisory Committees in each community. The Advisory Committees were involved in informing the community about the research, formulating the advertisements and radio messages specific to each community, and they aided in the recruitment of subjects for the survey. Consulting with Band Councils and Research Advisory Committees led to variations in the time line followed to get the research up and running in each community.

As mentioned at the top of this report, there were significant issues related to literacy, as well as language. This was the case for the spoken Cree language (northern vs. southern dialects of the Cree language), and the written language (the use of syllabics vs. roman phonetics). The southern (inland) and northern (coastal) versions of Cree are different and the posters, radio messages, and letters to participants were translated and produced in both versions of Cree. Finally, computerized administered, audio-taped versions of the consent form, and the self-report instruments (Beck Depression Inventory, Brief Symptom Inventory) were produced to facilitate the collection of data from those unable to read.

Accessing all 9 communities was a challenge. First, the geographical distances involved in conducting this research project were large. Access to several communities was by airplane, particularly in winter. This proved to be very costly. Second, our goal was to access both coastal and inland communities. We were successful in accessing Chisasibi and Wemindji (coastal) and Mistissini and Waswanipi (inland) within the time frame of the granting period. Due to time constraints and budgetary limitations we could not access the remaining communities.

Costs related to travel, translation and extensive training of the interview team led to budgetary limitations that prevented the team from achieving all the initially stated objectives of the proposal. In particular, the objective to develop community case studies characterising the access to gambling, the forms and patterns of gambling, as well as the benefits of gambling within the Cree communities was not completed. Our intention is to continue the research and eventually meet this objective in the future.

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**Mental Health and Addiction
Key Words & Concepts**

<u>English</u>	<u>East Cree/Northern Dialect</u> (Chisasibi Lexicon Workshop May 2006 **)	<u>Southern Cree Dialect</u> (Mistissini Lexicon Workshop July 2006 ++)
General Terms		
Mental health	ᑦᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ / ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑦᑕᑦᑲᑦᑲᑦ	ᑦᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ
Mental illness	ᑦᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ	ᑦᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ
Psychological problem	ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ
Emotional problem	ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ
Memory problems	ᑕᑦ ᑕᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦ
Mood disorder	ᑕᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ
Psychotic	ᑕᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ	
Impulse control	ᑕᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ	ᑕᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ
Violent behaviour		
Anger	ᑕᑦ ᑕᑦᑲᑦᑲᑦ / ᑕᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦ / ᑕᑦᑲᑦᑲᑦᑲᑦ
Anxiety	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ / ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦ / ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ / ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦ
Stress	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦ
Somatization	ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ	ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ
Specific Problems and Symptoms		
Anxiety and Anxiety Disorders		
Feeling fearful (often or all the time)	ᑕᑦ ᑕᑦᑲᑦᑲᑦ	
Excessive nervousness	ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ	
Shakiness inside (butterflies in stomach)	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ	
Worry	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ
Irritable	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ / ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ ᑕᑦᑲᑦᑲᑦ
Restless	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ
Anxiety	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ / ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦ / ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦ
Phobia		
Specific Phobia	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ
Unreasonable fear	ᑕᑦᑲᑦᑲᑦ ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ	ᑕᑦᑲᑦᑲᑦ ᑕᑦ ᑕᑦᑲᑦᑲᑦᑲᑦᑲᑦᑲᑦ

Appendix
Mental Health Lexicon, Posters, Translated Instruments, Consent Form, Audiofiles

