

The prevention of pathological gambling: An annotated bibliography

Peter Ferentzy, Nigel E. Turner, & Wayne Skinner, Centre for Addiction and Mental Health, Toronto, Ontario, Canada. E-mail: Nigel.Turner@camh.net

The preparation of this annotated bibliography was guided by a desire to include all of the problem gambling research articles related to *prevention* that have been published in English. Some exceptions were made for articles published in other languages but for which an English abstract was available that provided sufficient details about the study. All studies were included, regardless of their methodological quality. In some cases, studies utilizing the same treated sample but providing additional results of the study were included.

The annotations are brief and simply provide the reader with the full bibliographic reference, the basic approach that is evaluated in the study, and, when available, information about the results. No effort was made to critically appraise or review the study.

Since the problem gambling research field is a growing area of inquiry, this bibliography will become quickly outdated and will require regular update to remain current.

Prevention is a complex topic that must take into consideration the causes of the problems. As such we not only report papers evaluating prevention programs but also discuss papers that explore the causes of pathological gambling.

These papers on prevention are divided into four categories:

- risk factors,
- programs,
- evaluations of programs, and
- conceptual issues and general information.

Each paper was placed into the category that it best suited.

1. Risk factors

Abbott, M. (2006). Do EGMs and problem gambling go together like a horse and carriage? *Gambling Research*, 18, 7-38.

Study throws into question simple associations between exposure to EGMs and PG. Literature on the topic is reviewed, and the truth seems to be that availability can have many effects, from reinforcing to attenuating and even reversing. From the Abstract: “In New Zealand and Australia, despite substantial increases in EGM availability and expenditure, current national prevalence estimates are between a third to a half what they were 15 years ago”. Author concludes that issues pertaining to exposure are complex, involving individual and environmental factors.

Adams, G. R., Sullivan, A., Horton, K. D., Menna, R. & Guilmette, A. (2007). A study of differences in Canadian university students' gambling and proximity to a casino. *Journal of Gambling Issues*, 19. Available at www.camh.net/egambling/issue19/pdfs/adams.pdf

Study supports hypothesis that proximity to a casino will increase problematic gambling behavior

Alberta Alcohol and Drug Abuse Commission. (2002). *Patterns of exposure to risk and protection for substance and gambling use and abuse: Alberta Youth Experience Survey 2002*. Edmonton, AB: Author.

The Alberta Youth Experience Survey of 2002 provides information on substance and gambling use and abuse among adolescents. The main focus was on risk and protective factors. Three types of prevention programs are discussed: (1) universal—promotes overall health and the prevention or delay of the onset of risky behaviours among youth; (2) indicated—promotes efforts to reduce behaviours among youth who have begun to gamble; and (3) targeted—promotes efforts directed at those who are at greater risk. The report notes that a greater number of people at low risk may, overall, generate more harm than a smaller number at greater risk. Hence, prevention often focuses on those at lower risk. Along a continuum, the report provides five categories of risk intensity. Based on a questionnaire, 53.7% fell into the lowest-risk category, 36.2% fell into the middle-risk category, and 3.9% fell into the highest-risk category.

Allcock, C., Blaszczynski, A., Dickerson, M., Earl, K., Haw, J., Ladouceur, R., et al. (2002). *Current issues related to identifying the problem gambler in the gambling venue*. Melbourne, Australia: Australian Gaming Council. Available at <http://www.austgamingcouncil.org.au/research/files/Current%20Issues%20Related%20to%20Identifying%20the%20Problem%20Gambler%20in%20the%20Gaming%20Venue.pdf>

This report contains several discussion papers by leaders in the field. Clear, definite behavioural indicators of harmful gambling can be elusive, so a flexible approach to identification is best. Staff should not diagnose problem gamblers. The most obvious indicator of problem gambling is a patron asking for some form of assistance, such as self-exclusion. Possible indicators include frequent trips to ATMs, especially just before or after midnight when a new accounting day begins; requests to borrow money from staff; disorderly behaviour; inquiries from family members; and long playing sessions.

Ariyabuddhiphongs, V. & Chanchalernporn, N. (2007). A test of social cognitive theory reciprocal and sequential effects: Hope, superstitious belief and environmental factors among lottery gamblers in Thailand. *Journal of Gambling Studies*, 23, 201–214.

Employing social cognitive theory, this study assessed the impacts of hope, superstition, and environment upon lottery purchasing behavior – and the reciprocal effect of this behavior upon perceptions. Environmental factors (visiting temples) were found to enhance superstition, which in turn was conducive to “hope”. These affected gambling behavior, which in turn had a reciprocal effect upon perceptions. Authors suggest that proper education pertaining to odds of winning could reduce lottery play.

Barnes, G., Welte, J., Hoffman, J., & Dintcheff, B. (1999). Gambling and alcohol use among youth: Influences of demographic, socialization, and individual factors. *Addictive Behaviors*, 24, 749–767.

Two studies assessed common predictors of alcohol use and gambling among youth in the Buffalo, New York, area with respect to four criteria: (1) sociodemographic, (2) psychological, (3) parental and peer socialization, and (4) other problem behaviours. The authors found that "multivariate analyses of variance revealed that impulsivity, moral disengagement, and delinquency (adolescent or peer delinquency) predicted alcohol consumption and gambling in both studies, even after controlling for demographic factors. Parental monitoring, cigarette use, and illicit drug use predicted alcohol consumption in both studies, but did not predict gambling once the demographic and individual factors were taken into account." Like other studies, this one found higher rates of gambling among males. The authors argue that preventative efforts must go beyond prevalence and associations between variables; they need to explore causal factors, or "predictors," such as impulsivity and moral disengagement.

Bergevin, T., Gupta, R., Derevensky, J. & Kaufman, F. (2006). Adolescent gambling: Understanding the role of stress and coping. *Journal of Gambling Studies*, 22, 195-208.

Gambling severity was assessed, in terms of stress and coping style, among a sample of 2,156 high school students aged 11-20. Questions targeted: 1. Whether major (or minor) negative or stressful life events were associated with PG; 2. Whether PG was associated with less effective coping approaches; 3. Whether positive coping styles mediated the

association between stress and gambling severity. Predictably, major negative life events were associated with PG, as were poor (avoidance based) coping styles. This study also identifies gender based differences in coping styles.

Binde, P. (2007). Selling dreams—causing nightmares? On gambling advertising and problem gambling. *Journal of Gambling Issues*, 20. Available at www.camh.net/egambling/issue20/04binde.htm - 159k

A review of the literature suggests that while gambling advertising does play a role in the creation of PG, it may be less influential than other risk factors. It is acknowledged, however, that hard data confirming such conclusions is wanting – due in part to the difficulty involved with this kind of measurement. Author does suggest that the industry refrain from promoting features known to be associated with problematic gambling behavior.

Boughton, R., & Falenchuk, O. (2007). Vulnerability and comorbidity factors of female problem gambling. *Journal of Gambling Studies*, 23, 323–334.

Based on a mail-in survey, this study gauges depression rates, anxiety and other issues such as substance abuse among female problem gamblers. Predictably, rates are higher than normal. Authors suggest that prevention efforts and treatment initiatives targeting women should take co-morbid behaviors into consideration, along with mental health issues and potential traumatic history.

Bourget, D., Ward, H., & Gagne, P. (2003, December). Characteristics of 75 gambling-related suicides in Quebec. *Psychiatry and the Law (CPA Bulletin)*, 17–21.

This study was conducted to describe psychiatric, social, and demographic characteristics of problem gamblers who committed suicide. Seventy-five cases were examined. Over half were married, and one quarter (25.3%) had attempted suicide in the past. Sixty-four percent had given no warning of suicidal intentions. One quarter were intoxicated with alcohol when committing suicide, and one third had histories of substance abuse. Most had experienced marital and financial losses because of gambling. The authors claim that these findings suggest differences between pathological gamblers and nongamblers who commit suicide. Suicidal intentions and psychiatric issues may be harder to identify. Impulsiveness associated with problem gambling along with substance abuse renders this population at high risk. Low levels of marriage and employment—both considered barriers against suicide—among this group are also worthy of note. The authors recommend that suicide prevention among pathological gamblers receive more study.

Burge, A. N., Pietrzak, R. H. & Petry, N. M. (2006). Pre/early adolescent onset of gambling and psychosocial problems in treatment-seeking pathological gamblers. *Journal of Gambling Studies*, 22, 263–274.

Study suggests that early (adolescent or pre-adolescent) onset of gambling may be a predictor for other difficulties later in life, including psychiatric, familial, social, and

those involving substance abuse and pathological gambling itself.

Christopherson, K. M. & Weatherly, J. N. (2006). The effect of visual complexity when playing a slot-machine simulation: The role of computer experience, computer anxiety, and optimism. *Computers in Human Behavior*, 22, 1072–1079.

Study explores whether visual complexity in computerized slot machines increased gambling behavior. No significant evidence for such an association was found. From the Abstract: “Although computer experience was inversely related to computer-related anxiety, these measures (as well as optimism of winning) were not significantly related to participants’ behavior while playing the simulation. The present results appear to negate the idea that educating people about computers and how computerized games of chance are programmed could potentially inoculate individuals from becoming problem gamblers. Rather, they seem to demonstrate the strong allure of games of chance.”

Cronce, J. M., Corbin, W. R., Steinberg, M. A. & Potenza, M. N. (2007). Self-perception of gambling problems among adolescents identified as at-risk or problem gamblers. *Journal of Gambling Studies*, 23, 363–375.

Study of adolescents (14 to 17 years of age) suggests that familial PG behaviors and one’s own gambling behavior can affect self-perceptions pertaining to gambling problems. Authors suggest that prevention efforts take into account potential discrepancies between self-perception and reality. Notably, the perception of a family member gambling problematically greatly increased the odds of self-identification among adolescents who do indeed have a problem.

Delfabbro, P. H., Winefield, A., Dollard, M., Metzger, J., Anderson, S. & Trainor, S. (2006). A psychosocial profile of adolescents involved in high-risk behaviours in South Australia: A comparison of gambling and substance use. *Gambling Research*, 18, 76-98.

Study confirms significance of certain psychosocial predictors to high-risk behaviors among adolescents, ranging from gambling and cigarette use to other substance abuse. As expected, gender and aspects of psychosocial adjustment were both strong predictors. However, unlike other behaviors, gambling was more strongly associated with poor social adjustment than with psychological issues.

Dickson, L., Derenvensky, J. L. & Gupta, R. (2008). Youth gambling problems: Examining risk and protective factors. *International Gambling Studies*, 8, 25-47.

Study finds that being disconnected from school and family are risk factors for PG among adolescents. Given the importance of family cohesion, prevention programs should take this into account. Fostering proactive factors should accompany the targeting of risk factors.

Dixon, L., Trigg, R. & Griffiths, M. (2007). An empirical investigation of music and

gambling behaviour. *International Gambling Studies*, 7, 315-326.

Study suggests that music tempo is related to betting speed, with persons in a setting with fast-paced music betting more frequently.

el-Guebaly, N., Patten, S. B., Currie, S., Williams, J. V. A., Beck, C. A., Maxwell, C. J. & Wang, J. L. (2006). Epidemiological associations between gambling behavior, substance use & mood and anxiety disorders. *Journal of Gambling Studies*, 22, 275–287.

Study finds associations between PG and mood or anxiety disorders, and even stronger associations with substance abuse. Both in combination represented the highest risk. Being male, under 40, non-Caucasian and with a lower education level were also associated with higher PG rates.

Fabiansson, C. (2006). Pathways to excessive gambling within the social community construct. *Gambling Research*, 18, 55-68.

Based upon semi-structured personal interviews with persons seeking treatment for PG, this Australian study explores social as well as personal pathways leading from recreational to problematic EGM use. Often, persons begin with a social approach, but then winning becomes key, and the experience becomes more solitary. The study was conducted in New South Wales, which has one of the highest per capita concentrations of EGMs in the world

Felsher, J., Derevensky, J., & Gupta, R. (2003). Parental influences and social modelling of youth lottery participation. *Journal of Community and Applied Social Psychology*, 13, 361–377.

This study attempted to investigate the relation between youth (10 to 18 years) lottery participation and perceived parental involvement in lottery playing. A strong association was found, with many youth reporting that parents purchase tickets for them. Notably, youth problem gambling was associated with higher perceived parental participation in lotteries. Most participants did not fear legal repercussions when purchasing tickets, despite awareness of legal prohibitions. Lotteries are perceived as innocuous, and prevention must focus on public awareness and education. The authors note that communities would not accept parents purchasing alcohol for their children, yet similar awareness of gambling addiction is lacking. Awareness campaigns must target parents as well as youth, and current legal restrictions on purchases should be strictly enforced.

Felsher, J., Derevensky, J., & Gupta, R. (2004a). Lottery participation by youth with gambling problems: Are lottery tickets a gateway to other gambling venues? *International Gambling Studies*, 4, 109–125.

This study, with 1,072 participants aged 10 to 18, was designed to identify whether lotteries represent a key option for youth with gambling problems. A secondary objective

was to identify similarities and differences, among youth with gambling problems, between gambling behaviour associated with lottery tickets and other, "traditional," forms of gambling. Lotteries were favoured by youth with gambling problems. This study found that lottery playing is conducive to pathological behaviours, such as chasing losses, for youth with gambling problems and that lotteries are potentially addictive as well as a gateway to gambling in general. Social approval and accessibility of lotteries, misconceptions about the odds of winning, and parental approval are all potential factors in the onset of lottery playing among youth.

Focal Research Consultants Ltd. (Schrans, T., Schellinck, T., & Walsh, G.). (2001). *Technical Report: 2000 regular VL players follow up*. Halifax, NS: Nova Scotia Department of Health. Available at www.gov.ns.ca/health/downloads/VLPlayers_TechnicalReport.pdf

This is the second phase of a two-part random survey of video lottery terminal players. The study was designed to identify contributing factors to problems and resolution of problems in order to better inform prevention and treatment initiatives. This lengthy (440-page) document covers many issues, from situational factors contributing to problems and motivations for first playing to mitigating factors for stopping or reducing play. Motivations for playing, negative consequences of stopping, spousal support, and a range of other issues are covered.

Gibson, B., & Sanbonmatsu, D. (2004). Optimism, pessimism, and gambling: The downside of optimism. *Personality and Social Psychology Bulletin*, 30, 149–160.

Three studies found that people who were dispositionally optimistic were more likely to expect to win even after having lost money gambling and were less likely than pessimists to reduce their expectations and their betting after poor gaming results. Optimists also reported remembering more near wins. The results suggest that while optimism may be beneficial in many respects, it could be a risk factor for gambling-related harm.

Gill, T., Grande, E. D. & Taylor, A. W. (2006). Factors associated with gamblers: A population-based cross-sectional study of South Australian adults. *Journal of Gambling Studies*, 22, 143 -164.

This study involved a random telephone survey, and 6,045 interviews were conducted. Though this was primarily a gambling prevalence study, risk factors are identified: 1. Having a first language other than English; 2. Part-time employment; 3. Smoking; 4. Mental health issues; 5. Suicidal thoughts.

Ginakis, S. & Ohtsuka, K. (2005). Problem gambling: An exploration of the role of global personal hopefulness, short-term gambling hope, and illusion of control beliefs. *Gambling Research*, 17, 7-16.

Study finds strong correlation between harmful gambling practices and certain belief systems and states of mind. Notably “global personal hopefulness, short-term gambling

hope (fantasy hope), and illusion of control beliefs” (p. 7).

Goodie, A. S. & Lakey, C. E. (2007). Lottery participation as a marker of and contributor to gambling-related problems in college students. *International Gambling Studies*, 7, 199-211.

Study finds lottery participation to be one predictor of PG, but only as a “secondary” contributor in conjunction with other forms of frequent gambling behavior.

Griffiths, M., & Wood, R. (2000). Risk factors in adolescence: The case of gambling, videogame playing, and the internet. *Journal of Gambling Studies*, 16, 199–225.

Observing that adolescents appear to be at high risk for pathological gambling and that the condition is often associated with other problematic behaviours, this article examines risk factors for adolescent gambling and also for video game playing, as the latter shares many traits with gambling. The effects on youth of technology, notably the Internet and video games, are explored. The authors argue that young people may be more attracted to technologically advanced gambling venues. Access is identified as an important factor. The authors call for early preventative and intervention strategies. Specific proposals include raising the minimum age for all commercial gambling activities to 18, imposing stricter penalties on merchants who sell to underaged buyers, and limiting television gambling advertising to after 9 p.m. Research recommendations are also made.

Gupta, R., & Derevensky, J. (1998). Adolescent gambling behavior—A prevalence study and examination of the correlates associated with problem gambling. *Journal of Gambling Studies*, 14, 319–345.

This study finds that 80.2% of high school students (out of a sample of 817) have gambled in the past year, 35.1% gamble at least once a week, and 4.7% are pathological. Engagement in illegal acts and parents with gambling problems were both risk factors, as was gender, with males gambling more than females. The average age of gambling onset for the problem gamblers was 11.5 years, indicating the need for prevention efforts at the elementary school level. Most adolescents reported gambling at home more than anywhere else. Problem gambling seems associated with psychosocial risk factors applicable to other addictions, suggesting the need for broader conceptions of prevention. At the time of this writing, gambling is the only potentially addictive activity in which young people engage without the type of disapproval and educational campaigns aimed at other addictive behaviours.

Hamel, A., Derevensky, J., Takane, Y., Dickson, L. & Gupta, R. (2007). Adolescent gambling and coping within a generalized high-risk behavior framework. *Journal of Gambling Studies*, 23, 377–393.

Study collected data on gambling, substance abuse and other risky behaviors among high school students. Coping styles, family cohesion and overall anxiety were taken into account. Authors argue for the inclusion of gambling in the general perceived category of

“risk”, noting that this is especially poignant in the current setting wherein healthy guidelines are still lacking. Prevention efforts, they argue, have not kept up with research in this area.

Hansen, M. & Rossow, I. (2008). Adolescent gambling and problem gambling: Does the total consumption model apply? *Journal of Gambling Studies*, 24, 135–149.

Study describes the extent of gambling among adolescents in Norway. Attempts were made to determine whether overall expenditure and frequency are associated with PG. Results suggest that total consumption is a good indicator of PG among adolescents.

Hardoon, K., & Derevensky, J. (2001). Social influences involved in children's gambling behavior. *Journal of Gambling Studies*, 17, 191–215.

This study was designed to measure the betting behaviour of children and to see whether changes in amounts bet would occur in groups of two or three, and if this was affected by the inclusion in the groups of peers of the same or opposite gender. Children (grades 4 and 6) played a computer-simulated roulette game alone and in groups and were asked to complete a questionnaire addressing their gambling behaviour. Males were found to bet larger amounts than females both alone and in groups. Females were found to bet larger amounts when playing with others of either gender. The authors discuss social learning theory as a premise for the study. The present study is said to be largely preliminary, and more work along the lines of peer influence is required for the development of comprehensive preventative and intervention strategies.

Hardoon, K., Gupta, R., & Derevensky, J. (2004). Psychosocial variables associated with adolescent gambling. *Psychology of Addictive Behaviors*, 18, 170–179.

This article discusses empirical findings concerning psychosocial determinants—social support, substance use, and behaviour and learning problems—associated with adolescent problem gambling. A questionnaire was given to students (grades 7 to 13). The main psychosocial problems associated with problem gambling include poor perceived familial and peer support, problems with substance use, behaviour and family problems, and parents involved with gambling and substance use. Predictors include gender (being male), family and conduct problems, and substance addiction. The finding most relevant to prevention is that at-risk gamblers may have more in common with probable pathological gamblers than otherwise thought.

Hing, N. & Breen, H. (2005). Gambling amongst gaming venue employees: Counsellors' perspectives on risk and protective factors in the workplace. *Gambling Research*, 17, 25-47.

Study in its first stage explores employees' gambling behavior in Queensland gambling establishments. Workplaces are examined with respect to how they may promote responsible gaming practices among those who work there. The study identified 14 strategies to this end, 40 risk and 15 protective factors. Authors claim that working in

gaming establishments puts people at risk for PG.

Hing, N. & Breen, H. (2008). How working in a gaming venue can lead to problem gambling: The experiences of six gaming venue staff. *Journal of Gambling Issues, 21*. Available at www.camh.net/egambling/issue21/pdfs/issue21.pdf

Six gambling venue staff with gambling problems were interviewed with attention to workplace risk factors. From the Abstract: “For these employees, the attraction of gambling is reportedly enhanced by close interaction with gamblers, frequent exposure to gambling, the influence of fellow employees, the influence of management, workplace stress, hours of work, and frequent exposure to gambling marketing and promotions. Responsible gambling training and other venue-based responsible gambling measures did not protect these staff from gambling problems.” Study suggests that perhaps gambling in one’s own workplace ought to be forbidden. Advances in pay were also identified as a potential concern.

Hing, N. & Breen, H. (2008). Risk and protective factors relating to gambling by employees of gaming venues. *International Gambling Studies, 8*, 1-23.

In their continuing investigation of risk factors for gambling venue employees, authors offer a theoretical framework that attempts to synthesize risk and protective factors as well as interventions.