Irrational fear	ቆይ ከ"ለዎራህ ስ.ጌሎ ብ ልገ ወራሽ	ገህ ከ"ጌራህ ገ.ጌህ ገ ወራሽ
Social Phobia or Anxiety		
Self-conscious with others	ብ ከገራህገገ"ልወራ ስ ልረገገወራ ወራሽ ለ.ረገገ"ገ	
Social phobia	ብ ራወረገገ" / ብ ራ.ጌራህ / ብ ወራሽገገ" / ብ ወራሽገገ" ስ ልገገገ" ልረገገገ"ገ	ገ ወራሽገገ"
Social anxiety	ከገራህገገ"ገ.ልወራ ወራሽ ስ ገ ራራራ.ረገገ" ለ.ረገገ"ገ	ረገገገ"ገ.ልወራ ወራሽ ገገ" ራራራ.ረገገ" ለ.ረገገ"ገ
Avoidance	ቆይ ራወረገገ" / ቆይ .ል" ልገገገ" ስ.ጌሎ	ገህ ራወረገገ" / ገህ .ል" ልገገገ" ገ.ጌህ
Agoraphobia		
Agoraphobia	ብ ወራሽገገ" ለ.ረገገ" ብ ገገገገ"ገ.ልወራህ	ገ ወራሽገገ" ለ.ረገገ" ገ ገገገገ"ገ.ልወራህ
Panic and Panic Disorder		
Panic	ብ ከገገገ"	ገ ከገገገ"
Panic attacks	ገገገገ"ገ ብ ከገገገ"	ገገገገ"ገ ገ ወራሽገገ"
Hyperventilation	ብ ለ.ረገገ"ገገ"	ገ ለ.ረገገ"ገገ"ገገ"
Dizzy	ብ ገገገገ"ገ / ብ ገገገገ"ገገ"	ገ ገገገገ"ገገ"
Feeling uneasy	ቆይ ራወረገገ"ገገ"	ገህ ራወረገገ"ገገ"
Sense of unreality	ቆይ ለ.ረገገገ"ገገ" / ለ.ረገገገ"ገገ" ብ ለ.ረገገገ"ገገ" ስ.ጌሎ	ገህ ለ.ረገገገ"ገገ"
Losing control	ብ ራወረገገ"ገገ" ለገገገገ"ገገ"ገገ" ለ.ረገገ"ገገ" ብ ለ.ረገገገ"ገገ" ስ.ጌሎ / ቆይ ገ ለ.ረገገገ"ገገ" ብ ለገገገገ"ገገ"ገገ" / ቆይ ገ ለ.ረገገገ"ገገ" ስ ልገገገ"	ገ ከገገገ"ገገ" ለ ገገገገ"ገገ"ገገ"
Going crazy	ብ ገገገገ"ገገ"ገገ"	ገ ገገገገ"ገገ"ገገ"
Heart palpitations	ብ ለ.ረገገገ"ገገ"ገገ"	ገ ገገገገ"ገገ"ገገ"
Post-Traumatic Stress Disorder		
Trauma	ብ ለገገገገ"ገገ"ገገ" ስ.ጌሎ / ለገገገገ"ገገ"ገገ" ስ.ጌሎ / ብ ለገገገገ"ገገ"ገገ" ስ.ጌሎ	ገ ገገገገ"ገገ"ገገ" ገ.ጌህ ከገገገገ"ገገ"ገገ" ገገገገ"ገገ"ገገ"
Flashbacks	ብ ገገገገ"ገገ"ገገ"	ገ ገገገገ"ገገ"ገገ"
Intrusive memories	ቆይ ገ ገገገገ"ገገ"ገገ"	ገህ ገ ገገገገ"ገገ"ገገ"
Hypervigilance	ገገገገ"ገገ"ገገ" ለ.ረገገገ"ገገ"ገገ"	ገገገገ"ገገ"ገገ" ለ.ረገገገ"ገገ"ገገ"
Easily startled/jumpy	ብ ወራሽገገ" / ብ ራወረገገ"ገገ"	ገ ራወረገገ"ገገ"
Amnesia	ብ ለ.ረገገገ"ገገ"ገገ" / ብ ለ.ረገገገ"ገገ"ገገ" ለገገገገ"ገገ"ገገ"	ገ ራወረገገ"ገገ"ገገ"
Depression and Mood Symptoms		
Depression	ገገገገ"ገገ"ገገ"	ገገገገ"ገገ"ገገ"
"Feeling Blue"	ብ ገገገገ"ገገ"ገገ"	ገ ገገገገ"ገገ"ገገ"
Sleep disturbance	ቆይ ገገገገ"ገገ"ገገ"	ገህ ገገገገ"ገገ"ገገ"