Hing, N. & Breen, H. (2006). Workplace factors that encourage and discourage gambling amongst gaming venue employees: An employees' perspective. *Gambling Research, 18*, 7-32.

In the second stage of a study, authors identify “over 50 reasons why working in a gaming venue can encourage staff gambling, and these are grouped into eight workplace factors – frequent interaction with gamblers, frequent exposure to gambling, influence of fellow employees, influence of management, workplace stress, working shift work, frequent exposure to gambling marketing and promotions, and ‘other’ workplace factors.” (p. 7) Conversely, the same factors might also discourage gambling. Reasons for why certain responsible gaming initiatives may be unsuccessful with gaming venue employees are discussed. Authors state that more information will be published in future articles.

Jacobs, D. (2000). Juvenile gambling in North America: An analysis of long term trends and future prospects. *Journal of Gambling Studies, 16*, 119–152.

Studies of middle and high schools in North America suggest that two thirds of underage youth have gambled for money within the past year. Serious problems related to gambling are experienced by 2.2 million North Americans aged 12 to 17. Lotteries represent the most common form of gambling among this age group. The number of youth gambling, and the number of those with serious related problems, is on the rise. This study provides a profile of juveniles who reported serious gambling problems.

Relevant factors include, but are not limited to, early age of onset for gambling; gender (most problem gamblers are male); parental gambling; urban environments; ethnicity; preference for rapid, continuous, and interactive games; likelihood of selling things, even using lunch money, to generate gambling funds; frequent alcohol and drug use; psychosocial states associated with the reasons given for gambling; and dissociative reactions while gambling. Noting that the age of onset for gambling is likely to decline, the author calls for early prevention efforts at the primary school level.

Joukhador, J., Blaszczynski, A., & Maccallum, F. (2004). Superstitious beliefs in gambling among problem and non-problem gamblers: Preliminary data. *Journal of Gambling Studies*, 20, 171–180.

This study finds that problem gamblers held more superstitious beliefs about gambling than non-problem gamblers and that these beliefs were associated with gambling intensity. Defined as "a strong conviction based on the erroneous perception of a cause-effect association between two independent events," superstitious beliefs are considered an important factor in the maintenance of gambling behaviour. More research is required to determine whether such beliefs precede problem gambling or are subsequent to gambling behaviour. The authors caution for cultural sensitivity when identifying, and defining, superstition. For example, praying for positive results may be culturally appropriate and hence need not be taken as irrational. Hence, a more sophisticated grasp of the concept of "superstition" is required.

Kaminer, V., & Petry, N. (1999). Alcohol and drug abuse: Gambling behavior in youths: Why we should be concerned. *Psychiatric Services*, 50, 167–168.

Few psychiatrists have substantial experience dealing with the assessment, treatment, or prevention of pathological gambling. As well, even as gambling opportunities have increased over the last decade, the implications of gambling have not been adequately studied. This is especially true for adolescents and is comparable to the situation 30 years ago with respect to substance abuse. Such lack of attention could lead to greater numbers of pathological gamblers in the next generation. Correlates of problem gambling include poor academic performance, being male, truancy, problematic parental gambling, and delinquency. A systematic effort, involving epidemiological and clinical assessment, treatment with an emphasis on high-risk adolescents, and prevention, is required.

Kaur, I., Schutte, N. S. & Thorsteinsson, E. B. (2006). Gambling control self-efficacy as a mediator of the effects of low emotional intelligence on problem gambling. *Journal of Gambling Studies*, 22, 405–411.

Study finds that low "emotional intelligence" is related to lower gambling "self-efficacy" and hence to PG. Emotional intelligence is a complex notion, and the authors offer the following in the Introduction: "Adaptive processing and use of emotions has been described as emotional intelligence. Emotional intelligence includes the perception of emotion, using emotion to facilitate decision-making, understanding emotion, and regulating emotion" (p. 405). Such intelligence is associated with superior mood repair as

well as impulse control. Authors caution that their findings stem from a metropolitan region of Australia, and that they may be culturally specific.

Kushner, M. G., Abrams, K., Donahue, C., Thuras, P., Frost, R. & Kim, S. W. (2007). Urge to gamble in problem gamblers exposed to a casino environment. *Journal of Gambling Studies*, 23, 113–120.

Cloninger's Temperament and Character Inventory was applied to PGs and to controls. PGs scored higher on indicators such as novelty seeking and harm avoidance. Authors conclude that these traits may be characteristic for PGs. PGs scored lower than controls on "self-directedness" (SD). From the Discussion: "Pathological gamblers were generally immature on all subscales of SD, i.e. they were less responsible (SD1, 68%), less purposeful (SD2, 42%), less resourceful (SD3, 58%), and less self-acceptant (SD4, 37%) and had less impulse control (SD5, 58%)" (p. 119).

LaBrie, R. A., Nelson, S. E., LaPlante, D. A., Peller, A.J., Caro, G. & Shaffer, H. J. (2007). Missouri casino self-excluders: distributions across time and space. *Journal of Gambling Studies*, 23, 231–243.

Study gages geographical and temporal concentrations of persons engaged in self-exclusion programs, with implications for concentrations of disordered gambling in general. Authors suggest that these findings could inform decisions pertaining to the allocation of public health resources based upon prevalence estimates. Self-exclusion rates were associated with gambling proximity and availability. **Ladouceur, R. (2004).**

Perceptions among pathological and non-pathological gamblers. *Addictive Behaviors*, 29, 555–565.

People's perceptions while gambling on video lottery terminals were evaluated for the purpose of comparing the frequency of erroneous perceptions and gambling-related perceptions, and the degree of conviction with respect to these perceptions, in pathological and nonpathological gamblers. Participants were assessed according to DSM-IV criteria. No significant differences were found in the percentage of erroneous perceptions, but pathological gamblers held more gambling-related perceptions in general and with greater conviction.

Ladouceur, R. & Sévigny, S. (2006). The impact of video lottery game speed on gamblers. *Journal of Gambling Issues*, 17. Available at <http://www.camh.net/egambling/issue17/ladouceur.html>

Study suggests that while high game speed can impair cognition in the sense that the number of games played can be underestimated, no noticeable effects were identified in concentration or loss of control. Motivation to play was also unaffected, even though mere games were played. Authors conclude that, at least with respect to occasional VLT players, speed has a limited effect.

Lambos, C. & Delfabbro, P. (2007). Numerical reasoning ability and irrational beliefs in problem gambling. *International Gambling Studies*, 7, 57-171.

Study suggests that pathological gamblers demonstrate cognitive biases, but not due to misunderstanding of gambling odds or to numerical ability. Authors suggest that education in odds ratios is unlikely to be an effective strategy for minimizing harm, as PGs for the most part already understand odds reasonably well.

Lee, H., Lemanski, J. L. & Jun, J. W. (2008). Role of gambling media exposure in influencing trajectories among college students. *Journal of Gambling Studies*, 24, 25–37.

Study suggests that mass media exposure affects attitudes towards gambling, and behavioral intentions as well. Perceptions of gambling can be rendered more positive or negative, depending on the ways in which gambling is depicted. Intentions to gamble, pro or con, can be affected. Shows and advertisements can make a difference with respect to someone's intention to gamble. Exposure of PG in the media can inhibit intentions to gamble.

Lund, I. (2007). Lessons from the grey area: A closer inspection of at-risk gamblers. *Journal of Gambling Studies*, 23, 409–419.

Study finds demographics to be an important risk factor consideration for PG. Gender (being male), youth, being either single, divorced or a non-western immigrant, are all identified as key. Family PG history and misconceptions about odds were also identified as significant. Author suggests that superstitious beliefs, and other misconceptions about odds, be explored more thoroughly in prevention initiatives.

Lynch, W., Maciejewski, P., & Potenza, M. (2004). Psychiatric correlates of gambling in adolescents and young adults grouped by age at gambling onset. *Archives of General Psychiatry*, 61, 1116–1122.

Few studies have investigated the mental health correlates of gambling. While early participation in behaviours with addictive potential has been associated with problems, this has not been comprehensively studied with respect to gambling. This study offers a direct investigation of a nationally representative sample of adolescent and young adult gamblers grouped by age of onset (before age 18 and adult onset). The results reveal that adolescent gamblers were more prone to drinking and drug use, dependence, or abuse, as well as depression. Early onset adult gamblers were more likely than adult nongamblers to report use of, and dependence on, alcohol and drugs. Adult onset gamblers reported higher rates of alcohol use than adult nongamblers. This study also provides confirmation to other research suggesting that adolescent gambling may be more socially oriented than adult gambling. The authors conclude that adolescent onset gambling is associated with psychiatric disorders, notably those related to substance use, and that more research is needed to better inform treatment and prevention initiatives. The authors note that the

psychiatric measures employed were limited to depression and substance use issues and that the questions related to these issues did not make for proper diagnostic criteria. Questions pertaining to possible selection bias are also discussed.

Magoon, M. E. & Ingersoll, G. M. (2006). Parental modeling, attachment, and supervision as moderators of adolescent gambling. *Journal of Gambling Studies*, 22, 1-22.

Study finds that parental gambling increases the likelihood of adolescent gambling, and also of problem gambling. Parental attachment was a protective factor, whereas alienation was a risk factor. From the Abstract: “Additionally, when peer influences were moderated by parental influences, there was a moderating effect on gambling behavior. This study illuminates the continued importance parents play in both risk enhancing and risk inhibiting influences on adolescent participation in problem behaviors.” Authors also claim that there is a general lack of parental awareness of adolescent gambling, suggesting that not only youth, but those involved with them, require more education in these matters.

Marmurek, H. H. C., Finlay, K., Kanetkar, V. & Londerville, J. (2007). The influence of music on estimates of at-risk gambling intentions: An analysis by casino design. *International Gambling Studies*, 7, 113–122.

In a study of the correlation between casino atmosphere and problematic gambling, it was found that music could affect the intention to gamble in a risky fashion. The effect, though, could be positive or negative depending upon how a setting is designed. Some methodological limitations – for example a reliance upon self-reports rather than gambling behavior – are acknowledged.

McMillen, J., Marshal, D., & Murphy, L. (2004). *The use of ATMs in ACT gaming venues: An empirical study*. Canberra: The ANU Centre for Gambling Research. Available at <http://gambling.anu.edu.au/menu/PDFs/ATMs-FINALReport.pdf>

This study finds no strong association between problem gambling and the use of automatic teller machines (ATMs) on site and finds that removal of such machines would represent an undue inconvenience for non-problem gambling patrons. Instead, the authors recommend a daily limit on the amount that can be withdrawn. However, some qualitative evidence, based upon interviews with problem gamblers and their families, was found for the removal of ATMs. The authors grant that the removal of ATMs might benefit a small (3.1%) segment of the sample population. Industry representatives were against such a policy. The study did find a strong relation between problem gambling and the use of note acceptors for electronic gambling machines (EGMs). But the authors claim that removing note acceptors would be impractical, so only a limit on the amounts that can be used this way is recommended (and even this recommendation is made tentatively, pending further study).

Miller, N. V. & Currie, S. R. A. (2008). Canadian population level analysis of the roles of irrational gambling cognitions and risky gambling practices as correlates of gambling intensity and pathological gambling. *Journal of Gambling Studies*, 24, 257–274.

Study finds irrational gambling cognitions to be associated both with the intensity of gambling behavior and with “tolerance” – the latter also being an indicator of PG. According to the authors: “In conclusion, the current study demonstrates that irrational gambling cognitions moderate the relationship between risky gambling practices and both gambling intensity and tolerance. This is the first study to investigate these relationships. The findings provide a foundation for future research regarding factors involved in the development and maintenance of pathological gambling.” (p. 272)

Moore, T., & Jadlos, T. (2002). *The etiology of pathological gambling: A study to enhance understanding of causal pathways as a step towards improving prevention and treatment*. Wilsonville, OR: Oregon Gambling Addiction Treatment Foundation. Available at <http://www.gamblingaddiction.org/Etiology/Etio02.PDF>

This study was designed to increase knowledge about the possible "causal pathways" that lead to pathological gambling. It also tested research methods for large-scale random population studies. The authors suggest that the roles of trauma, abuse, and neglect should be taken into account in prevention initiatives. Prevention measures taken in Oregon are discussed.

Nicki, R. M., Gallagher, T. M. & Cormier, A. E. (2007). Attractiveness of video lottery terminal (VLT) games for problem and non-problem gamblers. *Gambling Research*, 19, 21-35.

Study attempts to gauge the effects of entertainment-focused VLTs versus those focused upon winning on problem as well as non-problem gamblers. Significantly, PGs reacted in more problematic ways to a win-focused VLT. Authors recommend that the gaming industry introduce more games geared toward entertainment rather than winning.

Nower, L. & Blaszczynski, A. (2006). Characteristics and gender differences among self-excluded casino problem gamblers: Missouri data. *Journal of Gambling Studies*, 22, 81-99.

Study attempts to gauge gender differences – related to demographics and gambling behavior – among participants in a self-exclusion program. Women were more likely to be older than the males when deciding to participate, African American or unemployed. Avoidance of suicide was an important predictor for women’s participation. In the authors’ words: “Findings suggest that the most efficacious treatment strategies with this group will include family systemic therapy and financial management in addition to pharmaco-treatment and culturally-sensitive individual therapy.” (p.81) Identification of

comorbid addictive and mental health disorders was identified as a key consideration for the assessment of treatment needs.

Oei, T., & Raylu, N. (2004). Familial influence on offspring gambling: A cognitive mechanism for transmission of gambling behavior in families. *Psychological Medicine*, 34, 1279–1288.

While many factors in the development and maintenance of problem gambling have been identified, familial influence is understudied. This study attempts to identify the influences of parental behaviours and cognitions on the gambling behaviour of offspring. The South Oaks Gambling Screen, the Gambling Related Cognition Scale, and other questionnaires were administered to 189 families. The results suggest that parents, notably fathers, influence the cognitions and behaviours of their children. One interesting finding is as follows: "However, SEM [structural equation modelling] analyses showed that although parental gambling behavior was directly related to offspring gambling behavior, parental cognitions were not related to offspring gambling behavior directly but indirectly via offspring cognitions." These findings suggest that the cognitive mechanism by which attitudes and behaviours are transmitted may, in some ways, be subtle. More study is required. Preventative efforts should target parents' cognitions. Early intervention should focus on the family rather than on the child in isolation.

Pantalon, M. V., Maciejewski, P. K., Desai, R. A. & Potenza, M. N. (2008). Excitement-seeking gambling in a nationally representative sample of recreational gamblers. *Journal of Gambling Studies*, 24, 63–78.

“Excitement seeking” has been associated with problematic gambling behaviors, and this study identifies factors associated with excitement seeking gamblers. Substance abuse, prior incarceration, PG symptoms along with larger wins and losses were all correlated. Authors claim that impaired impulse control may be an issue, and invoke sensation seeking theory as a promising avenue for future study directions.

Petry, N. (2007). Internet gambling is common in college students and associated with poor mental health. *American Journal on Addictions*, 16, 325 -330.

Study finds significant rates of internet gambling activity among college students, with a high (almost two-thirds) PG rate among regular internet gamblers. Mental health problems were also associated with this kind of gambling. Noting that college students are educated and computer literate, author points out that internet gambling rates are high among this group. Age (youth) and gender (male) were associated with internet gambling, demographic features generally associated with PG. These findings require replication, and focus on the temporal rapport between PG, internet gambling and mental health problems would be important.

Potenza, M., Fiellin, D., & Heninger, G. (2002). Gambling—An addictive behavior with health and primary care implications. *Journal of General Internal Medicine, 17*, 721–732.

Little work has been done to study the relation between general health and gambling behaviour, yet there is some evidence that nongambling health problems are associated with problem gambling. This article discusses this relationship with an eye to screening and treatment options for problem and pathological gambling, as well as the relation between problem gambling and substance abuse. The authors suggest that general practitioners can play a role in the identification of pathological gambling. More awareness of the general health correlates associated with certain gambling behaviours could lead to physicians assuming a preventative role.

Potenza, M. N., Steinberg, M. A., Wu, R., Rounsaville, B. J. & O'Malley, S. S. (2006). Characteristics of older adult problem gamblers calling a gambling helpline. *Journal of Gambling Studies, 22*, 241–254.

This study found that older adults calling a gambling helpline differed from younger ones in ways that are clinically significant. From the Abstract: “Older as compared with younger adult problem gamblers were more likely to report having lower incomes, longer durations of gambling, fewer types of problematic gambling, and problems with casino slot machine gambling and less likely to report gambling-related anxiety, family problems, illegal behaviors and arrests, drug problems, indebtedness to bookies or acquaintances, family histories of drug abuse, and problems with casino table gambling.” Findings suggest that prevention and treatment initiatives should be more age specific in their conceptualization. Authors note that the anticipated growth in the proportion of older adults makes this a research priority.

Raylu, N., & Oei, T. (2004). Role of culture in gambling and problem gambling. *Clinical Psychology Review, 23*, 1087–1114.

The role of culture in gambling and problem gambling has not been addressed properly in the literature. This article discusses these cultural variations and identifies variables pertinent to the initiation and maintenance of gambling behaviour. The few studies available suggest that some cultures are more prone to gambling as well as problem gambling. Familial/genetic factors, along with individual and sociological determinants, should be investigated among different cultural groups in order to develop stronger etiological analyses and culturally sensitive treatment and preventative interventions. An important consideration is the effect of culture upon help seeking. Yet knowledge is lacking. For example, despite anecdotal evidence of high rates of gambling and problem gambling among Asians, this has not been systematically studied. Few studies have looked at problem gambling among ethnic minorities. This article attempts to redress this gap by reviewing available knowledge, gauges the extent to which western studies provide information applicable to other groups, and makes recommendations for further research. The authors note that high rates of problem gambling among certain groups are

not reflected in treatment attendance. Culturally relevant, community-based approaches should replace the current overemphasis on hospitals and clinics.

Ricketts, T., & Macaskill, A. (2004). Differentiating normal and problem gambling: A grounded theory approach. *Addiction Research and Theory, 12*, 77–87.

This study follows up on another by the same authors that outlined a theory of problem gambling involving the experiences of males seeking treatment and the prediction of processes that differentiate normal and problem gamblers. This study employs a grounded theory approach and a sample of male high-frequency (but still "normal") gamblers. Arousal and a sense of achievement were associated with gambling of all kinds, whereas the use of gambling to manage negative emotions was associated with problem gambling—notably, problem gamblers seemed to lack alternative emotional outlets. The ability to control gambling behaviour was another important marker, with problem gamblers requiring more "control strategies."

Rihs-Middel, M., Preisig, M., Andronicos, M., Gougler, S., Battisti, J., Aufrere, L., Zumwald, C., Simon, O. & Besson, J. (2007). The prevention of gambling behavior in Switzerland. *European Psychiatry, 22*, (supplement 1), s294 (p259).

In an attempt to provide empirical grounding for alerting health professionals on risk factors for PG, study finds that both smoking and depressive behavior are strongly associated with PG.

Rockloff, M. J. & Dyer, V. (2007). An experiment on the social facilitation of gambling behavior. *Journal of Gambling Studies, 23*, 1–12.

Study finds that signals suggesting that other gamblers have received payouts, such as the sound of bells, can intensify gambling behavior leading to more wagers and greater losses.

Rockloff, M. J. & Dyer, V. (2006). The four Es of problem gambling: A psychological measure of risk. *Journal of Gambling Studies, 22*, 101–120.

Authors propose a “4 factor model of risk for problem gambling”: Escape, Esteem, Excess and Excitement. The project began with a focus group of GA members, with findings later assessed through control methods, a telephone survey, and then application of the Canadian Problem Gambling Index. A key finding is that these features seem to distinguish PGs from abusers of alcohol, thus providing a measure that is potentially gambling specific.

Rodriguez-Jimenez, R., Avila, C., Jimenez-Arriero, M. A., Ponce, G., Monasor, R., Jimenez, M., Aragües, M., Hoenicka, J., Rubio, G. & Palomo, T. (2006). Impulsivity and sustained attention in pathological gamblers: Influence of childhood ADHD history. *Journal of Gambling Studies, 22*, 451–461.

This study explores the link between impulsiveness and childhood ADHD history to PG by comparing different aspects of impulsiveness, attention deficit and hyperactivity. Ultimately, the suggestion is that biology may be a key risk factor. From the Abstract: “Our results suggest a possible selective implication of the prefrontal cortex in PG, which would be especially evident in those with a childhood history of ADHD”.

Saint-Charles, J., Mongeau, P. & Jean-Francois, B. A. (2008). Communication perspective on video lottery terminals. *International Gambling Studies*, 8, 233-247.

Study looks at social networks and their impact on PG and on treatment seeking among VLT players. Findings suggest strongly that PG is not merely a clinical issue, but a social one as well. Typically, regular VLT players have small, and unsupportive social networks. From the Conclusion: “Regular VLT gamblers not in treatment have smaller and denser networks, seemingly living in a closed social space with little social support. Although we cannot know with certainty if these regular gamblers perceived they have problems with gambling, the significant differences we found between their networks and the networks of those in treatment invite more research on this topic.” (p. 244)

Southwell, J., Boreham, P. & Laffan, W. (2008). Problem gambling and the circumstances facing older people: A study of gaming machine players aged 60+ in licensed clubs. *Journal of Gambling Studies*, 24, 151–174.