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Mental Health Lexicon, Posters, Translated Instruments, Consent Form, Audiofiles

Insomnia	ቆይታ ስራ ማግኘት	ግልጽ ስራ ማግኘት
Problems concentrating	ቆይታ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ
Worthlessness	ቆይታ ስራ ማግኘት	ግልጽ ስራ ማግኘት
Hopelessness	ቆይታ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ
Lack of motivation	ቆይታ ስራ ማግኘት ስቃይ / ቆይታ ስራ ማግኘት ስቃይ / ቆይታ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Helplessness	ቆይታ ስራ ማግኘት	ግልጽ ስራ ማግኘት
Low self-esteem	ቆይታ ስራ ማግኘት	ግልጽ ስራ ማግኘት
Guilt	ቆይታ ስራ ማግኘት / ቆይታ ስራ ማግኘት / ቆይታ ስራ ማግኘት	ግልጽ ስራ ማግኘት / ግልጽ ስራ ማግኘት
Suicidal thoughts	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Suicidal plans	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Suicidal gesture	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Suicide attempt	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Psychosis/ Schizophrenia		
Schizophrenia	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ / ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Thought disorder	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Psychotic	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Paranoia	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Suspicion	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
"Being watched or monitored"	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
"Being controlled"	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Delusions	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Visual hallucinations	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Auditory hallucinations	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Olfactory hallucinations	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Illusion	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Disorganized behaviour	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Incoherent	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ
Addiction and Substance Abuse/Dependence		
Addiction	ቆይታ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ	ግልጽ ስራ ማግኘት ስቃይ ስራ ማግኘት ስቃይ

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	Γἰλἄρἰῖῑ / ᄂ ἠᄂᄂᄂᄂ ḡᄂᄂᄂ ᄂ Γἰλἄρἰῖῑ	ἠᄂᄂᄂᄂ / ᄂ ἠᄂᄂᄂᄂ ᄂᄂᄂ ᄂ ἠᄂᄂᄂᄂᄂ
Addict	ᄂ Γἰλἄρἰῖῑ ḡᄂᄂᄂ	ᄂ ἠᄂᄂᄂᄂᄂ ᄂᄂᄂ
Drug addict	Γᄂᄂᄂᄂᄂᄂᄂ ᄂ Γἰλἄρἰῖῑ	ἠᄂᄂᄂᄂᄂᄂ ᄂ ἠᄂᄂᄂᄂᄂᄂ
Alcohol abuse	Γᄂᄂᄂᄂᄂ ᄂ Γἰλἄρἰῖῑᄂᄂᄂᄂᄂ	Γᄂᄂᄂᄂᄂᄂ ᄂ ἠᄂᄂᄂᄂᄂᄂᄂ
Alcohol dependence	Γᄂᄂᄂᄂᄂ ᄂ ἠᄂᄂᄂᄂᄂᄂ	Γᄂᄂᄂᄂᄂᄂ ᄂ ἠᄂᄂᄂᄂᄂᄂᄂ
Drug abuse	Γᄂᄂᄂᄂᄂᄂ ᄂ Γἰλἄρἰῖῑᄂᄂᄂᄂᄂ	ἠᄂᄂᄂᄂᄂᄂ ᄂ ἠᄂᄂᄂᄂᄂᄂᄂ
Drug dependence	Γᄂᄂᄂᄂᄂᄂ ᄂ ἠᄂᄂᄂᄂᄂᄂ	ἠᄂᄂᄂᄂᄂᄂ ᄂ ἠᄂᄂᄂᄂᄂᄂᄂ
Substance abuse	ᄂ Γἰλἄρἰῖῑᄂᄂᄂᄂ ḡᄂᄂᄂ	ᄂ ἠᄂᄂᄂᄂᄂᄂ ᄂᄂᄂ
Heroin	"ᄂᄂᄂᄂᄂ	
Pain Killers (e.g. Oxycontin, Dilaudid)	ᄂᄂ ᄂᄂᄂᄂᄂᄂ	
Cocaine	ᄂ ἠᄂᄂᄂᄂᄂᄂᄂᄂ / ᄂᄂ	
Amphetamine	ᄂ ἠᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂ ᄂᄂᄂᄂᄂᄂᄂᄂ	
Methamphetamine (ice, meth, crystal)	ᄂ ᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂ ᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂ	
Sniffing (glue, inhalants, gas, etc)	ᄂ ᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂ ᄂᄂᄂᄂᄂᄂᄂ, ᄂᄂᄂᄂ ᄂᄂᄂ ᄂᄂᄂ ᄂᄂᄂᄂ	
Marijuana (cannabis (pot, hashish)	ᄂ ᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂᄂ	
Sedatives (e.g. valium, ativan, xanax, rivotril)	ᄂᄂᄂᄂᄂᄂᄂᄂ	