Study identifies certain risk factors associated with EGM use among persons over 60 years of age, notably in the context of licensed clubs: not having a partner, serious disability, low income, no employment. These indicators are associated with social and recreational motivators, and also with mental health issues. Disabled persons and those without a partner were most likely to bet more than they could afford.

Stinchfield, R. (2000). Gambling and correlates of gambling among Minnesota public school students. *Journal of Gambling Studies*, 16, 153–173.

This study addressed the prevalence of gambling, and variables associated with gambling behaviour, among 78,582 Minnesota public school students in the 9th and 12th grades. Most students had gambled in the past year, though few had gambled frequently or reported gambling-related difficulties. Asian and Caucasian students gambled less often than African Americans, Latinos, and Natives. Age and gender were both significant, as older students and boys gambled more frequently. Gambling frequency was also associated with higher rates of sexual activity, the desire to stop gambling, alcohol use, tobacco use, regret over having bet certain amounts of money, and antisocial behaviour. The author concludes that gambling is probably associated with other risky behaviours and that it may also be a function of adolescent experimentation. The kind of information delivered by this study—involving such a large sample and shedding some light on specific correlates—should help in the creation of targeted prevention efforts.

Turner, N., Jain, U., Spence, W. & Zangeneh, M. (2008). Pathways to pathological

gambling: Component analysis of variables related to pathological gambling. *International Gambling Studies*, 8, 281-298.

Study lends support to the notion that the development of PG is based upon many different risk factors. From the Abstract: “We found a significant relationship between severity of pathological gambling and various measures of impulsivity, depression, anxiety, erroneous beliefs, and reports of early wins. Component analysis of these variables found four distinct components: emotional vulnerability, impulsivity, erroneous beliefs, and the experiences of wins”. This study was designed to assess a pathways model of PG etiology, and data support a multiple pathways conception. However, these authors offer four such pathways rather than three (which had been offered by the original model they were testing).

Turner, N., Macdonald, J., Bartoshuk, M. & Zangeneh, M. (2008a). Adolescent gambling behaviour, attitudes, and gambling problems. *International Journal of Mental Health & Addiction*, 6, 223-237.

Study finds that gambling among adolescents is strongly associated with advanced age, with an increase from 39% to 80% in prevalence from grades five to eleven. A poor grasp of randomness was common. Effective coping skills represented a protective factor for PG, notably in combination with a better grasp of random chance. Conversely, an interaction between the opposites – poor coping and poor cognition – were highly significant etiologically.

Turner, N., Zangeneh, M. & Littman-Sharp, N. (2006). The experience of gambling and its role in problem gambling. *International Gambling Studies*, 6, 237–266.

Study attempts to gauge PG etiology, exploring the reasons that some develop gambling problems. Big wins early in one’s gambling career was one sign, as were impulsivity, stressful life events and depression. Coping by means of escape, along with a poor grasp of probability, were also key. These risk factors were grouped in three units, involving cognition, emotion and impulsivity. A bio-psychosocial model was employed to interpret results.

Vachon, J., Vitaro, F., Wanner, B., & Tremblay, R. (2004). Adolescent gambling: Relationships with parent gambling and parenting practices. *Psychology of Addictive Behaviors*, 18, 398–401.

The additive and interactive links between family risk factors—parental gambling and parenting practices—were examined among a community sample of 938 adolescents who completed the South Oaks Gambling Screen Revised for Adolescents and a questionnaire on parenting practices. Parents completed the standard South Oaks Gambling Screen. Gambling frequency among adolescents was related to gambling frequency and problems among parents, while gambling problems among adolescents were associated only with the severity of fathers' gambling problems. Low levels of parental monitoring were

associated with gambling and other difficulties, and inadequate disciplinary practices—referring to inconsistent and harsh attempts to control a child's behaviour—were another factor associated with gambling problems in adolescents. The findings suggest that parenting practices and gambling behaviour should be targeted by prevention strategies.

Vitaro, F., Brendgen, M., Ladouceur, R., & Tremblay, R. (2001). Gambling, delinquency, and drug use during adolescence: Mutual influences and common risk factors. *Journal of Gambling Studies*, 17, 171–190.

Authors' abstract: "The purpose of this study was threefold: (1) to assess the possible mutual influence between gambling, substance use, and delinquency over a two-year period during mid adolescence, (2) to test whether variables that are usually predictive of delinquency and substance use also predict gambling, and (3) to test whether the links between the three problem behaviors could be, at least partially, accounted for by common antecedent factors (impulsivity, parental supervision, and deviant friends) assessed during early adolescence. Seven hundred and seventeen boys participated in the study. Impulsivity, parental supervision, and friends' deviancy were collected when participants were 13 and 14 years of age. Gambling, substance use, and delinquency were collected through self-reports at ages 16 and 17 years. The results showed no influence or modest influence of problem behaviors on each other from age 16 to age 17 years, once current links and auto-correlations were accounted for. Conversely, the cross-sectional links between the three problem behaviors at each age were moderately high. Impulsivity, low parental supervision, and deviant friends were predictively related to each problem. Finally, a significant, although modest, portion of the covariance between the three problem behaviors was accounted for by these three predictors. The present findings contradict previous findings about the influence of gambling on other problem behaviors and support the notion of a 'general problem behavior syndrome' fed by generic risk factors." The findings suggest that gambling behaviour should not be targeted in isolation. The authors recommend early efforts to reduce impulsive-disruptive behaviours, which in turn could be buttressed by improvement of parental supervision and association with friends who are less deviant.

Welte, J. W., Barnes, G. M., Wieczorek, W. F., Tidwell, M. O. & Hoffman, J. H. (2007). Type of gambling and availability as risk factors for problem gambling: A Tobit regression analysis by age and gender. *International Gambling Studies*, 7, 183-198.

Study surveys gambling availability as a risk factor correlated to gender and age. Overall, presence of a casino posed the greatest risk. For women, lotteries, casinos, bingo and gaming machines were most significant. For men, it was casinos and cards. For those 30 years of age and over, the greatest risk was associated with casinos, lotteries and gaming machines.

Welte, J., Barnes, G., Wieczorek, W., Tidwell, M., & Parker, J. (2004). Risk factors for pathological gambling. *Addictive Behaviors*, 29, 323–335.

This study finds casino gambling, and engagement in many forms of gambling, to be associated with gambling pathology. Cards, bingo, and lotteries are associated with moderately high risk. Alcohol abuse, minority (African, Hispanic, Asian), and low socioeconomic status were each associated with pathological gambling. When other variables were adjusted for, gender was not a significant predictor.

Winters, K., & Anderson, N. (2000). Gambling involvement and drug use among adolescents. *Journal of Gambling Studies*, 16, 175–198.

This article discusses the association between gambling and drug use among youth. Such knowledge is key to understanding the origins and course of adolescent gambling. Though many risk factors seem to run across both behaviour domains, more knowledge is needed about which factors are common and which are specific to problem gambling. Comparisons of consequences are made, and the implications of co-occurrence are discussed. In many respects, knowledge of the nature and consequences of problem gambling is less developed than that of substance abuse, a situation that must be rectified if better prevention and intervention strategies are to be developed.

Wohl, M. J. A., Young, M. M. & Hart, K. E. (2005). Untreated young gamblers with game-specific problems: Self-concept involving luck, gambling ecology and delay in seeking professional treatment. *Addiction Research and Theory*, 13, 445-459.

Article explores whether conceptual biases can be game specific, notably regarding distinctions between games involving skill and pure chance, with an eye upon the effects of such cognitions upon treatment seeking. Young people preferring skill oriented games were more likely to perceive themselves as lucky and to harbor negative attitudes toward treatment. Other implication of such self-perceptions are discussed.

Young, M., Stevens, M. & Morris, M. (2008). Problem gambling within the non-indigenous population of the Northern Territory of Australia: A multivariate analysis of risk factors. *International Gambling Studies*, 8, 77-93.

Study explores factors associated with gambling as well as PG among non-indigenous members of an Australian Territory. From the Abstract: “Of the socio-demographic variables, household type (particularly being single or living in a group household) was a predictor for both gambler types. In addition, male gender and formal education below tertiary level were associated with regular gambling. Gambling mode proved to be of greater explanatory power for both groups. In particular, electronic gaming machines (EGMs) were strongly associated with problem gambling”. Of note is that this study targeted a jurisdiction with unique demographic features, and that the indigenous population of the Northern Territory was not addressed.

Young, M. & Tyler, W. (2008). Mediating markets: Gambling venues, communities and social harm. *Gambling Research*, 20, 50-65.

Authors argue that supply-side accounts of gambling behavior and social impact have not

been informed by the best available research. In short, such explanations are simplistic, leaving us with a poor grasp of concrete determinants and, by implications, questionable policies pertaining to machine relocation. A focus upon the distribution of gambling venues among disadvantaged populations is not, on its own, sufficiently informed. From the Abstract: “It is argued that this formulation has omitted an important mediating interaction between gambling venues and the wider markets in which they operate. This paper presents an alternate account of the relationship between socio-spatial processes and social outcomes in which the structure, location and uses of gambling venues assume a central position as a mediating factor between supply and demand. The paper then presents a revised conceptual framework of a regulatory area which addresses the complexity of these relationships. Without such consideration of these effects, it is argued that regulatory efforts will be often based on a confused or over-simplistic social logic, one that is unable to reconcile the social outcomes of processes at different geographic scales.”

Zimmerman, M., Chelminski, I. & Young, D. (2006). Prevalence and diagnostic correlates of DSM-IV pathological gambling in psychiatric outpatients. *Journal of Gambling Studies*, 22, 255–262.

In what is possibly the first study of PG among a sample of psychiatric outpatients, 1,709 in all, 40 (2.3%) were found to have a lifetime history of PG. These patients demonstrated higher rates of “bipolar disorder, social phobia, panic disorder with agoraphobia, alcohol use disorder, and other impulse control disorders” (from the Abstract).

2. Programs

Aboriginal Responsible Gambling Strategy. (2002). *A self-help guide to gambling responsibly*. Toronto: Ontario Ministry of Health.

The Ontario Ministry of Health funded a special program for Ontario's Métis designed to meet the needs of this community. This 17-page brochure is written in a personable style and contains one first-person account of problems with gambling. Issues pertaining to language (problem/pathological gambler) are discussed briefly for the purpose of demystification. Readers are directed to ask themselves relevant questions about their gambling, with risk factors identified. The pamphlet winds down on a positive note, with messages pertaining to overall healthy approaches to life and alternatives to gambling.

Alberta Alcohol and Drug Abuse Commission. (1999). *Playing with fire: Aboriginal adolescent gambling*. Edmonton, AB: Author.

This video explores problem gambling, risk factors, and consequences through an aboriginal teen's story. Testimonies from gamblers are also provided.

Alberta Alcohol and Drug Abuse Commission. (2001). *Your best bet: When young people gamble. An early intervention resource*. Edmonton, AB: Author.

This gambling education curriculum is designed to function within health, life skills, mathematics, or language arts classes. Background information is provided, and an addiction model of problem gambling is employed. Misconceptions and risk factors are discussed.

Byrne, G. (2001). *The Free Yourself Program*. Warrandyte, Australia: Rebound Consulting Pty. Ltd. Available at <http://www.freeyourself.com.au/freeyourselfprogram.html>

In their words: "The 'Free Yourself Program' is a positive, holistic, pro-active and very effective approach to help people to deal with their Gambling Addiction. It represents a much-needed 'new model' of gambling addiction therapy where the main responsibility is given back to the person directly affected by the addiction to work on changing their 'attitude' and their 'behaviour.' Most importantly, it provides strategies that people can use 'in the moment' when the urge to go gambling threatens to become overpowering. People weren't born addicted, but became so over time. FYP shows how the addiction process can be reversed and eliminated."

Centre for Addiction and Mental Health, Problem Gambling Project staff. (2005). *Problem gambling: A guide for families*. Toronto, ON: Centre for Addiction and Mental Health, 44 pp., ISBN 0-88868-472-X (softcover).

As the title suggest, this brief (and very colorful) document has been designed for family members of PGs. Much of the information is the same as in the one annotated above, but the focus does shift as the target audience is different. This is a non-judgmental, easy to read document.

Centre for Addiction and Mental Health, Problem Gambling Project staff. (2005). *Problem gambling: A guide for financial counsellors*. Toronto, ON: Centre for Addiction and Mental Health, 56 pp., appendices/handouts, ISBN 0-88868-494-0 (softcover).

Targeting professionals, this brochure is more information oriented than the first two, and actually begins with the Canadian Problem Gambling Index. Many issues pertaining to PG are clarified before matters pertaining to financial counseling are addressed. Treatment services are also discussed.

Centre for Addiction and Mental Health, Problem Gambling Project staff. (2005). *Problem gambling: A guide for helping professionals*. Toronto, ON: Centre for Addiction and Mental Health, 48 pp., ISBN 0-88868-495-9 (softcover).

In its own words: "This guide is for people who work in the "helping professions," including addiction specialists, social and health care providers, workers in the criminal justice system, the clergy and employee assistance program counsellors." (p. 7) So a broad conception of helping services has guided the creation of this document. Possibly for this reason, basics are elaborated. Information about treatment and other services is

also provided.

Centre for Addiction and Mental Health, Problem Gambling Project staff. (2005). *Problem gambling: The issues, the options*. Toronto, ON: Centre for Addiction and Mental Health, 36 pp., ISBN 0-88868-470-3 (softcover).

The first in a four-part series (see directly below), this brochure is easy to read and provides some very basic information. Definitions of both gambling and PG are accessible and informative, as are information pertaining to where and how to get help. The section on gambling's effects starts with a headline: "Why Can't I Just Stop?" (p. 17) Every effort is made to relate to the target audience, which is presumably a gambler but could easily be a concerned friend or loved one.

Council on Compulsive Gambling of New Jersey. (2003). *Adolescent compulsive gambling: the hidden epidemic*.

<http://www.800gambler.org/ArticleDetails.aspx?ContentID=4>

Website offers information on issues ranging from gender to suicide. Notably, it offers ten questions to help identify a "teenage compulsive gambling problem".

Daily Strength – gamble free 12 steppers. (2008). *Welcome to compulsive gamblers top 100 recovery sites*. <http://compulsivegamblers.gotop100.com/index.php>

Site offers books, recovery programs, online interaction, contacts for debt counseling – an impressive array of networks.

Docherty, C., Frost, A., Transom, A., & Cundall, L. (2004). *Youth education project (When is it not a game?)*. Auckland, New Zealand: Problem Gambling Foundation of New Zealand. Available at <http://www.cgs.co.nz/files/YEP%20Report.pdf>

When the national pilot Youth Education Project delivered the gambling resource, *When is it not a game?*, it was found that youth are experiencing gambling-related effects and that they have some knowledge of the issue. The resource offers a "strengths-based" approach with an emphasis on youth development, conveying information about the effects of gambling in order to enable young people to make informed decisions.

Game Planit Interactive Corp. <http://www.gameplanit.com>

In their words: "Game Planit is the leading authority on consumer (player) protection policies, strategies, information, products and services, for *all* stakeholders with an interest in regulated gaming ... Product Safety & Game Evaluation Services are also part of Game Planit's comprehensive array of products and services. This services [*sic*] allows various stakeholders to fulfill their duty-of-care obligations to implement product safety warnings and other needed protective measures. Overall, Game Planit is forging the *Standards of Excellence for Player Protection* by providing all stakeholders with the highest possible prevention and problem gambling solutions based on innovation and

empirical data into problem gambling risk factors from the most recent and leading-edge research into the games and problem gambling." This site features Safe@play (see Horton, Harrigan, Horbay, & Turner, 2001), other products, workshops, and facts about gambling and odds, as well as relevant contacts.

Glass, L. (2002). *Gambling education: Some strategies for South Australian schools*. Adelaide, Australia: South Australia Department of Human Services. Available at <https://www.library.health.sa.gov.au/Portals/0/gambling-education-some-strategies-for-south-australian-schools.pdf>

This report examines state, national, and international preventative strategies along with opportunities to develop gambling education programs in South Australian schools. Such education is geared to informing students about the potential effects of gambling and to assist them in making healthy choices. The author points out that adult problem gambling often begins as early as the age of 10, rates of problem gambling among youth are higher than among adults, and gambling among youth is associated with other risky behaviours. The author also notes that gambling education in schools may in fact increase gambling rates by generating curiosity. This article discusses prospects, and limits, of school-based interventions. As knowledge alone is not sufficient to alter gambling behaviour, this report proposes a constructivist learning theory approach that emphasizes the active agency of people in the learning process. Recommendations are divided into those applicable to schools and those falling outside the purview of educational institutions. Community-based recommendations involve changing perceptions of gambling, developing a measure of safe gambling, and educating retailers about laws governing sales to minors. School-based recommendations include educating teachers and creating a Project Officer post to oversee this report's recommendations.

Government and Public Awareness Task Group of NPNU Consortium. (2000). *Harm reduction information kit: For professionals working with at-risk populations*. Edmonton: Alberta Non-Prescription Needle Use Consortium (NPNU). Available at http://www.hivedmonton.com/textsite/graphs/hrk_english.pdf

This information kit discusses the principles of harm reduction, with practical advice on issues ranging from substance abuse to problem gambling.

Griffiths, M., Scarfe, A., & Bellringer, P. (1999). Brief report: The UK National Telephone Gambling Helpline—Results on the first year of operation. *Journal of Gambling Studies*, 15, 83–90.

This article discusses the U.K.'s national gambling helpline in the first year of its operation: November 1997 to October 1998. Of 1729 calls, 51% were from problem gamblers, 90% of whom were male, and 26% of inquiries were from relatives of problem gamblers. Professionals dealing with problem gamblers represented 13% of calls. Fruit machine gambling presented itself as the most problematic of gambling behaviours, especially for adolescents and women. The authors presented their findings because there had been no prevalence studies of adult gambling in the U.K., and there was little

knowledge about which types of gambling cause the most problems. Health-related consequences of problem gambling, including depression, anxiety, and suicidal ideation, were identified by a significant minority of callers. The authors advise that excessive gambling be identified as a serious health issue and point out that while general practitioners routinely ask patients about smoking and drinking, gambling is rarely discussed.

Iowa Department of Public Health. (2008). *1-800-Bets-Off*. <http://www.1800betsoff.org/>

This site contains links targeting issues from the nature of PG to where help can be found. There is a section on facts versus myths as well as information on helplines. The standard conception of PG phases – winning, losing and desperation – is endorsed.

Know the Odds Inc. (2001). *You figure it out—Problem gambling today*. Auburn, Australia: Author. Available from <http://www.knowodds.org/yfio.html>

In their words: "The kit comprises video, software and notes and is suitable for use in secondary schools. The purpose of the kit is to educate students to: prevent them becoming problem gamblers; and understand problem gambling in others." The education kit is planned around a 20-minute video involving young people discussing issues related to gambling and interviewing an expert, while the software is geared to teaching students (even those with little aptitude for math) about the law of averages and how this works against problem gamblers.

Le groupe Jeunesse. (2001). *The count me out (Moi, je passe) awareness program for the prevention of gambling dependency*. Montreal, QC: Le groupe Jeunesse.

This is a bilingual (French and English) program designed for grade 3 through the end of high school. Knowledge about gambling, inaccurate cognitions, attitudes, and behaviours are all targeted. Risk and protective factors are explained.

Macdonald, J., & Somerset M. (2003, May). *Minimizing risk through preventative skills development*. Paper presented at the 12th international conference on gambling and risk taking, Vancouver, BC.

The authors discuss school-based problem gambling prevention programs and contrast them with their own: "Youth making choices: Coping and critical thinking." An important feature of this program is that it relies on more than mere risk avoidance messages in favour of a more client-centred approach. The course is designed to promote coping skills, awareness of randomness, self-monitoring, and critical thinking. The program comprises seven lessons with three guiding principles: "Learning and using more coping skills and stepwise planning to solve stressful problems; Knowing all the ways in which problem gambling can harm you and learning how to check your thoughts, feelings and behaviour for signs of the onset of problem gambling or other problematic

behaviours; Understanding that winning and losing are random events and why most people hold erroneous beliefs about their chances of winning."

Marotta, J., & Hynes, J. (2003). *Problem gambling prevention resource guide for prevention professionals*. Salem, OR: Oregon Department of Human Services. Available at <http://www.gamblingaddiction.org/Prevent/PreventGuide.pdf>

This guide was designed to provide professionals with information about the relationship between problem gambling and other problematic behaviours. As well, it discusses evidence-based prevention measures for addictions and those specific to gambling. The authors note that empirical knowledge of preventative initiatives for gambling is scant. A public health model is employed, focussing on the interaction of three correlates: host (the individual), agent (gambling), and environment (social and physical context). Risk and protective factors, based largely upon Dickson, Derevensky, and Gupta, (2002), are discussed. The report discusses ways in which existing prevention programs for substance abuse can be integrated with gambling initiatives; here, common risk factors are emphasized.

Minnesota Institute of Public Health (2000). *Deal me in: Gambling trigger video and posters*. (Available from the Minnesota Institute of Public Health).

The video is designed to raise student awareness of the negative consequences of gambling. Information on the signs of problem gambling is provided. Erroneous beliefs that often accompany gambling are identified and dispelled. The posters and pamphlets are aimed not only at youth but also at women and seniors.

New York State Office of Alcoholism and Substance Abuse Services (OASAS). (2008). *Gambling prevention*. <http://www.oasas.state.ny.us/prevention/GamblingPrev.cfm>

This link discusses issues such as adolescent PG. It directs you to the OASAS Prevention Framework, a resource guide for professionals.

North American Training Institute (2003). *Kids don't gamble... Wanna bet?* (Available from Manisses Communication Group, Inc., http://www.manisses.com/bookstore/bookstore/write-ups/wanna_bet.html, and North American Training Institute, <http://www.nati.org/products/?mode=desc&ID=28>).

This is a curriculum aimed at children in grades 3 through 8. Younger children are exposed to a puppet show, while children in grades 6 through 8 witness the experiences of a peer. Probability and problem gambling are explained. Warning signs are identified.

North American Training Institute (NATI). (2007). *My parent has a gambling problem...Hey! What about me?* www.nati.org/products/?mode=desc&ID=36 - 15k

What they say: “Hey! What About Me? is a comprehensive education, prevention and intervention guide targeting school counselors, teachers, school administration, after-school programs, Life Skills programs, YWCA/YMCA, Boys and Girls Clubs and other kid helping counselors and organizations.” (p. 1) This is an 8 page guide targeting themes such as “Facts”, feelings and what to do.

Oregon Problem Gambling Services. (2008). *Info: Problem gambling prevention.* http://www.lanecounty.org/prevention/gambling/resources_print.htm

This is a very comprehensive website with an array of tools, kits and information ranging from pamphlets to videos. Some of their products are quite colorful, and possibly appealing for this reason.

Responsible Gambling Council. (n.d.). *It's only a game: A quick guide to low-risk gambling.* Toronto: Responsible Gambling Council. Available at <http://www.responsiblegambling.org/articles/generalBrochure.pdf>

This short pamphlet offers the Ontario Gambling Helpline's telephone number and is offered as a general information resource. Tips are given for low-risk gambling, and major signs of potential problem gambling are identified. The document is very easy to read.

Responsible Gambling Council. (n.d.). *It's only a game: An older person's guide to low-risk gambling.* Toronto: Responsible Gambling Council. Available at <http://www.responsiblegambling.org/articles/olderAdults.pdf>

This short pamphlet offers the Ontario Gambling Helpline's telephone number and targets seniors. Tips are given for low-risk gambling, such as betting only money that has been set aside for that purpose, and "signs of trouble" are listed. The document is very easy to read.

Responsible Gambling Council. (2002 – copyright, 2008). *Think you know the score about gambling? An interactive problem gambling awareness program that engages university and college students in a fun and informative way.* <http://www.responsiblegambling.org/en/index.cfm>

This is an interactive awareness program designed, among other things, to dispel myths about odds and provide necessary information regarding where to get help.

Responsible Gambling Council. (n.d.). *Why it's important to talk to your teens about gambling—and how to do it.* Toronto: Responsible Gambling Council. Available at <http://www.responsiblegambling.org/articles/teensBrochure.pdf>

As the title suggests, this pamphlet offers advice on how to bring up the topic of gambling with teenaged children. Questions answered include, "How do I protect them?"

(e.g., explaining the risks) and "What do they need to know?" (e.g., gambling is not a way to make money, and the house is destined to win in the long run).

Saskatchewan Health. (n.d.). *Gambling: Reducing the risks*. (Available from Saskatchewan Health, (306) 787-7239).

This educational resource, pilot tested by teachers in urban and rural schools, contains separate sections designed for grades 6 through 9. It is designed to educate both teachers and students and is complemented with video education. Odds and problem gambling are explained. Sound advice, such as not to borrow money in order to gamble, is provided. There is a strong emphasis on life experience; e.g., the "gambles" people take in real life (such as starting a business) are contrasted with gaming. The student information packages contain useful items such as a brief article on high rates of gambling among youth.

Takushi, R., Neighbors, C., Larimer, M., Lostutter, T., Crouce, J., & Marlatt, G. (2004). Indicated prevention of problem gambling among college students. *Journal of Gambling Studies*, 20, 83–93.

The authors state that little is known about how best to prevent serious gambling problems among college students who exhibit moderate problems. This article provides a qualitative description of an indicated prevention intervention for college students. Such interventions are designed to identify those who demonstrate moderate problems and to prevent the onset of more serious ones. The intervention is based partly upon strategies with proven effectiveness in the alcohol field—brief motivation enhancement strategies and broad-spectrum skills training—and also on aspects of gambling treatment. The results suggest that this approach generated positive responses from students, who felt they had received some benefit from the intervention. The authors caution that these results require more research for confirmation.

Ursel, B., & Morgan, D. (2004). A brochure on Internet awareness and prevention. *Journal of Gambling Issues*, 11. Available at http://www.camh.net/egambling/issue11/jgi_11_ursel.html

The Internet is the greatest area of current growth in gambling and poses unique risks associated with isolation. This article comments on a brochure created by the Regina Committee on Problem Gambling to address and reduce these risks. It can be found at <http://www.cmhask.com/gambling/InternetGambling.pdf>.

3. Evaluations of programs

Abbott, M. W. & Volberg, R. A. (2006). The measurement of adult problem and pathological gambling. *International Gambling Studies*, 6, 175–200.

Paper discusses difficulties associated with using clinical PG measures to target the general population, and also challenges current conceptions of PG diagnosis. The latter

are still beholden to Gamblers Anonymous, for example, with a presumption of chronicity. Authors argue that current time frames are an important consideration. The notion of viewing PG along the lines of a continuum rather than in absolutist terms is invoked. DSM conceptions are challenged.

Abbott, M., Volberg, R., Bellringer, M., & Reith, G. (2004). *A review of research on aspects of problem gambling: Final report.* Auckland, New Zealand: Auckland University of Technology. Available at http://www.rigt.org.uk/downloads/Auckland_report.pdf

This report was designed as a critical review of gambling research with the objective of clarifying certain issues and establishing future research priorities. Issues under consideration included risk factors, treatment interventions, and public education. The authors conclude that the focus of formal treatment on severe cases has meant that prevention efforts are poorly developed—even though the latter would be beneficial to far more individuals. Prevention programs targeting youth are most acceptable to stakeholders. Experience with campaigns pertaining to tobacco and alcohol suggests that similar campaigns could be effective for gambling, for both youth and adults. So far, exclusion programs have received more research attention than any other preventative strategy (difficulties with implementation are discussed). Hence, the effectiveness of other options presents itself as a research priority. One recent innovation, problem gambling information kiosks inside gambling establishments, is identified as highly promising, notably because it involves cooperation between gaming operators and practitioners. Prevention efforts are often undermined by well-financed industry advertising campaigns.

Bauer, J. E. (2006). *Self-exclusion and the compulsive gambler: The house shouldn't always win.* *Northern Illinois University Law Review*, 27, 63-94.

This article begins with a personal story about someone's tragedy at a casino, that of a person who managed to enter and play despite being on a self-exclusion list. Author argues that the individual in question in fact did not bother with PG treatment because of his faith in the casino's program. Article then discusses litigation in such matters, and in this context addresses duty of care. State gambling regulations are discussed, deemed inadequate, and then PG is discussed as a disease. PG is also addressed in terms of broader societal effects, and laws pertaining to it are compared to those pertaining to intoxication. Passionate arguments are made in favor of duty of care. Author claims that casinos are to blame, and that their efforts at enforcing self-exclusion demonstrate bad faith.

Benhsain, K., Taillefer, A., & Ladouceur, R. (2004). *Awareness of independence of events and erroneous perceptions while gambling.* *Addictive Behaviors*, 29, 399–404.

Building upon studies that have found that individuals who are knowledgeable about the nature of randomness will nonetheless display erroneous beliefs pertaining to odds and

random sequences while gambling, this study assessed the effect of reminders of event independence during a game. The findings suggest not only that such reminders are effective at a cognitive level but that they decrease the motivation to continue playing. Noting that "illusions of control" are created by the games themselves, the authors suggest that appropriate prompts could provide a significant corrective.

Blaszczynski, A. (2007). Counselling guidebooks review. *Journal of Gambling Issues*, 19. Available at <http://www.camh.net/egambling/issue19/camh.html>

This is a brief review of four books pertinent to this bibliography (each is discussed above, please see: 2. Programs):

Centre for Addiction and Mental Health, Problem Gambling Project staff. (2005). *Problem gambling: The issues, the options*. Toronto, ON: Centre for Addiction and Mental Health, 36 pp., ISBN 0-88868-470-3 (softcover).

Centre for Addiction and Mental Health, Problem Gambling Project staff. (2005). *Problem gambling: A guide for families*. Toronto, ON: Centre for Addiction and Mental Health, 44 pp., ISBN 0-88868-472-X (softcover).

Centre for Addiction and Mental Health, Problem Gambling Project staff. (2005). *Problem gambling: A guide for financial counsellors*. Toronto, ON: Centre for Addiction and Mental Health, 56 pp., appendices/handouts, ISBN 0-88868-494-0 (softcover).

Centre for Addiction and Mental Health, Problem Gambling Project staff. (2005). *Problem gambling: A guide for helping professionals*. Toronto, ON: Centre for Addiction and Mental Health, 48 pp., ISBN 0-88868-495-9 (softcover).

The author begins with a very strong endorsement: "In the haze-shrouded seascape of educative brochures, booklets, and pamphlets designed to inform members of the community and their families of the signs and symptoms of problem gambling, and of the opportunities for assistance, this series of guides shines as a bright beacon." The books are praised for their accessibility, utility and layout. Author endorses the nonjudgmental tone of the series, though he does take issue with some of the content. Here is an example: "It is stated that 4.8% of adults have moderate or severe problems, with an additional 9.6% at risk. This figure of 14% is somewhat high and should be supplemented by a reference or at a least clear definition of what is being referred to."

Blaszczynski, A., Ladouceur, R., Goulet, A. & Savard, C. (2006). 'How much do you spend gambling?': Ambiguities in questionnaire items assessing expenditure. *International Gambling Studies*, 6, 23–128.

Authors point to a lack of precision and reliability in self-reports of gambling expenditure. From the Abstract: "A total of 637 participants were randomly assigned to one of three groups: Group 1 with no instructions; Groups 2 and 3 with instructions on

calculating net and turnover. Results revealed that when heuristics were not specified, half the sample used net expenditure and the remainder used turnover. When heuristics were clearly specified, 30% failed to comply with instructions in calculating estimates. Results undermine the validity of reported gambling expenditure data and support the need for clear instructions on methods used to calculate expenditure.” Given the high rate of non-compliance, even with improved methodology prevalence data on this topic must be treated with some suspicion.

Blaszczynski, A., Ladouceur, R., & Nower, L. (2004). *Self exclusion: A gateway to treatment*. Melbourne, Australia: Australian Gaming Council. Available at <http://www.austgamingcouncil.org.au/research/files/Self%20Exclusion%20A%20Gateway%20to%20Treatment.pdf>

Self-exclusion is the most commonly used strategy by casinos, clubs, and hotels to assist problem gamblers. Principles guiding this procedure include, but are not limited to, the following: many gamble to excess and have trouble controlling their gambling, the gaming industry has a responsibility to provide safe gambling environments that minimize effects on those with problems, and individuals also bear some responsibility. This paper was written to inform concerned parties about how best to assist those with gambling problems. It builds on previous research designed to identify behaviours that may indicate problem gambling, noting that the gaming industry provides an important link to treatment providers. Barriers to the effectiveness of self-exclusion programs—such as the lack of integration with other interventions, the perceived conflict of interest between gaining revenue and excluding gamblers, and the punitive nature of limiting a gambler's behaviour—are identified. The authors propose an alternative model of self-exclusion, one that shifts from a punitive approach to rehabilitation (resumption of control over gambling behaviour) and reduces perceptions of conflict of interest by increasing transparency. Self-exclusion should be operated by "independent educators."

Blaszczynski, A., Ladouceur, R. & Nower, L. (2007). *Self-exclusion: A proposed gateway to treatment model*. *International Gambling Studies*, 7, 59–71.

Self-exclusion is discussed as important but incomplete. A separate issue, treatment, is explored in terms of its potential within a unified approach to self-exclusion programs, employing self-exclusion as a step toward treatment. In this article, the latter is understood in a broad sense, to include an array of services as well as monitoring. Such initiatives should be operated by independent individuals responsible for education, monitoring as well as assessment of the program's effectiveness. These proposals are radical in their implications, and would seriously alter the way such issues are managed. From the Conclusion: “The current philosophy represents a shift from an industry-based to an individual-based response to self-exclusion. Ultimately, the gambling venue will provide a basic service in an effort to shift from a punitive detection model to active intervention in the form of a supportive clinical education/counseling model that promotes individual self-efficacy and is designed to facilitate long-term improvement in the individual's quality of life.” (p. 70)

Blaszczynski, A., Sharpe, L., & Walker, M. (2001). *The assessment of the impact of the reconfiguration on electronic gaming machines as harm minimisation strategies for problem gambling.* Sydney, Australia: University of Sydney Gambling Research Unit. Available at http://www.psych.usyd.edu.au/gambling/GIO_report.pdf

In 2000, the New South Wales Liquor Administration Board recommended modifications to electronic gaming machines for the purposes of harm reduction: no more high-value note acceptors, slower game speeds, and maximum bets limited to \$1 (from \$10, on a trial basis). This study was meant to assess these initiatives and to identify any (negative) unintended effects. This study focussed on four issues: player satisfaction, player behaviour, player expenditure, and problem gamblers' perceptions of the effects the initiatives had upon their problem gambling. Little evidence was found that reconfiguring bill acceptors would help problem gamblers. Reduction of reel spin time may even exacerbate problems for some. Some preliminary evidence was found for the effectiveness of reduced bet size as a harm reduction strategy.

Boudreau, B. & Poulin, C. (2007). *The South Oaks Gambling Screen-revised Adolescent (SOGS-RA) revisited: A cut-point analysis.* *Journal of Gambling Studies*, *23*, 299-308.

Authors claim that currently there is still no “gold standard” for the definition of adolescent pathological gambling. This study examined the performance of the South Oaks Gambling Screen-Revised Adolescent (SOGS-RA) against two other measures: having received help for gambling, and perceiving oneself as in need of help. SOGS-RA performed well, though the authors argue that self-reports are still important. Authors caution that a lack of consensus in the definition and identification of adolescent problem gambling continues to inhibit prevalence estimates.

Breen, H., Buultjens, J., & Hing, N. (2003). *The perceived efficacy of responsible gambling strategies in Queensland hotels, casinos and licensed clubs.* Brisbane, Australia: Research & Community Engagement Division of QLD Treasury.

In May 2002, Queensland introduced its "Responsible Gambling Code of Practice." The Code covered six themes: provision of information, interaction with customers and community, exclusion provisions, physical environments, financial transactions, and advertising and promotions. This study gauges the extent to which these harm reduction principles have been implemented in casinos, hotels, and clubs. Managers' and employees' opinions of the code and the efficacy of the six responsible gambling practices were also solicited. Some practices were found to be more feasible for implementation than others, though levels of implementation were not consistent among different venues, and other factors, such as number of gaming machines, managers' attitudes, and region, were also linked to compliance. Some practices, e.g., physical layout, were considered more effective by managers than others, such as information provision, were. The authors note that "responsible gambling" is still poorly defined, though the trend is in the direction of placing responsibility on gambling providers and regulators rather than gamblers. Small venues and venues in remote areas are less likely

to comply with regulations, and managers and staff in small venues are less likely to view the regulations in positive terms. The Code can be found in this document. In all, 18 recommendations are made. These include finding ways to enforce compliance more effectively, making gambling support services more proactive, and training staff more frequently in responsible gambling.

Casey, L. M., Oei, T. P. S., Melville, K. M., Bourke, E. & Newcombe, P. A. (2008). Measuring self-efficacy in gambling: The gambling refusal self-efficacy questionnaire. *Journal of Gambling Studies*, 24, 229-246.

Since PG involves a deficiency on controlling impulses to gamble, the Gambling Refusal Self-Efficacy Questionnaire (GRSEQ) has been designed, as its name suggests, to test gambling refusal self-efficacy. This study was conducted to develop and test such a device. Results suggest that the GRSEQ would be useful for both clinical and normal populations. In the authors' words: "The four-factor model that was identified and confirmed through a series of factor analyses reflected dimensions assessing situations and thoughts associated with gambling, the influence of drugs on gambling behaviour, positive emotions associated with gambling and negative emotions associated with gambling. Three of these factors are consistent with the apriori domains expected of the GRSEQ (influence of drugs, positive emotions and negative emotions). The other factor contains items assessing the two remaining apriori domains (situations associated with gambling and thoughts associated with gambling). This factor structure is consistent with the notion that there are categories of situations under which an individual may experience different levels of refusal self-efficacy." (p. 242)

Currie, S. R., Hodgins, D. C., Wang, J., el-Guebaly, N. & Wynne, H. (2008). In pursuit of empirically based responsible gambling limits. *International Gambling Studies*, 8, 207-227.

This study sought out expert opinion on low-risk gambling limits, and also employed empirical analysis of its own. Though low-risk limits are endorsed, concerns are raised regarding false senses of security in some gamblers, the overall endorsement of gambling, and the variations associated with different types of gambling.

Currie, S. R., Hodgins, D. C., Wang, J., el-Guebaly, N., Wynne, H. & Miller, N. V. (2008). Replication of low-risk gambling limits using Canadian provincial gambling prevalence data. *Journal of Gambling Studies*, 24, 321-335.

Study confirms that low-risk gambling limits are a useful measure. Limits in absolute dollar amounts, frequency of betting (2-3 per month), and percentage (1%) of gross income were good predictors of harm avoidance. Other risk factors were taken into account when compiling this information.

Delfabbro, P. (2008). Evaluating the effectiveness of a limited reduction in electronic gaming machine availability on perceived gambling behaviour and objective expenditure. *International Gambling Studies*, 8, 151-165.

Article suggests that a 15% reduction of gaming machines in legal venues had only a limited effect on gambling behaviors as well as gaming revenue. However, from the Abstract: “The paper describes the nature of industry responses to circumvent the effects of the reduction in machine numbers and the implications of these findings for future regulatory policies relating to EGM gambling”. Author suggests that future policies to limit accessibility of EGMs should take such potential responses into account.

Delfabbro, P. (2004). The stubborn logic of regular gamblers: Obstacles and dilemmas in cognitive gambling research. *Journal of Gambling Studies*, 20, 1–21.

Gambling research has consistently confirmed the fact that gamblers tend to misrepresent the odds in gambling activities and hold many irrational beliefs. It would thus seem that providing accurate information in gambling venues or on certain machines would be a strong preventative tactic. However, the false beliefs of gamblers do not appear to function at the purely cognitive level, can result from deliberate distortion, and may even be hard to "falsify"—gambling-related cognitions often rely upon circular reasoning. Different aspects of these belief systems are explored to help guide more effective consumer information initiatives. The "illusion of control" involves the overestimation of contingency between actions and outcomes. The "availability heuristic" involves the greater likelihood of remembering wins than losses. The "gambler's fallacy" involves the attribution of association between unrelated events (a sequence of "tails" is thought to increase the likelihood of "heads"). "Attributional biases" refer to taking credit for wins by reference to one's skill (or other "internal" traits) while blaming losses on external factors. The author cautions that many cognitive phenomena are rooted in behavioural realities, suggesting that they be addressed at that level. The author also suggests that it may be more useful to educate in a preemptive fashion, before the gambling behaviour and the ensuing mystification can set in.

Doiron, J. P. & Nicki, R. M. (2007). Prevention of pathological gambling: A randomized controlled trial. *Cognitive Behavior Therapy*, 36, 4-84.

This study evaluated “Stop & Think!”, a program aimed at VLT players at risk for PG. Cognitive restructuring and problem solving were major targets. Results suggest that the program is good enough for implementation. Methods used included presentations, video vignettes, and skill rehearsal.

Ferland, F., Ladouceur, R., & Vitaro, F. (2002). Prevention of problem gambling: Modifying misconceptions and increasing knowledge. *Journal of Gambling Studies*, 18, 19–29.

Given research that demonstrates the high levels of involvement in gambling among youth, along with the irrational beliefs that often accompany these activities, this study

tested a video designed to educate and dispel misconceptions on 424 seventh and eight grade students. The authors argue that the delivery of information is an effective preventative tool. This study targeted false conceptual links between independent events. A video format—designed to amuse and interest students—was used partly because a purely cognitive form of communication may be questionable in its effectiveness. This study suggests that the video is a meaningful resource, and its effectiveness would be enhanced if teachers played a complementary role.