****The Chisasibi Lexicon Workshop** was attended by Brian Webb (Translator), Daisy Ratt (Mental Health Program,CHB), William Ratt (Elder), Dr. Kathryn Gill (Associate Professor, Psychiatry Department, McGill University) Elsie Duff (Education Consultant, CSB), Joyce Chagnon (Psychologist, Mental Health Program, CHB)

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McGill

Faculty of Medicine
St. Paul Hospital 380 William Osler
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Faculté de médecine
3655, Avenue St-Jean
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Faculté de psychiatrie 3841 Avenue Lacombe

November 10, 2006

Dr. Kathryn Gill
Department of Psychiatry
Addictions Unit – MUHC
1604 Pine Avenue West
Montreal, Quebec
H3G 1B4

Dear Dr. Gill,

Thank you for submitting the revised research proposal "The Social and Psychological Impact of Gambling in the Cree Communities of Northern Quebec".

As this study involves no more than minimal risk and in accordance with Article 1.6 of the Canadian Tri-Council Policy Statement of Ethical Conduct for Research Involving Humans and U.S. Title 45 CFR 46, Section 110 (b), paragraph (1), we are pleased to inform you that approval for the revised study (November 3, 2006) and revised consent form (November 8, 2006) was provided via an expedited review by the Co-Chair on November 10, 2006, valid until **November 2007**. The study proposal will be presented for corroborative approval at the next meeting of the Committee and a certification document will be issued to you at that time.

A review of all research involving human subjects is required on an annual basis in accord with the date of initial approval. The annual review should be submitted at least **one month before November 2007**. Should any modification to the study occur over the next twelve months, please advise IRB appropriately.

The IRB has assigned this study with the following IRB Study Number: **A11-M43-06A**. Please reference this number in all correspondence with our office.

Yours sincerely,

Celeste Johnston, DEd, RN
Co-Chair,
Institutional Review Board

cc: A11-M43-06A

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information about this project while it is happening, you may contact Dr. Kathryn Gill by telephone at 514-934-8311, or by email at kathryn.gill@mcgill.ca. You can also contact Jill Torrie, at the Research Office for the Cree Board of Health at 514-861-2352, ext. 231 at any time for information about this study, even after it has finished.

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ndü'chischäy'mäkinuwich İyyüch, kibaw chä ush'täkinüch dibächimü'sin'hikin ipshish ä dibät'däch in kä ish miskuwä'täkinüch indä chä idish'hikinüch'h İyyü itäwin'h. In mäk kiyä chiy ndu'wäy'timn'ä, kibaw chä chī itish'hamäkuyn ü dibächimü'sin'hikin. Ü mäk chä ish miskuwä'täkinüch, kibaw kosuwän chä misinädäch int kudik'h ntkuyn dibächimü'sin'hikin. Uhī mäk misin'hikin'h, nimuy nashdich chik misinädäyü'h utsin'käsün'wäu'h awänchī inchī kä ndü'chischäy'mäkinuwich.

Chä chī uhch ayim'hidunänüch:
Mäuchī mäsinäsuch awänchī chä chī ayim'hidow uhch ü it'dü wih ndü'chischäy'timn'ä ä ishinäkuhch ü chä bimbī'täkinüch ä ndü'chischäy'mäkinuwich İyyüch kiyä mäk in chiy dändä chä uhch wīch'hīwäyn.
 İyäyn'ä mäk kochischämün'h kiyä mäk it'dü wih ndü'chischäy'timn'ä chäkon mäkoch ü ä bimbīch ä ndü'chischäy'mäkinuwich İyyüch, äukw chä chī ayim'hīt ntkuyn Kathryn Gill, mäuyä ä itsinäsut 514-934-8311, mäuyä ä misin'hichäbidimuwäkinüt kathryn.gill@mcgill.ca. Äukw kiyä chä chī ayim'hīt Jill Torrie, indä misin'hichäukimkw'ch uhch ä ndü'chischäy'mäkinuwich İyyüch uhch indä İyyü Ntkuyn Äbitsiwin'ch 514-861-2352, ext. 231, äyükw chä chī ayim'hīt mäkoch uyä ä bimbīyich ä ndü'chischäy'mäkinüych'h İyyü'h. Yäbich mäk chik chī ayim'häu äd chī chīshdäkinüch uyä ä ish bimbīyich.

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17.	FEELING BLUE ሄይ ገንጠል ስህተት	0	1	2	3	4
18.	FEELING NO INTEREST IN THINGS ላይ ልሳናት ምኞት ስህተት	0	1	2	3	4
19.	FEELING FEARFUL ላይ ግጥም ስህተት	0	1	2	3	4
20.	YOUR FEELINGS BEING EASILY HURT ላይ ግጥም ስህተት ላይ ስህተት ስህተት	0	1	2	3	4
21.	FEELING THAT PEOPLE ARE UNFRIENDLY OR DISLIKE YOU ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
22.	FEELING INFERIOR TO OTHERS ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
23.	NAUSEA OR UPSET STOMACH ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
24.	FEELING THAT YOU ARE WATCHED OR TALKED ABOUT BY OTHERS ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
25.	TROUBLE FALLING ASLEEP ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
26.	HAVING TO CHECK AND DOUBLE-CHECK WHAT YOU DO ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
27.	DIFFICULTY MAKING DECISIONS ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
28.	FEELING AFRAID TO TRAVEL ON BUSES, SUBWAYS, OR TRAINS ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
29.	TROUBLE GETTING YOUR BREATH ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
30.	HOT OR COLD SPELLS ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
31.	HAVING TO AVOID CERTAIN THINGS, PLACES, OR ACTIVITIES BECAUSE THEY FRIGHTEN YOU ላይ ግጥም ስህተት ስህተት ስህተት	0	1	2	3	4
32.	YOUR MIND GOING BLANK ላይ ግጥም ስህተት ስህተት ስህተት	0	1	2	3	4
33.	NUMBNESS OR TINGLING IN PARTS OF YOUR BODY ላይ ግጥም ስህተት ስህተት ስህተት	0	1	2	3	4
34.	THE IDEA THAT YOU SHOULD BE PUNISHED FOR YOUR SINS ላይ ግጥም ስህተት ስህተት ስህተት	0	1	2	3	4
35.	FEELING HOPELESS ABOUT THE FUTURE ላይ ግጥም ስህተት ስህተት ስህተት	0	1	2	3	4
36.	TROUBLE CONCENTRATING ላይ ግጥም ስህተት ስህተት ስህተት	0	1	2	3	4
37.	FEELING WEAK IN PARTS OF YOUR BODY ላይ ግጥም ስህተት ስህተት ስህተት	0	1	2	3	4
38.	FEELING TENSE OR KEYED UP ላይ ግጥም ስህተት ስህተት	0	1	2	3	4
39.	THOUGHTS OF DEATH OR DYING ላይ ግጥም ስህተት ስህተት ስህተት	0	1	2	3	4
40.	HAVING URGES TO BEAT, INJURE, OR HARM SOMEONE ላይ ግጥም ስህተት ስህተት ስህተት ስህተት	0	1	2	3	4