Gillespie, M. A. M., Derevensky, J. & Gupta, R. (2007). I. Adolescent problem gambling: Developing a gambling expectancy instrument. *Journal of Gambling Issues, 19*. Available at <http://www.camh.net/egambling/issue19/pdfs/gillespie1.pdf>

This is the first (please see below) of a two-part evaluation of a gambling expectancy instrument for adolescents. Based on knowledge in the substance abuse field wherein positive and negative outcome expectancies have been identified as predictors, this scale was developed to target adolescents with respect to PG. Findings support the need for more research in this area.

Gillespie, M. A. M., Derevensky, J. & Gupta, R. (2007). II. The utility of outcome expectancies in the prediction of adolescent gambling behaviour. *Journal of Gambling Issues, 19*. Available at <http://www.camh.net/egambling/issue19/gillespie2.html>

Questionnaire suggests that adolescents hold many negative and positive expectations with regard to gambling. Notably, probable PGs hold both very high and very low expectations. Authors note that this trait has more predictive value for males than for females.

Govoni, R., Frisch, G., & Johnson, D. (2001). *A community effort: Ideas to action—Understanding and preventing problem gambling in seniors*. Windsor, ON: Problem Gambling Research Group, University of Windsor.

While seniors have much time and motivation to gamble, their resources are often limited and they tend to lack the means to recover from financial strain. This report outlines the testing of a community-based prevention program for seniors. The authors found that two thirds of seniors gamble, 1.7% of those surveyed experienced major financial losses due to gambling, and problem gambling affects more than just money. The authors found that a prevention program for seniors should not be limited to senior service providers and that the whole community must be engaged. "Syntegration" is the name given to the process employed in this strategy and involves bringing together people from many backgrounds. Proposals include responsible gambling as the basis of outreach, "multiple strategies for multiple targets," "seniors helping seniors," and "media blitz."

Gray, K. L., Browne, M. A. O. & Prabhu, V. R. (2007). *Systematic review and meta-analysis of studies on early intervention and prevention for problem gambling*. Report

prepared for: Gambling Research Australia.

This study was conducted to assess effectiveness of early interventions on “gamblers who are recruited from the general community” (p. 1). Authors conclude that information is more available for secondary and tertiary interventions, and argue that primary intervention is under-studied. Most work on the latter is targeted at youth. Evaluation is difficult at this point, because the studies of primary intervention are few and, often, methodologically flawed.

Hing, N. (2003). *An assessment of member awareness, perceived adequacy and perceived effectiveness of responsible gambling strategies in Sydney clubs*. Lismore, Australia: Centre for Gambling Education and Research, Southern Cross University. Available at http://cger.scu.edu.au/pdfs/hing_2003.pdf

Following the enactment of responsible gambling legislation in 2000, this report assesses the awareness of Sydney club members of responsible gambling strategies and their perceptions of the strategies' adequacy and effectiveness. The study also assessed perceptions of efficacy according to type of gambler, based upon games of choice, gender, age, and potential for gambling problems. High levels of awareness were found with respect to responsible gambling signage and information measures, including those related to problem gambling, though respondents were somewhat skeptical about the likelihood of these measures promoting responsible gambling. However, other measures—such as prevention of minors and intoxicated people from entering, refusal by clubs to extend credit or cash advances, payout of big wins by cheque instead of cash, and self-exclusion—were perceived as likely to promote responsible gambling. In areas such as self-exclusion policy, local counselling services, and measures taken to help people keep track of time while playing poker machines, awareness was low. It is notable, for example, that while many patrons identified self-exclusion as potentially helpful, awareness of the existence of such policies was not high. The findings also suggest that restrictions on minors entering clubs were not always enforced. Problem and at-risk gamblers were more aware of responsible gambling measures than non-problem gamblers. Gender was not a significant indicator of awareness.

Horton, K., Harrigan, K., Horbay, R., & Turner, N. (2001). *The effectiveness of interactive problem gambling awareness and prevention programs*. Toronto: Ontario Problem Gambling Research Centre. Available at <http://www.gamblingresearch.org/contentdetail.sz?cid=2371&pageid=1192&r=s>

The Safe@play Risk Quiz is an on-line self-assessment tool that can be placed on video lottery terminals, video kiosks in gambling venues, and interactive slot machines. It is designed to provide users with an awareness of risk factors for problem gambling and to enable them to assume control of their gambling. This study was designed to provide an initial evaluation—306 university undergraduates were involved—and results suggest that the quiz was effective in alerting people to their risk factors, though awareness generated by the quiz tends to diminish over time. The authors note that these students

were exposed to the quiz only briefly—they were not regular gamblers—and that people who used this tool more regularly at casinos would conceivably show stronger and more lasting effects. This should be tested in a real casino setting.

Independent Pricing and Regulatory Tribunal of New South Wales. (2004). *Gambling: Promoting a culture of responsibility*. Sydney, Australia: Author. Available at <http://www.ipart.nsw.gov.au/files/Gambling04.pdf>

This report reviews the effectiveness of gambling harm reduction measures with respect to their effects on the community and on gamblers. Indirect effects—related to employment, support for community projects, and other issues—were also considered. The report calls for an integrated framework for responsible gambling designed to promote a "culture of responsibility," wherein consumers have sufficient information upon which to base their gambling decisions. Measures designed to protect gamblers should take into account consequences for recreational gamblers and the gambling industry. A system of accreditation for counselling services is also called for.

Ladouceur, R., Boutin, C., Doucet, C., Dumont, M., Provencher, M., & Giroux, I. (2004). Awareness promotion about excessive gambling among video lottery retailers. *Journal of Gambling Studies*, 20, 181–185.

The authors describe "responsible gambling" as policies and practices designed to prevent and reduce harms associated with gambling and argue for harm reduction approaches similar to what has long been practised with respect to drugs and alcohol: reducing excess rather than aiming only for abstinence. This article describes and evaluates "As luck would have it," an awareness program for video lottery retailers in the province of Quebec. The 2-hour workshop was designed to educate retailers about excessive gambling, with answers to the following questions: "1. What is chance and randomness? 2. Is there a link between misunderstanding the concept of chance and excessive gambling? 3. How does one recognise the symptoms of this disorder? 4. How should retailers intervene if they decide to do so?" Retailers who completed the workshop acquired a better grasp of problem gambling, could recognize symptoms, and felt better equipped to intervene when appropriate. Follow-up found that these retailers were considerably more likely to approach problem gamblers and talk about how to help than those who had not completed the workshop. The authors emphasize that retailers and the gambling industry in general often show a willingness to promote responsible gambling.

Ladouceur, R., Ferland, F., & Fournier, P. (2003). Correction of erroneous perceptions regarding the notions of chance and randomness in gambling among primary school students. *American Journal of Health Education*, 34 (5), 5–10.

This study finds that when a program designed to correct misconceptions about chance and randomness among primary school students was applied by a specialist in the psychology of gambling, it was more effective than when applied by a teacher. The results have serious implications for the implementation of such programs at primary schools and for the role of teachers in the process.

Ladouceur, R., Jacques, C., Giroux, I., Ferland, F., & Leblond, J. (2000). Analysis of a casino's self-exclusion program. *Journal of Gambling Studies*, 16, 453–460.

Self-exclusion is an attractive self-control procedure for people who have trouble controlling their gambling but are as yet unprepared to seek professional help. Yet these programs have not been studied. This article discusses characteristics of people who opted to have themselves barred from a Canadian casino with respect to sociodemographics, gambling pathology, gambling habits, and past experience with self-exclusion. Ninety-five percent met the criteria for severe pathological gambling, and none did for non-problem gambling. Thirty percent stopped gambling entirely after enrolling in the program. Participants were concerned with the weakness of detection efforts, reporting that it was easy to gain access to the casino without being identified. Some suggested that the procedure should be available by mail order so that reentering the casino would not be necessary. Seventy percent of respondents enrolled on their own initiative, without pressure from a "significant other," helping to explain the high abstinence rate. The authors argue that, from a preventative perspective, such programs could be offered to those at risk of becoming pathological gamblers. Risky behaviours could be described in pamphlets made available to casino patrons. Other recommendations for such programs and for future research are made.

Ladouceur, R., & Sévigny, S. (2003). Video lottery terminal warning messages and the persistence to gamble. *Gambling Research*, 15 (1), 45–50.

This study was designed to determine whether messages on a video lottery terminal screen, and breaks, would influence gambling behaviour. The messages were about illusions of control and the realities of chance. Players were assigned randomly to three scenarios: no interruption, breaks, and messages. Both breaks and messages, on their own, were associated with fewer games played. Theoretical issues pertaining to these results, in the context of responsible gambling, are discussed.

Ladouceur, R., & Sévigny, S. (2005). Structural characteristics of video lotteries: Effects of a stopping device on illusion of control and gambling persistence. *Journal of Gambling Studies*, 21, 117–131.

A video lottery terminal stopping device was tested in two studies to gauge its effects on thinking and behaviour. Players had the ability to stop the reels from spinning. The first study involved illusions of control. Players were inclined to believe that symbols would differ with the timing of stoppage, that they might be able to control outcomes, that skill could be a factor, and that a stopping device could improve their chances of winning. The second study involved gambling behaviour itself, and it was found that the device was conducive to more games being played per session. The results are discussed in terms of their implications for responsible gambling policy.

Ladouceur, R., Sylvain, C. & Gosselin, P. (2007). Self-exclusion program: A longitudinal evaluation study. *Journal of Gambling Studies*, 23, 85–94.

This study was conducted to help rectify an absence in current awareness: self-exclusion programs have rarely been evaluated, with a notable lack of knowledge pertaining to long-term outcomes. This study not only attempted to assess self-exclusion, but attempted to keep track of patrons for a two year period. Findings suggest that urges to gamble were reduced significantly, and so was gambling related harm. Problems, however, remain. Breaches of contracts were common, suggesting that detection systems are inadequate. Issues pertaining to individual rights, and how repressive such policies ought to be, are also addressed.

Ladouceur, R., Vezina, L., Jacques, C., & Ferland, F. (2000). Does a brochure about pathological gambling provide new information? *Journal of Gambling Studies*, 16, 103–107.

This study was designed to determine whether a brochure on pathological gambling would provide new knowledge and information to the public. One hundred fifteen people were chosen randomly at malls and parks and then assigned to control and experimental groups. The findings suggest that the brochure provided new information about problem gambling, risky behaviours, and help available. The authors point out that the information contained in brochures is rarely evaluated. This study may stimulate others in the field to evaluate their material before distribution, thereby strengthening preventative and educational efforts. Future studies should also assess whether the effects of such materials are enduring.

Lahey, C. E., Goodie, A. S. & Campbell, W. K. (2007). Frequent card playing and pathological gambling: The utility of the Georgia Gambling Task and Iowa Gambling Task for predicting pathology. *Journal of Gambling Studies*, 23, 285–297.

As the title suggests, this study attempted to assess two instruments as predictors of pathology. From the Abstract: “Performance on GGT and IGT systematically related to gambling-related pathology in several ways. Overconfidence and bet acceptance on the GGT, and myopic focus on reward on the IGT, predicted gambling related pathology. GGT and IGT performance correlated with each other, but both contributed independently to predicting gambling pathology. Card playing frequency predicted gambling pathology but not GGT or IGT performance.” Authors note that individual differences – biases and misconceptions possibly related to PG – can affect the ways in which subjects report their gambling situations and experiences. Such oversights are person-specific and hence hard to generalize.

Lavoie, M., & Ladouceur, R. (2004). Prevention of gambling among youth: Increasing knowledge and modifying attitudes toward gambling. *Electronic Journal of Gambling Issues*, 10. Available at <http://www.camh.net/egambling/archive/pdf/EJGI-issue10/EJGI-Issue10-lavoie-ladouceur.pdf>

Gambling has been identified as popular among youth. With the increase in young people gambling, the likelihood of irrational thoughts and behaviours associated with gambling

increases as well. A video designed to increase gambling-related knowledge and to dispel misconceptions was viewed by 273 French-speaking students in grades 5 and 6. The results suggest that the video was successful on both counts. The authors point out that 7- and 11-year-old children are at a developmental stage where the illusion of control over chance events is likely to figure prominently and that the cognitive therapeutic approach suggests that loss of control in gambling results from such misconceptions. This study suggests that a video alone can be just as effective as a video combined with discussion, though the authors grant that discussion may improve the durability of the changes. Further research should include grade 4 students and also consider the long-term effects of such interventions on knowledge and attitudes.

Loba, P., Stewart, S., Klein, R., & Blackburn, J. (2001). Manipulations of the features of standard video lottery terminal games: Effects in pathological and non-pathological gamblers. *Journal of Gambling Studies*, 17, 297–320.

This study was conducted to identify game features of video lottery terminals (VLTs) that inhibit abuse by pathological gamblers yet have little effect on the behaviour of nonpathological players. The study involved a video poker game as well as a spinning reels game. The study investigated three approaches: a counter that showed how much money had been spent, a VLT spinning reels game that did not enable players to stop the reel by touching the screen, and the manipulation of sensory features (speed and sound). The results suggest that sensory manipulation delivered the most significant reaction differences between pathological and nonpathological gamblers. As well, running totals of money (instead of credits) spent could reduce the desire to play among pathological gamblers. These findings support the notion that structural characteristics—such as sound and payout intervals—are significant. The authors offer possible reasons for their results yet caution that these findings should be replicated in more natural settings before harm reduction recommendations are made.

Lostutter, T., Larimer, M., & Takushi, R. (2002). Measuring gambling outcomes among college students. *Journal of Gambling Studies*, 18, 339–360.

This study introduces and validates three new gambling outcome measures: the Gambling Quantity and Perceived Norms Scale (GQPN), the Gambling Problem Index (GPI), and the Gambling Readiness to Change Questionnaire (GRTC). The questionnaires, along with other measures, were completed by 560 undergraduate college students. The new measures, two of which are modelled upon measures used in alcohol studies, displayed good reliability and convergent validity. The measures deal separately with gambling quantity, related consequences, and motivation to change and represent in the authors' view an advance on currently available instruments in terms of their applicability to the development of effective prevention and treatment interventions. The authors note, for example, that in secondary prevention, overlooking someone's readiness to change can be counterproductive.

Macdonald, J., Turner, N., & Somerset M. (2003). *Life skills, mathematical reasoning and critical thinking: Curriculum for the prevention of problem gambling.*

Toronto: Ontario Problem Gambling Research Centre. Available at <http://www.opgrc.org/contentdetail.sz?cid=138>

The subject of this report is the development and evaluation of a school-based prevention curriculum for problem gambling. The focus was on subclinical youth. Knowledge of random events, coping skills, and self-monitoring skills were addressed. The authors find that cognitive issues are more easily transmitted than those pertaining to attitude and behaviour. Randomness, and even knowledge of coping skills, can be more easily taught, whereas the acquisition of coping resources and the intricacies of self-monitoring would require a more developed program. Of note is the experiential aspect of self-monitoring. In the authors' words: "Self-monitoring or meta-questioning ... replaces the traditional risk avoidance messages with questions which address the experience of the participant.... Engaging in self-monitoring addresses the onset of problem gambling by allowing a person to recognise the onset of gambling problem and taking action to reduce involvement or the problematic thoughts associated with gambling."

Messerlian, C. & Derevensky, J. (2006). Social marketing campaigns for youth gambling prevention: Lessons learned from youth. *International Journal of Mental Health and Addiction*, 4, 294-306.

Authors argue that youth gambling should receive attention comparable to that directed at drugs, alcohol, tobacco, and sexual matters. They suggest that "social marketing" be employed to this end. Focus groups of adolescents were used to assess certain strategies. It was found that adolescents do not respond well to judgmental calls for complete abstinence, though personalized emotional descriptions of PG along with sound information were well received.

Miller, R. (2006). The need for self regulation and alternative dispute resolution to moderate consumer perceptions of perceived risk with internet gambling. *UNLV Gaming Research & Review Journal*, 10, 51-58.

Author argues that industry self-regulation would simply be good business: consumers would be less wary. The potential for fraud is huge. Author points out that while the gambling industry is growing, the relative number of internet gamblers remains small. "The need to create an environment of trust, predictability and certainly that features good arbitration and jurisdiction has been recognised as necessary for e-commerce to flourish" (p. 53). Issues pertaining to dispute resolution are discussed.

Monaghan, S. (2009). Responsible gambling strategies for Internet gambling: The theoretical and empirical base of using pop-up messages to encourage self-awareness. *Computers in Human Behavior*, 25, 202-207.

Author argues for the efficacy of pop-up self-awareness messages to encourage responsible online gambling and reduce PG. The ways in which this ought to be

implemented are discussed. Author claims that many strategies aimed at responsible internet gaming lack empirical support.

Najavits, L., Grymala, L., & George, B. (2003). Can advertising increase awareness of problem gambling? A statewide survey of impact. *Psychology of Addictive Behaviors, 17*, 324–327.

In order to gauge the effects of an advertising campaign (billboards, brochures, posters, newspaper ads, pens, and T-shirts) meant to raise awareness of problem gambling, 800 adults in Indiana were surveyed randomly. Pre- and postcampaign surveys indicated that the campaign had had little effect and that few were exposed to it. Among different approaches, billboards and slogans seemed most effective. The authors suggest that more powerful media, such as television, may be more effective, as would a focus on high-risk groups.

Napolitano, F. (2003). The self-exclusion program: Legal and clinical considerations. *Journal of Gambling Studies, 19*, 303–315.

This article discusses some of the difficulties with self-exclusion programs. For example, legal enforceability is tenuous. The author argues that such programs inappropriately shift the emphasis from the psychological problem of the addicted gambler to gambling itself. The author compares such confusion to the war on drugs, of which he is also critical.

Nixon, G., Leigh, G. & Nowatzki, N. (2006). Impacting attitudes towards gambling: A prison gambling awareness and prevention program. *Journal of Gambling Issues, 17*. Available at <http://www.camh.net/egambling/issue17/nixon.html>

Given that an estimated one third of prison inmates qualify as PGs, and that prevention and awareness programs targeting this population are scant, an attempt was made to develop, implement and assess a program of this nature at an Alberta correctional facility. Improvements were achieved cognitively – with respect to the recognition of errors – with an accompanying increase in negative attitudes towards gambling. While scores on gambling pathology were largely unaffected, frequency scores were affected marginally. Finding suggests that this program can, if nothing else, help with changes in attitude and cognition.

Oei, T. P. O., Lin, J. & Raylu, N. (2007). Validation of the Chinese version of the Gambling Urges Scale (GUS-C). *International Gambling Studies, 7*, 101–111.

Study attempts to assess a gambling urge assessment tool designed specifically for Chinese gamblers. Given that, at least according to some reports, PG rates are high among Chinese, this study is particularly significant in its provision of a culturally specific instrument. After testing, authors conclude that the instrument is valid for assessing gambling urges among non-clinical Chinese samples.

O'Neil, M., Whetton, S., Dolman, B., Herbert, M., Giannopoulos, V., O'Neil, D., et al. (2003). *Evaluation of self-exclusion programs: Part A—Evaluation of self-exclusion programs in Victoria and Part B—Summary of self-exclusion programs in Australian states and territories*. Victoria, Australia: Gambling Research Panel—South Australian Centre for Economic Studies. Available at <http://www.justice.vic.gov.au/CA2569020010922A/page/Gaming+and+Racing-Research-Self-exclusion?OpenDocument&1=0-Gaming+and+Racing~&2=0-Research~&3=0-Self-exclusion~>

This two-part study is both evaluative and descriptive. Part A evaluates self-exclusion programs in Victoria clubs, pubs, and casinos. It also discusses the literature and theoretical issues pertaining to self-exclusion. Part B describes the many self-exclusion programs in Australian states and territories, though some evaluation is offered. In Part A, interviews with self-excluded individuals indicate a lack of confidence in the system: identification and detection failures are common. Surveys of venues suggest that the programs have had little or no significant effect on problem gambling. The authors recommend investigation of a new system of uniform identification that would restrict access to gaming areas. The definition of self-exclusion should be broadened to include a range of behaviours. Low utilization rates for self-exclusion indicate that other strategies are also needed. Financial resources should be increased, and relevant technologies should be improved. In Part B, the authors find that self-exclusion programs are not homogeneous throughout Australia and differ in many respects, such as the duration of exclusion and the method by which a person must initiate the process. Common features include, but are not limited to, the use of a "deed" of self-exclusion, a list of undertakings by patrons, and an understanding that the venue has no legal obligation. Data management and monitoring procedures are inadequate. Evaluation of effectiveness is also lacking.

Pontell, H. N., Geis, G. & Brown, G. C. (2007). Offshore internet gambling and the World Trade Organization: Is it criminal behavior or a commodity? *International Journal of Cyber Criminology*, 1, 19-136.

As the title suggests, this article discusses criminality and its relation to internet gambling from an international perspective. The piece begins by pointing out addictive potential, and then discusses a dispute between Antigua and the United States. The former took its case to the WTO after a US court had rendered a decision that seriously curtailed Antigua's internet gaming revenues. EU involvement in the dispute is also discussed. The article discusses issues pertaining both to addiction and to organized crime involvement in internet gambling. Article concludes that internet gambling is an international matter, and that the US will be unable to prohibit it if other nations decide not to. As well, individual states within the US will also, inevitably, impede Federal efforts in such matters.

Rhea, A. (2005). Voluntary self-exclusion lists: How they work and potential problems. *Gaming Law Review*, 9, 462-469.

Article discusses how some individuals manage to bypass self-exclusion in terms of legal implications, notably litigation on the part of gamblers claiming that casinos should be held accountable. Issues pertaining to duty of care are addressed, as are issues revolving around placing others (e.g., one's spouse) on such exclusion lists.

Riley-Smith, B., & Binder, J. (2003). *Testing of harm minimisation messages for gaming machines*. Sydney, Australia: NSW Department of Gaming and Racing. Available at http://www.dgr.nsw.gov.au/pdfs/rr_riley_binder.pdf

This qualitative study was designed to evaluate gamblers' reactions, while playing poker machines, to 10 different harm reduction messages. For both regular and problem gamblers, the following messages were effective in producing more responsible gambling behaviour: *Have you spent more money on gambling than you intended? Are you gambling longer than planned? Have you felt bad or guilty about your gambling?* Shortcomings and potentials of this type of strategy are discussed.

Rockloff, M. J. & Dyer, V. (2007). *The Four Es 1-year later: A tool for predicting the development of gambling problems*. *Journal of Gambling Studies*, 23, 467–478.

This study assessed the “Four Es”, a scale designed to measure psychological issues as predictors of future gambling problems. The scale contains 40 items, and was applied to two groups: those with histories of PG or other similar difficulties (e.g., alcohol abuse), and to a random sample. Results suggest the tool is a good predictor, with impulsivity as a strong determinant – the authors label that latter as the “Excess trait”, and consider it an important target for treatment.

Rossow, I. & Molde, H. (2006). *Chasing the criteria: Comparing SOGS-RA and the Lie/Bet screen to assess prevalence of problem gambling and 'at-risk' gambling among adolescents*. *Journal of Gambling Issues*, 18. Available at <http://www.camh.net/egambling/issue18/rossow.html>

Arguing that gambling screens are often too extensive for youth surveys, authors consider the Lie/Bet questionnaire (with only two items) as an option. Study compares two gambling screens: Lie/Bet and the South Oaks Gambling Screen Revised for Adolescents (SOGS-RA), in terms of classification overlap, identification of underlying issues, and gender specificity. From the Abstract: “Both instruments discriminated sensibly between youths with high versus medium and low gambling frequency and gambling expenditures, although more so for boys than for girls. Both Lie/Bet items loaded on one 'loss of control' dimension. The results suggest that the Lie/Bet screen may be useful to assess at-risk gambling for both genders in comprehensive youth surveys.”

Rychtarik, R. G. & McGillicuddy, N. B. (2006). *Preliminary evaluation of a coping skills training program for those with a pathological-gambling partner*. *Journal of Gambling Studies*, 22, 165–178.

A training program designed to enhance coping skills for persons living with a partner

who gambles pathologically was assessed. The coping skills training program (CST) involved ten weekly one-on-one sessions, and was found to relieve depression as well as anxiety. Partner gambling decreased as well. This was a small scale, short term study, and authors suggest that their results be verified with larger samples and long term assessment.

Schrans, T., Grace, J., & Schellinck, T. (2004). 2003 NS VL responsible gaming features evaluation. Halifax, NS: Nova Scotia Gaming Corporation. Available at <http://www.gamingcorp.ns.ca/responsible/pbrgf.htm>

This study was designed to help the Nova Scotia Gaming Corporation evaluate a second series of modified responsible gaming features (RGFs) implemented for video lottery terminals in Nova Scotia. RGFs are designed to produce reality checks and breaks in play and to promote responsible gambling. Main changes to the RGFs included, but were not limited to, options to set play time limits, a "pop-up" message every 30 minutes, a response requirement for on-screen pop-up messages, changes to make time of day more prominent, and replacement of references to credits with cash amounts. The methodology is described by the authors: "An 'in vivo' live market test was conducted using a Pre Post return-to-sample methodology with a Test and Control Market comparison. In total, 329 Regular VL Players participated in all phases of the study conducted over a six-month period (October 2003 to April 2004): Test Market (South Shore: n=168) and Control Market (Valley: n=161). Pre Survey benchmarks were obtained in each market (Total: n=409; Test Market (South Shore): n=206, Control Market (Valley): n=203). The new RGFs were introduced on selected terminals in the Test Market area only (PS5 terminals). A Post Survey was conducted approximately four months following the introduction of new terminals with approximately 81% of players in each market completing the Post Survey measure." The findings suggest that money budgeting is a more promising feature than time budgeting.

Shandley, K. & Moore, S. (2008). Evaluation of gamblers helpline: A consumer perspective. *International Gambling Studies*, 8, 315-330.

Study finds consumers are generally satisfied with a gambling helpline, and respond well to emotional support and practical feedback. Superior counselor training would enhance the program as would a facilitated referral process.

Sharpe, L., Walker, M., Coughlan, M., Enersen, K. & Blaszczynski, A. (2005). Structural changes to electronic gaming machines as effective harm minimization strategies for non-problem and problem gamblers. *Journal of Gambling Studies*, 21, 503–520.

The harm reduction potential of three proposed modifications to EGMs were evaluated, for both non-problem and probable problem gamblers: 1. Reducing bet size; 2. Reducing reel spin; 3. The removal of large note acceptors. 779 participants were observed while gambling at clubs and hotels. Of these, 210 played at both modified and unmodified machines. Reducing bet levels was the only modification to demonstrate a meaningful

effect on problem gamblers. This feature reduced not only losses, but also seemed to reduce some of the persistence associated with PG. Slowing down reel spin and reconfiguring bill acceptors were not demonstrably beneficial.

Stevens, M. & Young, M. (2008). Gambling screens and problem gambling estimates: A parallel psychometric assessment of the South Oaks Gambling Screen and the Canadian Problem Gambling Index. *Gambling Research*, 20, 13-36.

Study compares efficacy of the South Oaks Gambling Screen (SOGS) and the Canadian Problem Gambling Index (CPGI). The latter generated lower prevalence rates, fewer false positives, and displayed more internal consistency. Authors conclude, however, that with either screen results may be context dependent and that psychometric testing of such instruments is integral to the generation of reliable data.

Svetieva, E. & Walker, M. (2008). Inconsistency between concept and measurement: The Canadian Problem Gambling Index (CPGI). *Journal of Gambling Issues*, 22. Journal edition yet to appear, but article already available at www.camh.net/egambling/onlinefirst/01svetieva-walker.html - 73k

Authors underscore distinction between “problem” and “pathological” gambling, suggesting that empirical data is often misinterpreted due to definitional confusion. This has not only scientific implications, but policy implications as well. Article discusses the ways in which these terms have operated, with an eye upon origins in the addiction model, and employs the CPGI as an example of some of the confusion at work: this index shares some features with an older, addiction based conception, yet in other ways has moved beyond that. Implications, such as those related to measurement of harm, are discussed.

Taylor, L., Taske, N., Swann, C. & Waller, S. (2007). *Public health interventions to promote positive mental health and prevent mental health disorders among adults. Evidence Briefing. London: NICE.*

This report begins with an ambitious agenda: the identification of all relevant “reviews, syntheses, meta-analyses and review-level papers on non-pharmacological” (p. 1) mental health interventions for those aged over 16. These papers are reviewed and critiqued with an eye on risk factors, cost-effectiveness, and gaps in currently available evidence. PG gets a great deal of attention, though it is addressed within a larger mental health context. This far reaching document deals with prevention as well as treatment within a public health framework.

Tolchard, B., Thomas, L. & Battersby, M. (2007). GPs and problem gambling: can they help with identification and early intervention? *Journal of Gambling Studies*, 23, 499–506.

This article is primarily about the potential role of GPs in the identification of PG. As well, though, it discusses a pilot project, initiated by a gambling treatment service in

Adelaide, Australia, designed to assist and educate GPs in this matter. Essentially, GPs were informed on how best to spot – and to help – PGs. Interest among GPs was wanting: only 9 out of 320 GPs displayed an interest in this resource. “As a result the materials were distributed to a further 51 GP’s who had previously referred patients to the treatment service” (p. 501). Authors point out that while most attention to PG involves pecuniary matters, issues best addressed by doctors – ranging from headaches to poor sleep – are also important.

Townshend, P. (2007). Self-exclusion in a public health environment: An effective treatment option in New Zealand. *International Journal of Mental Health & Addiction*, 5, 390–395.

Study discusses how self-exclusion in New Zealand puts the responsibility for enforcement upon gaming venues. Article compares New Zealand’s approach to that of other jurisdictions, and concludes that self-exclusion is effective with persons who have trouble controlling their gambling.

Tse, S., Brown, R., & Adams, P. (2003). *Assessment of the research on technical modifications to electronic gaming machines in NSW, Australia*. Sydney, Australia: NSW Department of Gaming and Racing.
http://www.dgr.nsw.gov.au/pdfs/rr_chal.pdf

This report reviews two research reports that investigated the effects, on players and on gaming revenue, of proposed technical changes to the operation of gambling machines. The authors concluded that reducing the maximum bet size could be a sound harm reduction strategy. Reconfiguring bill collectors is also a promising idea, but only if proximity to automatic teller machines is taken into account. Reel spin modifications showed less potential.

Turner, N., Macdonald, J., Bartoshuk, M. & Zangeneh, M. (2008b). The evaluation of a one-hour prevention program for problem gambling. *International Journal of Mental Health & Addiction*, 6, 238-243.

This article discusses a PG prevention program for school aged youth. Though well received, and demonstrating some effect on cognition pertaining to randomness, evidence for effects upon behavior, coping or attitudes to gambling was not found. Authors conclude that a one hour intervention is clearly insufficient to generate such changes. Conversely, there was no evidence to suggest that the program increased interest in gambling.

Turner, N., Macdonald, J. & Somerset, M. (2007). Life skills, mathematical reasoning and critical thinking: A curriculum for the prevention of problem gambling. *Journal of Gambling Studies*, 24, 367-380.

This article discusses a pilot test of a school-based PG prevention curriculum which addresses gambling awareness and self-monitoring skills, coping and cognition related to odds. The program seemed to show positive results in each of these areas, suggesting that education in these matters can indeed be beneficial. A detailed profile of a problem gambler was considered an important aspect of the program. Authors suggest that these preliminary findings warrant more study.

Turner, N.E., Wiebe, J., Falkowski-Ham, A., Kelly, J., & Skinner, W. (2005). Public awareness of responsible gambling and gambling behaviours in Ontario. *International Gambling Studies*, 5, 95–112.

This article reports the findings of a general population survey of knowledge of responsible gambling. It includes a preliminary measure of public awareness of information related to the definition of responsible gambling, symptoms of problem gambling, and awareness of the availability of services. One particularly interesting finding was that people who gamble on lotteries and slot machines are more likely to report being aware of services.

Wager, The. (2008). Cut me off: Self-limit programs for internet gambling. *The Wager*, 13. Available at www.basionline.org/2008/10/wager-139-cut-me-off-self-limit-programs-for-internet-gambling.html - 17k

Issue discusses an in-press study (below) that provides some preliminary evidence for the efficacy of self-limiting programs for internet gamblers. A prominent gambling site offers such a program, and the effect seems to be reduction in most cases, complete cessation in some.

*Nelson, S. E., LaPlante, D. A., Peller, A. J., Schumann, A., LaBrie, R. A. & Shaffer, H. J. (in press). Real limits in the virtual world: Self-limiting behavior of Internet gamblers. *Journal of Gambling Studies*.*

Williams, R. (2002). *Prevention of problem gambling—A school-based intervention*. Edmonton, AB: Alberta Gaming Research Institute. Available at www.uofaweb.ualberta.ca/abgaminginstitute/pdfs/Williams_prevention.pdf

This study was conducted to design, implement, and evaluate a school-based problem gambling prevention program. The study was guided by other programs as well as research on what has been shown to be effective. The curriculum had five sessions: "1. Information concerning the nature of gambling and problem gambling. 2. Exercises to make students less susceptible to the cognitive errors often underlying gambling fallacies. 3. Information on the true odds involved in gambling activities and exercises on how to calculate these odds. 4. Teaching and rehearsal of generic decision-making and social problem-solving skills. 5. Teaching and rehearsal of adaptive coping skills." The author points out that systematic school-based programs are wanting, and evaluations remain contentious. In this program, format was also taken into account: it was designed to be entertaining, emphasized "skill learning" and the application of knowledge, and focussed

on the social environment of students. Two sites were chosen: the Calgary High School System and Aboriginal high schools in Southern Alberta. The latter site experienced low enrolment and poor attendance. At the Calgary site, results of the program were promising with respect to knowledge, attitudes, and gambling activity. Short-term results, however, were more significant than long-term results on some measures. The implications of this are discussed.

4. Conceptual issues and general information

Adams, P. (2004). Minimising the impact of gambling in the subtle degradation of democratic systems. *Journal of Gambling Issues*, 11. Available at http://www.camh.net/egambling/issue11/jgi_11_adams.html

This article deals with the ways in which gambling can undermine democratic participation and democratic culture itself. Gambling can undermine social and economic institutions, as well as a society's political processes. Notably in jurisdictions where gambling is rampant, alliances can form between the gambling industry and sections of government. Given that their economic interests converge, the temptation to permit gambling despite the wishes of a community will loom. Globalization is another factor, permitting the gambling industry to act in force upon smaller or more vulnerable communities. But this paper has another focus: with so many individuals at least partly beholden to gambling revenues (or having some relation with those who are), the ability (or willingness) of these people to participate in a democratic critique of gambling can be compromised. This article addresses subtle questions concerning the psychosocial dimensions of democratic culture and their relations to economic power. Certain influences are hard to identify and to report. People working in universities, government departments, community organizations, and other areas can thus be affected. Any effort to minimize gambling-related harm must take this into account. The author calls for independent monitoring of people with public duties who have relationships to the beneficiaries of gambling profits, as well as for an international charter to address this matter. Specific recommendations are given for various sectors, such as universities and the media.

Alberta Gaming Research Institute. (2004–present). *Research Reveals....* Newsletter. Available at <http://www.abgaminginstitute.ualberta.ca/newsletter.cfm>

This is "an update on gambling research in Alberta." Often, prevention is the theme. See, for example, the November 2004 issue (below).

Alberta Gaming Research Institute. (2004, November). The development of empirically-derived "low-risk" gambling guidelines: An interview with Dr. Shawn Currie. *Research Reveals...*, 4 (1). Available at <http://www.abgaminginstitute.ualberta.ca/pdfs/RR-Issue1-vol4-2004.pdf>

Given that there is no scientifically developed definition "that provides clear limits on exactly how the risks associated with gambling can be significantly lowered," Dr. Shawn

Currie, a clinical psychologist at the Addiction Centre in Calgary, has embarked upon a study called "An empirical approach to developing low-risk gambling guidelines." Currently there are no clear definitions of "safe" or "responsible" gambling. Conversely, for drinking there are clear limits for frequency and quantity. The aim of Dr. Currie's work is to set clear "threshold" limits on gambling frequency, duration, and expenditure in order to better identify high-risk gambling behaviour. With the endorsement of gambling experts, such guidelines could be disseminated to the general public. Dr. Currie acknowledges that there is no such thing as risk-free gambling and that the thresholds could vary according to demographics (e.g., gender is a factor in similar thresholds for alcohol consumption). Evidence suggests that guidelines work, as in the case of one study where problem gamblers were given a strict monetary limit (5% of income). One of the most significant findings so far in Dr. Currie's study is that gambling expenditures exceeding 5% of income represent a serious risk factor.

American Gaming Association (AGA). (2002). *AGA Responsible Gaming Quarterly Archive*. Available at http://www.americangaming.org/rgq/rgq_archive.cfm

This link provides access to articles appearing in the "AGA Responsible Gaming Quarterly" in 2002. Responsible gambling and prevention are major themes.

Arnold, G., Collins, P., Eadington, W., Remmers, P., & Ricketts, T. (2003). *Towards a strategy for dealing with problem gambling*. London, U.K.: Gambling Industry Charitable Trust. Available at http://www.gict.org.uk/reports_towards_a_strategy.asp

This is a general report, with the authors pointing out that only recently has problem gambling been identified as a serious concern. The U.K. is behind on this count compared to many nations, notably in terms of funding, and this report draws upon the experience of other nations (especially English-speaking countries). The authors point out that treatment and prevention measures are too new to have been properly assessed. Priority should be given to a telephone help-line. Education efforts should inform the public about the workings of commercial gambling, the serious problems that gambling can cause for a small minority, the indicators of problem gambling, and the types of help available. The authors note that many gamblers who may not suffer from real addiction nonetheless suffer some difficulties and could benefit from educational efforts.

Behnam, D. (2007). *Internet gambling under siege*. *Gaming Law Review*, 11, 536-550.

Article provides overview of US laws pertaining to internet gambling, with a focus upon the (then) new *Unlawful Internet Gambling Enforcement Act*. Article discusses, for example, how inconsistencies in the conceptualization of location have led to similar legislative inconsistencies within the US: does a bet take place where the gambler is located, or where the gaming facility is located? This article discusses issues ranging from US Federal and State laws to the WTO, and provides good insights into the embryonic nature of laws governing the internet and, by implication, online gambling.

Bellringer, M., Perese, L., Rossen, F., Tse, S., Adams, P., Brown, R., et al. (2003). *Supporting the wellbeing of young people in relation to gambling in New Zealand.* Auckland, New Zealand: Problem Gambling Foundation of New Zealand. Available at http://www.responsiblegambling.org/articles/supporting_the_wellbeing_of_young_people.pdf

This report describes the measures taken to reduce harm related to problem gambling among New Zealand youth and offers many suggestions for improvement. At the time of writing, New Zealand gambling legislation did not represent an integrated agenda. The authors note that this generation (aged 12 to 25) is growing up in an environment of legalized (and normalized) gambling and hence faces new difficulties, partly due to overly positive perceptions of gambling and its implications. The authors offer a "strengths-based" approach that focuses on an individual's positive attributes. Other highlights are as follows: adults should be equipped with the necessary knowledge of gambling's negative potential; legislation should be geared to harm minimization; Maori, Pacific, and Asian concerns must be addressed; and knowledge should be built upon information and research. Many issues, including protective and risk factors, are discussed.

Black, R., & Ramsay, H. (2003). *The ethics of gambling: Guidelines for players and commercial providers.* *International Gambling Studies*, 3, 199–215.

Discussions of gambling issues tend to focus upon social impact rather than ethics. This paper offers an alternative, philosophical, perspective on the ethical issues related to the provision of gambling services. Rather than moralistic, the authors suggest a "moral realist" approach—taking facts and concrete issues into account. If gambling is not necessarily wrong, it still requires an ethical foundation guiding gamblers and providers. The gaming industry will, however, need to alter the ways in which it perceives itself. Currently, whatever ethical discourse exists tends to be in the tradition of public preaching that was practised a century ago. The authors invoke Kant and Aristotle, with questions pertaining to fulfillment and rationality of choices. Is it possible to use gambling as a humanly fulfilling experience? This and other questions are explored. Gambling that took itself seriously along these lines could undo harm and make a serious contribution to the common good.

Blaszczynski, A. (2002). *Harm minimization strategies in gambling—An overview of international initiatives and interventions.* Melbourne, Australia: Australian Gaming Council. Available at <http://www.austgamingcouncil.org.au/research/files/International%20Harm%20minimization%20AGC%20draft%20080301.pdf>

This report is an overview of harm reduction strategies in several nations. The author points out that there is still little consensus as to what harm reduction means, though an operational definition is provided. Parallels with substance abuse are discussed. Primary, secondary, and tertiary prevention are defined and discussed in terms of their principles and effectiveness.

Blaszczynski, A., Ladouceur, R., & Shaffer, H. (2004). A science-based framework for responsible gambling: The Reno model. *Journal of Gambling Studies*, 20, 301–317.

This article identifies key principles that should guide a "strategic framework, or blueprint for action" in order to better organize efforts to reduce gambling-related problems. Industry operators, health care providers, social scientists, community groups, relevant government agencies, and other interested parties should join together, essentially forming a coalition geared to reducing or eliminating gambling-related harm while maximizing its benefits. The strategic framework should be based upon empirical, rather than anecdotal, evidence, thereby focussing effectively on vulnerable community members while at the same time avoiding unintended effects upon the majority of harm-free recreational gamblers. While different stakeholders (such as industry operators and health service providers) often define responsible gambling from different perspectives, governments bear the final responsibility for legislative and regulatory initiatives. Currently, however, community pressure often leads to restriction or elimination of gambling venues without scientifically based evidence of harm reduction. The two main barriers to the implementation and evaluation of responsible gambling strategies—lack of conceptual clarity and absence of consensus—should be overcome through empirically and theoretically sound knowledge. For example, specifically focussed psychometric prevalence estimates currently fail to distinguish between subgroups within the problem gambling population (e.g., pathological), making for a lack of clarity, while there is also very little consensus on what constitutes responsible gambling. Five principles are laid out: (1) Key stakeholders will commit to reducing the incidence and prevalence of gambling-related harm. (2) They will work collaboratively to evaluate policies. (3) They will work collaboratively to identify short- and long-range priorities. (4) They will rely on scientific research. (5) Once established, the "action plan" will be subject to ongoing scientific evaluation. The authors argue for the establishment of a global body representing everyone associated with the gambling industry.