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41.	HAVING URGES TO BREAK OR SMASH THINGS ልብ ለሌሎች ማጥፋት ማወጣት ስጦታ	0	1	2	3	4
42.	FEELING VERY SELF-CONSCIOUS WITH OTHERS ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
43.	FEELING UNEASY IN CROWDS, SUCH AS SHOPPING OR AT A MOVIE ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ, ለመሆን ማወጣት ስጦታ	0	1	2	3	4
44.	NEVER FEELING CLOSE TO ANOTHER PERSON ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
45.	SPELLS OF TERROR OR PANIC ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
46.	GETTING INTO FREQUENT ARGUMENTS ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
47.	FEELING NERVOUS WHEN YOU ARE LEFT ALONE ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
48.	OTHERS NOT GIVING YOU PROPER CREDIT FOR YOUR ACHIEVEMENTS ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
49.	FEELING SO RESTLESS YOU COULDN'T SIT STILL ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
50.	FEELING OF WORTHLESSNESS ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
51.	FEELING THAT PEOPLE TAKE ADVANTAGE OF YOU IF YOU LET THEM ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
52.	FEELINGS OF GUILT ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4
53.	THE IDEA THAT SOMETHING IS WRONG WITH YOUR MIND ሌሎች ስርዓት ላይ ለመሆን ማወጣት ስጦታ	0	1	2	3	4

Brief Symptom Inventory – Audiofile

** Note that the entire instrument was produced as an audiofile that could be administered using a laptop computer carried by the interviewers. The participant could hear each question and the rating scale in each section by clicking on the Cree syllabics.

How much were you distressed by :
 ᑕᑦ ᑲ ᐃᑦᐱᓄ ᐃᐱᑦᓂᑦᐱᐃᐃᓄᑦ :

Question 1 Nervousness or shakiness inside
 ᑕᑦ ᑲᐱᑦᓂᑦᓂᑦᓂᑦᓂᑦ ᑲᑦ ᑕᑦ ᐃᐱᐱᐱᐱᓄᓄᑦ ᐱᑦᓂ ᑲᑦᓂᓂ

Question 2 Faintness or dizziness
 ᑕᑦ ᐃᑦᓂᑦ ᐃᑲᑦᐃᓄᓄᑦ ᑲᑦᓂ ᑕᑦ ᑕᑦᓂᑦᑲᑲᐱᑕᓄᑦ

Question 3 The idea that someone else can control your thoughts
 ᑕᑦᓂᑦ ᐃᑲᑦ ᐃᐱᐱᑦ ᑕᑦ ᑕᑦᐃᓄᓄᓂᑦ ᑕᑦ ᑕᑦ ᐃᐱᐱᓄᓄᑦ

Question 4 Feeling others are to blame for most of your troubles
 ᑕᑦ ᐃᐱᐱᓄᓄᑦ ᑕᑦ ᐃᑲᑦᓂᑦ ᐃᑦ ᑕᑦ ᑕᑦ ᐃᑦᐱᐱᓄᓄᑦ

Question 5 Trouble remembering things
 ᑕᑦ ᑕᑦ ᐃᑦᓂᑦᓂᑦᓂᑦ ᑕᑦᓂᑦ

Not at all ᑕᑦᓂᑦ ᐃᑦᓂᑦᓂᑦ 0	A little bit ᐃᐱᓄᓄᑦ 1	Moderately ᑕᑦᓂᑦ ᑕᑦᓂᑦ 2	Quite a bit ᑕᑦᓂᑦ 3	Extremely ᑕᑦᓂᑦᐃᑦ ᑕᑦᓂᑦ 4
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Click on the Cree text to hear the Cree audio.
 Press Esc to end presentation at anytime.