Cantinotti, M. & Ladouceur, R. (2008). Harm reduction and electronic gambling machines: Does this pair make a happy couple or is divorce foreseen? *Journal of Gambling Studies*, 24, 39–54.

Authors question the ways in which harm reduction (HR) principles have been applied to EGMs, and to the PG field as such. Authors argue that the rationale for employing harm reduction principles has not been properly articulated in PG studies. Noting that contemporary HR was first directed at specific issues pertaining to substance abuse, they claim that the term has since been overly broadened. Distinctions ought to be made between various options, and HR should be seen as one among many rather than a catchall simply referring to the reduction of harm. Authors discuss the origins of HR as an idea, and make clear that distinctions should be made between demand reduction, supply reduction, and HR. In short, the authors make an erudite case for conceptual clarity.

Chevalier, S., Geoffrion, C., Allard, D., & Audet, C. (2002). *Motivations for gambling as tools for prevention and treatment of pathological gambling*. Quebec, QC: Institut national de santé publique de Québec.

The researchers discuss the beneficial aspects of gambling with the goal of using some of these for improving treatment of problem gambling. The authors argue that understanding precisely what gambling does for people can help to provide focus for attempts to develop substitute activities that may deliver similar benefits. For example, some gamble for socialization, to "experience emotions," or to donate to charities. Despite the title, this report has far more to do with treatment than prevention.

Connecticut Council on Problem Gambling (1998–2001). *Prevention of problem gambling: A monthly newsletter on problem gambling prevention information, research, and initiative*. Available at http://www.cpg.org/prevention_newsletters.asp

This monthly newsletter covered issues pertaining to the prevention of problem gambling and is still available on-line.

Derevensky, J., & Gupta, R. (2000). Prevalence estimates of adolescent gambling: A comparison of the SOGS-RA, DSM-IV-J, and the GA 20 Questions. *Journal of Gambling Studies*, 16, 227–251.

Gambling levels among children and adolescents are growing at an unprecedented rate, and high levels of problem gambling among youth have been identified. The strengths and weaknesses of various screening instruments, along with some of the modifications made for addressing youth, are discussed. In this study, 980 adolescents were administered three gambling screens: the South Oaks Gambling Screen Revised for Adolescents (SOGS-RA), the DSM-IV-J, and the GA 20 Questions. The two professionally devised screens delivered problem/pathological gambling rates of 5.3% (SOGS-RA) and 3.4% (DSM-IV-J), and the GA 20 Questions identified 6%. The authors discuss qualitative issues, such as higher correlation between scales for males than for females, and the items best reflecting the differences between those reporting mild to moderate gambling problems and those reporting serious problems. Comparison of the three screens revealed fairly high agreement and verify the contention that more youth (notably males) report serious gambling problems than adults. More research is needed to identify characteristics that differentiate between male and female youth problem gamblers, and more attention should be paid to the fact that there may be different types of problem gamblers. The authors point out that problem gambling rates hinge upon definitions of the issues and that the instruments under study may not provide a "gold standard." The latter would be invaluable for the development of education and prevention efforts.

Derevensky, J., & Gupta, R. (2004). Adolescents with gambling problems: A synopsis of our current knowledge. *Electronic Journal of Gambling Issues*, 10. Available at http://www.camh.net/egambling/issue10/ejgi_10_derevensky_gupta.html

A significant minority of adolescents who gamble have serious gambling problems, and this article reviews current empirical knowledge of problem gambling among youth. Emphasis is given to the work of Henry Lesieur (to whom this issue is dedicated). While this article provides little new information, it is, as the title suggests, a synopsis (and very thorough). Risk factors and correlates are discussed, and a list of the most important factors and issues is provided. Treatment issues are also covered. The authors point out that knowledge of gambling prevention is still embryonic and that the field must consistently borrow knowledge from the more developed field of substance abuse. A short, yet erudite, account of the abstinence versus harm reduction controversy is provided. The authors point out that even if knowledge of gambling prevention is still wanting, adaptations of theories governing adolescent risk behaviour can provide a useful starting point. The authors also point out that today's youth will soon be adults, with the implication that efforts targeting the young may be a very important aspect of prevention.

Derevensky, J. L., Gupta, R. & Baboushkin, H. R. (2007). Underlying cognitions in children's gambling behavior: Can they be modified? *International Gambling Studies*, 7, 281-298.

Study suggests that cognitions pertaining to gambling among children can be modified, steered in healthier directions, and with more success if efforts are targeted at younger ages. Implications for how these findings should be applied to prevention initiatives are discussed

Derevensky, J., Gupta, R., Dickson, L., & Deguire, A. (2001). *Prevention efforts toward minimizing gambling problems*. Washington, DC: National Council for Problem Gambling, Center for Mental Health Services (CMHS), and the Substance Abuse and Mental Health Services Administration (SAMHSA).

This report discusses many issues pertinent to prevention. Much of the conceptual framework is explicated below under Dickson, Derevensky, & Gupta (2002). The theoretical underpinnings of current youth gambling treatment are discussed. The abstinence versus harm reduction controversy is covered comprehensively. The report also provides a review of available prevention programs. Emphasis is placed on viewing risky behaviours on a continuum of harm.

Derevensky, J., Gupta, R., & Winters, K. (2003). Prevalence rates of youth gambling problems: Are the current rates inflated? *Journal of Gambling Studies*, 19, 405–425.

This article points to inconsistencies in prevalence estimates of problem gambling among youth and tackles the question of whether these rates have been inflated. Screening tools, instruments, and definitions of youth problem gambling all require greater scientific scrutiny. Risk factors must be understood more fully. Better screening, prevention, and treatment initiatives will hinge upon the development of such knowledge. Despite uncertainty about the prevalence of gambling problems among youth, there is good evidence that this group is at high risk. Given that it normally takes years for gambling to reach pathological levels, early intervention could offset many problems.

Dickerson, M. & O'Connor, J. (2006). *Gambling as an addictive behaviour: Impaired control, harm minimisation, treatment and prevention.* New York: Cambridge University Press.

As the title suggests, this book covers a lot of ground. Though not strictly a prevention document, the third chapter offers a PG literature review. Risk factors are discussed in depth, as are approaches to harm minimization. From the Executive Summary: “The validity of the contemporary approach to harm minimisation, “responsible gambling”, is challenged. In the context of the data showing how common, amongst ordinary regular gamblers, are reports of impaired self-control, it is argued that a totally new policy approach is required, one based on existing principles of consumer protection.” (p. xiv)

Dickson, L., Derevensky, J., & Gupta, R. (2002). *The prevention of gambling problems in youth: A conceptual framework.* *Journal of Gambling Studies, 18, 97–159.*

This article tackles the question of whether and to what extent prevention programs for alcohol, tobacco, and illicit drug abuse can provide elements that could be applied effectively to similar measures for gambling among youth. Though awareness of the need to educate children about the dangers of gambling has increased, empirical knowledge of how to prevent problem gambling among adolescents is wanting. Various addictions share common risk and protective factors, suggesting the need for a general model. The authors argue for the applicability of a general adolescent risk-taking model. The authors argue that research on resiliency during adolescence should guide preventative efforts, given that gambling is a socially acceptable activity. Resiliency literature suggests that some are more immune to stress, deprivation, and adversity, rendering them less vulnerable to compulsions and addictions than others in similar situations. The authors argue that children are not born resilient, so that the environmental risk and protective factors should be identified (though they do not dismiss biochemical and genetic components). Psychological, family, and peer factors are discussed.

Dickson, L., Derevensky, J., & Gupta, R. (2004a). *Harm reduction for the prevention of youth gambling problems: Lessons learned from adolescent high-risk behavior prevention programs.* *Journal of Adolescent Research, 19, 233–263.*

While harm reduction has become a favoured approach to adolescent substance abuse, its application to the treatment and prevention of problem gambling among youth is still largely unexamined. This study was designed to assess harm reduction as a preventative paradigm, for gambling and also for other potentially risky behaviours. From the abstract: "The authors use a universal, selective, and indicative prevention framework to present current prevention initiatives that have emerged from the harm reduction health paradigm for adolescent substance and alcohol abuse. The risk-protective factor model is used as a conceptual basis for designing youth problem gambling harm reduction prevention programs. This framework illustrates the developmental appropriateness of the harm reduction approach for youth. Implications drawn from this conceptual examination of

harm reduction as a prevention approach to adolescent problem gambling provide valuable information for treatment providers as well." A harm reduction approach would be guided by certain principles: value neutrality with respect to gambling (and other risky behaviours); humanism, in short meaning that the adolescent is treated with respect and is expected to behave much like an adult; acknowledging the adolescent's active role in preventative measures; and integrating other approaches. Harm is perceived as falling upon a continuum, with people at the extreme of uncontrolled behaviour being possibly inappropriate candidates for harm reduction strategies.

Dickson, L., Derevensky, J., & Gupta, R. (2004b). Youth gambling problems: A harm reduction prevention model. *Addiction Research and Theory, 12*, 305–316.

The authors discuss harm reduction in relation to the prevention of youth gambling problems, noting that its use has already been established in the substance abuse field. For a conceptual basis, see Dickson, Derevensky, and Gupta (2004a) above.

Dyall, L. (2004). Why is wearing glasses useful in New Zealand? *Journal of Gambling Issues, 12*. Available at http://www.camh.net/egambling/issue12/jgi_12_dyall.html

This article was prepared in support of the development of a public health approach to gambling and its related harms in New Zealand. Supporting the ideas presented at the Auckland (2003) conference, Gambling Through a Public Health Lens, the author argues that issues can be observed through many "prisms." The Maori perspective on gambling is the "lens" guiding this article, which argues for a public health approach appropriate for this aboriginal tribe. Focussing on family networks, tribal communities, and tribal groups, the author suggests that the Maori may eventually lend assistance in the reduction of gambling-related harm, through the maintenance of cultural traditions, to other ethnic communities both in New Zealand and elsewhere. The paper discusses gambling in its connection to the Maori's experience with colonialization, as well as how the Maori currently perceive gambling revenues through their ownership (or partial ownership) of gambling venues as a means of achieving some economic independence.

Eadington, W. (2003). Measuring costs from permitted gambling: Concepts and categories in evaluating gambling's consequences. *Journal of Gambling Studies, 19*, 185–213.

The author critiques the methods of determining costs and benefits that guide policies targeting legalized gambling. The author makes a distinction between narrow, economic evaluations and a broader conception of "harm." The types of policies implemented by governments will be greatly affected by which of these perceptions is prevalent. Many attempts to assess "social costs" are seriously flawed, as they gloss over the complexities of this question. The author suggests that casino customers who wish to wager more than a small amount be required to obtain a gambling licence, which could be revoked under certain conditions. Above all, the author argues that society should attain a greater awareness of the personal and social costs associated with gambling.

Evans, C., Kemish, K., & Turnbull, O. (2004). Paradoxical effects of education on the Iowa Gambling Task. *Brain and Cognition*, 54, 240–244.

The Iowa Gambling Task (IGT) was designed to measure emotion-based learning systems, or "intuition." This important study provides evidence that education may in fact undermine emotion-based learning, or at least its role in decision making. Better educated individuals may hence perform poorly on the IGT. In a "real-money" version of the Task, less educated individuals outperformed university-educated people in some categories, while in others there was no significant variation. The role of education in the maintenance of false beliefs is one explanation.

Evans, R. (2003). Some theoretical models and constructs generic to substance abuse prevention programs for adolescents: Possible relevance and limitations for problem gambling. *Journal of Gambling Studies*, 19, 287–301.

The author claims that most gambling prevention programs have not been based on theoretical models. This article describes in a historical context various psychosocial models for the prevention of substance abuse among adolescents with an eye to how they may apply to problem gambling within that group. These include social inoculation, reasoned action, planned behaviour, and problem behaviour theory. Differences between gambling and substance use are discussed; for example, unlike alcohol and drug use, gambling does not present immediately recognized adverse effects. The author points out, however, that even though gambling is a "drugless" addiction, gamblers' self-descriptions of their experiences often resemble those of chemical-dependent individuals. The author concludes that substance abuse prevention research directed at adolescents presents theoretical frameworks that could be useful to the prevention of pathological gambling.

Felsher, J., Derevensky, J., & Gupta, R. (2004b). Lottery playing amongst youth: Implications for prevention and social policy. *Journal of Gambling Studies*, 20, 127–153.

This study finds that while many gambling venues are difficult for underage people to access, many retailers willingly break the law by selling scratch tickets to children as young as 11. Advertising for lotteries has become more aggressive and is deceptive about the odds of winning, and children who buy tickets tend to be poorly informed about their chances of winning. Many youth do not perceive scratch tickets or lottery draws as "gambling." Since it is a myth that current legal statutes have presented a serious deterrent to underage gambling, greater social awareness of this fact along with more conscientious law enforcement is recommended. Widespread prevention programs should begin at the elementary school level.

Fisher, S. (2000a). Developing the DSM-IV-DSM-IV criteria to identify adolescent problem gambling in non-clinical populations. *Journal of Gambling Studies*, 16, 253–273.

This article discusses a revised version of the DSM-IV-J criteria for youth—the DSM-IV-MR-J—along with psychometric findings stemming from its use in a prevalence study of adolescent gambling. The author claims that current and emerging screening instruments for problem gambling among youth require more testing and development in order to establish an accepted "gold standard." The revised instrument addresses the appropriateness of "yes–no" responses outside of clinical situations and seems to discriminate efficiently between problem and non-problem fruit machine gamblers aged 12 to 15. Yet more stringent testing is needed. Currently, it is questionable whether various cultural, social, psychological, and environmental factors are properly accounted for.

Fisher, S. (2000b). Measuring the prevalence of sector-specific problem gambling: A study of casino patrons. *Journal of Gambling Studies*, 16, 25–51.

Face-to-face interviews with 1,105 patrons from 40 casinos in the U.K. were conducted in order to measure the prevalence of problem gambling within a specific sector of the gambling industry. This study lent support to earlier work suggesting that casinos in the U.K. could be sustained by regular gamblers among whom high rates of problem gambling could be found (7% of casino patrons accounted for 63% of visits). Evidence was also produced for the relevance of demographic factors to the choice of gambling venue. The author calls for more sector-specific prevalence studies as a means to identify more problem gamblers and to provide better knowledge of relevant demographic characteristics. Such knowledge could help to yield better prevention and treatment interventions. Asians, for example, were overrepresented among problem gamblers in this study, as were people with substance addictions and those who started gambling at earlier ages.

Gardner, L., Kalt, J., & Spilde, K. (2005). *Cabazon, the Indian Gaming Regulatory Act, and the socioeconomic consequences of American Indian governmental gaming—A ten year review/annotated bibliography: The social and economic impacts of Indian and other gaming*. Cambridge, MA: The Harvard Project on American Indian Economic Development, John F. Kennedy School of Government, Harvard University. Available at <http://www.ksg.harvard.edu/hpaied/pubs/documents/AmericanIndiansonReservationsADatabookofSocioeconomicChange.pdf>

This annotated bibliography provides an impressive list of titles dealing with the social and economic effects of gambling.

Gilliland, J. (2003). Putting gambling in its place: A geographical study of VLT accessibility and play by Montreal youth. *Youth Gambling International*, 3 (3), 1–2. Available at <http://www.education.mcgill.ca/gambling/en/PDF/Newsletter/Fall2003.pdf>

Video lottery terminals (VLTs) are widely available in Montreal, and some critics claim that these machines are in fact aimed at vulnerable populations (youth, the poor), though this remains unverified. This article discusses preliminary results of a project still under

way attempting to determine whether placement of VLTs and socioeconomic environment influence youth gambling behaviour. VLTs are found to be heavily concentrated near secondary schools. If preliminary findings hold up, this research will conclude that the social environments conducive to problem gambling among youth have been intensified in recent years and that lottery sites should be restricted with respect to their proximity to schools.

Griffiths, M. (1999). Gambling technologies: Prospects for problem gambling. *Journal of Gambling Studies*, 15, 265–283.

Noting a long-standing link between technology and gambling practices, the author discusses the potential of newer gambling technologies to generate more problem gambling. Internet gambling is identified as an area of future concern.

Griffiths, M. & Barnes, A. (2008). Internet gambling: An online empirical study among student gamblers. *International Journal of Mental Health and Addiction*, 6, 194-204.

Premised on the idea that situational and structural details specific to the internet may render online gambling uniquely addictive (or at least harm-related), authors pursue study of the differences between internet gamblers and other gamblers. Potentially troublesome aspects of internet gambling include: “increased number of gambling opportunities, convenience, 24-h access and flexibility, increased event frequencies, smaller intervals between gambles, instant reinforcements, and the ability to forget gambling losses by gambling again immediately” (from the Abstract). Results confirmed hypotheses pertaining to high rate of PG among internet gamblers, along with an over-representation of males among internet gamblers. Though it is possible that many who already have gambling problems turn to the internet, it is also worth considering the extent to which the internet actually contributes to overall PG rates. More research is required.

Griffiths, M., Parke, A. & Wood, R. (2006). Internet gambling: An overview of psychosocial impacts. *Gaming Research & Review Journal*, 10, 27-39.

Article suggests that while internet gambling is currently not a serious problem, it soon may become. Issues pertaining to the targeting of vulnerable populations, gambling in the workplace, and unscrupulous business practices are discussed. Authors emphasize significance of accessibility and the frequency of events. From the Conclusion: “Addictions are essentially about rewards and the speed of rewards. Therefore, the more potential rewards there are, the more addictive an activity is likely to be. However, there is no precise frequency level of a gambling game at which people become addicted since addiction will be an integrated mix of factors in which frequency is just one factor in the overall equation.” (p. 37)

Hardoon, K., & Derevensky, J. (2002). Child and adolescent gambling behavior: Current knowledge. *Clinical Child Psychology and Psychiatry*, 7, 263–281.

Evidence suggests that underage youth participate in both legal and illegal types of gambling, with 4% to 8% reporting serious problems with gambling and another 10% to 15% at risk. Gambling is the addictive behaviour in which children and adolescents engage with the greatest frequency. This article represents a synopsis of available knowledge. Current theories of gambling behaviour and addiction are discussed, along with risk and protective factors. The authors point out that the early onset of gambling, unique in our time to this generation of youth, renders the need for prevention programs more pressing. Coping skills, problem solving, and gambling awareness should be taught at primary and secondary schools.

Hardoon, K., Derevensky, J., & Gupta, R. (2003). Empirical measures vs. perceived gambling severity among youth: Why adolescent problem gamblers fail to seek treatment. *Addictive Behaviors*, 28, 933–946.

This study finds that youth who qualify as problem or pathological gamblers according to accepted gambling screens are likely not to perceive themselves as such. Though it is possible that the screens overestimate problem gambling prevalence, the authors consider at least one of the screens (DSM-IV-J) quite conservative and hence conclude that it is more likely that youth with gambling problems tend to underestimate severity. The authors note, for example, that unlike adults, youth often do not have jobs to lose: youth tend not to seek help until their problems have become overwhelming.

Hing, N. (2003). Principles, processes and practices in responsible provision of gambling: A conceptual discussion. *Gaming Research and Review Journal*, 7 (1), 33–48.

The author offers a definition and conceptual framework for responsible gambling based upon three "central constructs" from the corporate literature. Responsible gambling provision is "the congruence between the socially responsible principles, socially responsive processes, and socially desirable practices that gambling operators pursue and those expected by their stakeholders in managing the social impacts of gambling." The author discusses this framework and its potential research applications.

Hirsch, P. (2000). *Seniors and gambling: Exploring the issues*. Edmonton, AB: Alberta Alcohol and Drug Abuse Commission.

Seniors represent a fast-growing segment of Canada's population, and there is anecdotal evidence that more of them are gambling. Given the lack of solid information about gambling among seniors, the Alberta Alcohol and Drug Abuse Commission conducted a preliminary investigation of this issue. The focus was on gambling attitudes and behaviours and the effectiveness of intervention and preventative initiatives. Bingo, lotteries, and casino games were the most common activities, with women overrepresented in bingo. One important reason seniors gamble is to socialize, with

loneliness as a major inducement. Problem gamblers among this group were more likely to believe that many seniors had problems with gambling. Some seniors suggested that the availability of alternative activities would help to reduce problem gambling. The author concludes that most Alberta seniors are well adjusted and healthy with respect to gambling. Yet some problems exist, and these are two of the author's recommendations: existing problem gambling awareness campaigns should contain messages aimed at seniors, and these should target "key influencers" such as clergy, family, and physicians, and the ability of seniors to help each other should be enhanced.

International Centre for Youth Gambling Problems and High-Risk Behaviors. (2001–present). *Youth Gambling International Newsletter*. Available at <http://www.education.mcgill.ca/gambling/en/newsletter.htm>

This quarterly on-line newsletter is distributed by Youth Gambling International and should be of interest to anyone involved in the prevention of gambling problems among youth (see, for example, the Winter 2002 issue of the newsletter, or, in this bibliography, Gilliland (2003)). In their words: "Prevention—The Centre develops prevention programs and coordinates prevention efforts on an international level. We are also supporting the development of social policy guidelines with respect to advertising and working on developing a public health framework. Information Dissemination & Library Services—The Centre operates an online database and central clearinghouse, and disseminates research and treatment information on youth gambling, co-occurring addictive disorders, and youth risk-taking behaviours. We also publish a quarterly online newsletter, Youth Gambling International (YGI), and an online monthly news update, YGI Flash, which is currently distributed to over 1000 individuals and organizations."

Katzman, M. (2002). *When the stakes are high—Gambling and schools*. Halifax, NS: Addiction Prevention and Treatment Services, Capital Health. Available at www.cdha.nshealth.ca/programsandservices/addictionprevention/gamblingPolicy.pdf

This Nova Scotia report was written to inform decisions regarding school-based gambling policies. Issues covered include the extent and effects of adolescent gambling, ways in which schools may be aggravating the situation, actions schools can take to reduce gambling-related harm, and the main issues to consider. The author points out that schools often raise funds through activities such as bingo and that at the very least students should be aware of facts of gambling. For example, a "50/50 Draw" may be taken to entail a 50% chance of winning. As well, in a controlled classroom environment, students are largely protected and the consequences of losing are minimal, yet they may not appreciate the fact that similar games in other settings pose significant risks. As well, adults need to consider how their behaviour will affect the perception of youths. A comprehensive approach, with six categories, is suggested: (1) information and awareness; (2) education and skill development; (3) alternative activities; (4) community development, capacity building, and institutional change; (5) public social policy; and (6) intervention strategies aimed at high-risk individuals.

Kelly, J., Skinner, W., Wiebe, J., Turner, N., Noonan, G., & Falkowski-Ham, A. (2001). *Project Weathervane: Measuring gambling behaviours, knowledge and attitudes in Ontario*. Toronto: Responsible Gambling Council and Centre for Addiction and Mental Health.

The behaviour, knowledge, and attitudes of Ontario adults are studied with an eye to informing public awareness and prevention campaigns. Overall, awareness of the need for such strategies is increasing. The report addresses issues such as the illusion of control and predictability, and found that misconceptions along these lines were quite common—above all, knowledge of probability was associated (though not too strongly) with responsible gambling practices. As well, it was found that 60.2% of people surveyed had never heard the term "responsible gambling" and that most respondents had a poor grasp of the signs of problem gambling.

Khazaal, Y., Chatton, A., Cochand, S., Jermann, F., Osiek, C., Bondolfi, G. & Zullino, D. (2008). Quality of web-based information on pathological gambling. *Journal of Gambling Studies*, 24, 357–366.

Authors argue that information on the internet pertaining to PG is lacking in quality and that this shortcoming ought to be rectified.

Korn, D. (2000). Expansion of gambling in Canada: Implications for health and social policy. *Canadian Medical Association Journal*, 163, 61–64.

The recent rise in legalized gambling, due to the government's need for revenue, is a public health issue involving gambling addiction, family dysfunction, and youth gambling. Overall gambling prevalence is low, but rising, and the prevalence of gambling among youth is a serious concern. New technologies such as video lottery terminals have been associated with gambling problems and addiction. Internet gambling is another new concern. This article recommends the adoption of a public health approach to the issue, with five specific suggestions: (1) balance the public interest with respect to revenue generation and gambling-related harm, (2) monitor gambling advertising, (3) gauge the impact on quality of life, (4) develop a research agenda, and (5) adopt a harm reduction approach.

Korn, D., Gibbins, R., & Azmier, J. (2003). Framing a public policy towards a public health paradigm for gambling. *Journal of Gambling Studies*, 19, 235–256.

The authors argue for public policy on gambling based upon a public health perspective. The ways in which policy debates are currently framed do not take into account the broader social and economic effects of gambling, which a public health frame is designed to consider. Though economic and political interests pose obstacles to the adoption of this alternative paradigm, and cultural attitudes are also resistant, research can overcome these challenges as it has with other issues, such as smoking and product liability. Traditional gambling frames include the following: "gambling is a matter of individual

freedom," "gambling is a recreational activity," "gambling is an important tool for economic development," and "gambling addiction is an individual rather than a social pathology." Different frames need not be mutually exclusive, and no combination need be exhaustive. But a public health frame is best suited to prevention and harm reduction. The authors argue that the ideology of individual rights may account for the framework that offers the strongest resistance to a public health perspective.

Korn, D., & Shaffer, H. (1999). Gambling and the health of the public: Adopting a public health perspective. *Journal of Gambling Studies, 15, 289–365.*

The recent rise in legalized gambling has been accompanied by an increase in problem and pathological gambling among adults, and gambling-related problems among youth are also a serious concern. Yet gambling-related problems have received little attention in terms of their impact on health. This article was written with four goals: (1) raise awareness among health professionals; (2) place gambling within a public health framework; (3) identify major public health issues related to gambling; and (4) propose an agenda for policy, prevention, and treatment based upon the Ottawa Charter for Health Promotion. Unlike a narrow clinical model, a public health perspective is multifaceted and better equipped to address preventative issues. The authors argue for a broader conception of "health" involving a range of socially based criteria. Significant theoretical constructs, such as the human ecology paradigm, are discussed, along with the differences and similarities between problem gambling and substance addiction. Key proposals include suggestions for educational initiatives and healthy gambling guidelines comparable to those already in place for alcohol.

LaBrie, R. A., Kaplan, S. A., LaPlante, D. A., Nelson, S. E. & Shaffer, H. J. (2008). Inside the virtual casino: A prospective longitudinal study of actual internet casino gambling. *European Journal of Public Health, 18, 410-416.*

Prospective longitudinal study of internet casino gambling behavior finds that for most players the costs associated with participation are modest, though with about 5% of players losses are larger. Time spent playing ought to be considered a marker for PG. Authors argue that empirical data is needed for the creation of public health discussions, which currently must rely overly upon speculation. Empirical data on population level internet gambling is increasing, but much more is required. Rapid expansion of internet access is outpacing the accumulation of data. Methodological means to circumvent such difficulties are discussed

Ladouceur, R., Ferland, F., Coté, M., & Vitaro, F. (2004). Teachers' knowledge and training needs regarding youth gambling. *School Psychology International, 25, 472–479.*

This study was designed to gauge teachers' understanding of youth problem gambling and to assess their interest in applying prevention programs. While teachers were found to have a good grasp of youth gambling problems and were interested in learning more, they were not ready to spend time on gambling prevention.

Ladouceur, R., Vitaro, F., & Côté, M. (2001). Parents' attitudes, knowledge, and behavior toward youth gambling: A five-year follow-up. *Journal of Gambling Studies*, 17, 101–116.

Based on two telephone surveys of parents of 5- to 17-year-old children in the Quebec City area, one in 1995 and one in 2000, parents' attitudes, knowledge, and behaviour regarding youth gambling were compared. Several changes were found on all three counts. Parents perceived the age of onset of gambling behaviour more correctly (though they still underestimated it), were more satisfied with government limits on access to gambling, and were more knowledgeable about the legal status of lottery ticket sales. Conversely, a larger percentage of parents did not associate youth gambling with some of its correlates (such as parental gambling problems and friendship with gamblers). Though public education was likely responsible for the observed improvements, inconsistent results suggest that further education efforts are required. The results of this study shed light upon which aspects of parenting were amenable to public information and which were more resistant, knowledge that should assist in the development of future preventative and educational measures.

Law, M. (2004). *From patron care to consumer protection: Poker machines in Tasmania*. Hobart, Tasmania: Anglicare Tasmania. Available at <http://www.anglicare-tas.org.au/pdfs/pokercare.pdf>

One in 10 poker machine players experience some problems. Just as there are strategies in place to minimize harm associated with alcohol and other drugs, the gaming industry should also be regulated in an appropriate fashion. Treatment and referral present too narrow a focus—the identifiable problem gambler—whereas all consumers of poker machines should be taken into account in the provision of safe gambling environments. Strategies to protect the gambling consumer can be called "patron care." This involves harm reduction rather than prohibition, as well as the acknowledgement that harmful consequences are not limited to pathological gamblers and can occur on occasion with recreational gamblers as well. Such difficulties can affect not only the gambler but the gambler's family and larger community. Research has shown that the public perception is that governments that make money from gambling also have a duty of care. Currently, the Tasmanian gaming industry focuses on those who have already developed problems and who are willing to seek help. This must be revised. Certain strategies—such as warnings on gambling products, regional caps on the number of machines per population, and a \$50 limit on note acceptors—are recommended for investigation as to their effectiveness. Other proposals are recommended for immediate enactment. These include slower game speeds, legal limits on the amount that can be bet per game, and independent investigation of several current practices.

Leeds, Grenville & Lanark District Health Unit. (2005). *A public health perspective on gambling in Ontario*. Author. Available at http://www.healthunit.org/adults/php_gambling.htm

This paper provides information on recent gambling research, with an emphasis on youth gambling. Facts about gambling in Ontario, from demographics to legal issues, are provided. A separate section is devoted to a general discussion of prevention programs for youth. A public health approach is advocated.

Livingstone, C. & Woolley, R. (2007). Risky business: A few provocations on the regulation of electronic gaming machines. *International Gambling Studies*, 7, 361-376.

In very strong terms, this article targets attitudes within the gaming industry pertaining to PGs as responsible for their own misfortune. Unsafe distribution and approaches to EGM availability are systemic rather than accidental. Attitudes and practices must be drastically altered in order to generate sound, responsible policies and approaches.

McBride, J. (2006). Internet gambling among youth: a preliminary examination. *Youth Gambling International*, 6, 1. Available at www.education.mcgill.ca/gambling/en/PDF/Newsletter/Summer2006.pdf

Article notes that as computers are becoming less expensive and more accessible, as is the internet, research on internet gambling is just getting under way. PG rates among internet gamblers are apparently high compared to many other types of gamblers. This article discusses a study of internet gambling among youth, and participation rates are rising fast. One concern is that while many youth play games online that involve no money, these are often “gambling games” and as such an introduction to a potentially problematic behavior. “Practice sites” often have inflated payout rates, with the implication that many young people may become used to winning and begin gambling for that reason.

McMullan, J. & Perrier, D. (2007). The security of gambling and gambling with security: Hacking, law enforcement and public policy. *International Gambling Studies*, 7, 43–58.

This article is not specifically about prevention of PG. We have chosen to include it because it deals with an under-researched theme in gambling studies: issues pertaining to computer crime. The article discusses a new form of gambling related crime: hacking into EGMs. Issues pertaining to law enforcement are discussed. The study does touch upon our topic in one important respect: how can the state regulate and monitor this lucrative aspect of the gambling industry?

Messerlian, C., Derevensky, J., & Gupta, R. (2004). A public health perspective for youth gambling. *International Gambling Studies* 4, 147–160.

Gambling problems among youth are increasing at alarming rates worldwide. This represents a public health concern. A conceptual framework is needed. This article discusses such a framework, a theoretical model designed to assist in the development,

implementation, and evaluation of a multilevel health promotion and prevention strategy. Problem gambling is "socially invisible," and many are unaware of its seriousness as it relates to youth. Noting that problem gambling is governed by complex and interacting determinants, the authors argue that gambling expansion and the related problems must be viewed socially, politically, and economically. They recommend a population approach that would "shift the distribution of all risk factors in a favourable direction." Unlike the medical approach, this approach would address the problem at its roots and has more preemptive merit. Though overall gambling levels may not be an absolute determinant for problem gambling, they must still be taken into account. The authors suggest developing personal skills (of youth, parents, and professionals), strengthening community capacity, encouraging supportive environments (in a larger sense, involving issues not directly related to gambling), recommending health-oriented public policy, and reorienting health services.

Messerlian, C., Derevensky, J., & Gupta, R. (2005). Youth gambling problems: A public health perspective. *Health Promotion International, 20*, 69–79.

Problem gambling has only recently been identified as a major public health issue, with an emerging awareness that adolescents and young adults may represent the highest risk in this area. Initiatives targeting youth are only now receiving scrutiny. The Ottawa Charter of Health Promotion provides a framework for a prevention model and "framework for action" to address and understand the issue of youth gambling problems from a population-based viewpoint: "This framework applies denormalization, protection, prevention, and harm-reduction principles to youth gambling problems and describes primary, secondary and tertiary prevention objectives." This article describes a "Youth Gambling Risk Prevention Model," which identifies youth gambling behaviour along a continuum of risk, with appropriate interventions for different levels of risk. The authors note that while knowledge of youth gambling is still limited, more developed knowledge of substance abuse can be used in this area. A population-based approach involves a broader focus upon the social, rather than an individualistic medical, framework.

New Zealand Ministry of Health (2004). *Preventing and minimising gambling harm: Strategic plan 2004–2010, Needs assessment, Proposed three-year funding plan, Proposed problem gambling levy rates*. Wellington, New Zealand: Author. Available at [http://www.moh.govt.nz/moh.nsf/0/CA598932BB52A37DCC256E610016B0AE/\\$File/ProblemGamblingConsultation.pdf](http://www.moh.govt.nz/moh.nsf/0/CA598932BB52A37DCC256E610016B0AE/$File/ProblemGamblingConsultation.pdf)

In 2004, the New Zealand Ministry of Health assumed responsibility for the funding and coordination of problem gambling services with a mandate to prevent and minimize gambling-related harm. The Ministry asked for feedback on four documents: (1) Strategic plan for preventing and minimising gambling harm: 2004–2010, (2) Problem gambling needs assessment, (3) Proposed three-year funding plan, and (4) Proposed problem gambling levy rates. Primary prevention is described as a largely preemptive measure with an emphasis on positive health promotion. Secondary prevention addresses

problems in their early stages. Tertiary prevention addresses the full-blown harms associated with problem gambling. Supply reduction strategies, demand reduction strategies, and problem limitation strategies are all discussed. Guiding principles include a "whole-government (multi-faceted) approach," cultural relevance, reduction of health inequalities, and addressing harm on a continuum.

Noonan, G., Turner, N., & Macdonald, J. (1999). *Gambling and problem gambling amongst students in grades 5 to 11*. Toronto: Problem Gambling Service and Addiction Research Foundation, Divisions of Centre for Addiction and Mental Health. Available at http://www.responsiblegambling.org/articles/Gambling_and_problem_gambling_amongst_students_in_grades_5_to_11.pdf

This study finds fairly high levels of gambling among students, with rates increasing with each grade level. Over 22% of students reported buying lottery tickets or similar products despite legal restrictions on sales to minors, and almost 50% engage in some form of gambling. Problem gambling behaviours among some students were also evident, with games of skill and betting on sports events demonstrating stronger associations with problem gambling (except for younger students, for whom lottery purchases showed such a correlation). The authors note that today's children are among the first to grow up in an environment wherein gambling is a common and accepted activity and that problem gambling rates among youth are much higher than among adults. A key issue is the possibility of many children developing into adult problem gamblers. Prevention efforts should target the distorted ideas about winning that are often associated with problem gambling. While the nature of random events must be understood, the authors point out that cognitive education is insufficient and that emotional issues must be addressed.

North American Training Institute. (Current). <http://www.nati.org>

This Web site provides information on all relevant aspects of responsible gambling. Accessible options include "prevention tools," "responsible gaming," and "educator tools." Special attention is given to information for teens and seniors. In their own words: "Providing gambling addiction clinical coursework, youth gambling prevention programs, and responsible gaming services for over a decade."

Nowatzki, N., & Williams, R. (2002). Casino self-exclusion programmes: A review of the issues. *International Gambling Studies*, 2, 3–25.

Authors' abstract: "Casino self-exclusion is a procedure by which individuals can have themselves banned from entering a casino. One of the purposes of this paper is to present information about the availability and features of these programmes. A second purpose is to make recommendations about how to best operate them based on cross-jurisdictional analysis and lessons from the addiction literature. The first section of the paper describes the typical casino self-exclusion programme, outlining the features common to most policies. The second section provides a detailed overview of the programmes operating in Canada in order to give the reader an appreciation of the procedural variations that exist. The third section discusses the effectiveness of self-exclusion programmes. Finally, the

fourth section contains recommendations on ways to improve effectiveness. When properly implemented, self-exclusion can be a valuable tool in helping to curb problem gambling."

Örnberg, J. C. (2006). Nordic gambling markets and the possibilities for state-level control. *Journal of Gambling Issues*, 18. Available at www.camh.net/egambling/issue18/pdfs/ornberg.pdf

Article describes legal issues pertaining to gambling, notably to deregulation, in five different nations. The ways in which gambling is regulated is discussed, as are policy issues in terms of harm alleviation, personal freedom, and other considerations.

Petry, N. (2006). Internet gambling: an emerging concern in family practice medicine? *Family Practice*, 23, 421-426.

Article is premised on three facts: 1. PG is not often exposed to family doctors; 2. PG can be accompanied by other difficulties, emotional and physical; 3. Internet gambling poses new and unexplored health risks. The study set out to explore the prevalence of internet gambling among patients at medical and dental clinics, and to gauge its association with PG. Study finds that while the percentage of regular internet gamblers was low, 65.9% of these met the criteria for probable PG. Further, internet gambling was associated with poor overall health as well as PG. After controlling for other determinants, the author found internet gambling participation to be independently linked to poor mental and physical health. It is suggested that these findings be replicated in other populations. A more focused understanding of the ways in which internet gambling is associated with poor health measures is needed. Early intervention measures are recommended.

Petry, N., Armentano, C., Kuoch, T., Norinth, T., & Smith, L. (2003). Gambling participation and problems among South East Asian refugees to the United States. *Psychiatric Services*, 54, 1142–1148.

This study was conducted to investigate rates of gambling and problem gambling among South East Asian refugees. No other known study has done so. The South Oaks Gambling Screen was administered to 96 immigrants from Laos, Cambodia, and Vietnam. They were also asked to provide demographic information and data on recent gambling behaviour. Fifty-nine percent registered for lifetime prevalence of pathological gambling. The authors note that these rates of pathological gambling are 10 to 25 times as high as that found in the general population (higher, for example, than for substance abusers). While country of origin did not figure in rates of problem gambling, being male, divorced, and young were strong predictors. The findings indicate that more should be known about the social, cultural, and environmental issues associated with gambling in this group. Prevention and intervention strategies must be ethnically sensitive.

Pitcher, A. (1999). Responsible promotion of gaming and dealing with problem gamblers. *Journal of Gambling Studies*, 15, 149–159.

The Chief Executive of Christchurch Casino in New Zealand discusses the importance of responsible gambling. Casinos especially are the targets of media and political attention. The author argues that governments could do more to fulfill their obligations and that casinos have good economic reasons to be responsive to community concerns. In fact, casinos are compatible with public health. Greed, vanity, and envy make all people latent problem gamblers, and this is not the fault of casinos. Casinos did not cause problem gambling. Instead, their high profile drew attention to an already existing problem. Sound community relations are in a casino's interests, and hence the interests of this industry converge with those of the public.

Quinn, F. (2001). First do no harm: What could be done by casinos to limit pathological gambling. *Managerial and Decision Economics*, 22, 133–142.

Casinos could curtail pathological gambling by limiting their own contributions to its development. The sizes of jackpots and length of play could be limited. As well, limiting access and decreasing arousal, having less variability in games, and offering fewer inducements to play are all reasonable strategies. An external regulatory agency may be required to this end. Despite resistance, casinos may benefit in the long run, partly because their advertising and capital expenditures would be smaller.

Raeburn, John. (2004). An international charter for gambling: The Auckland Conference and beyond. *Journal of Gambling Issues*, 12. Available at http://www.camh.net/egambling/issue12/jgi_12_raeburn.html

Claiming to be the first international conference devoted exclusively to the idea of public health in gambling, the Auckland Conference also had an objective: an International Charter for Gambling designed to raise awareness of governments worldwide of their responsibility to exercise a duty of care toward their citizens with respect to gambling. Most governments that permit gambling are actively involved in its promotion and development. They are hence responsible for much of the harm associated with this activity. These governments profit from gambling, which serves as an alternative to higher taxes. Despite the political expediency of this approach to revenue generation, governments tend to be part of the problem, the public health and societal dimensions of gambling need to be addressed, and those concerned should have an established mechanism by which to convey their views on the ways in which governments should address gambling-related matters. The proposed Charter would enforce government accountability. The author grants, however, that in the current political climate it would be difficult to take such a Charter to world bodies such as the United Nations and the World Health Organization. The proposed Charter would be guided by seven principles: (1) enjoyment of gambling and freedom from harm, (2) government duty of care and protection, (3) community empowerment, (4) informed consent and education, (5) protection of populations from negative effects of gambling, (6) access to care and effective resources for those affected by problem gambling, and (7) the right to abstain or limit consumption.

Roney, C., & Trick, L. (2003). Grouping and gambling: A Gestalt approach to understanding the gambler's fallacy. *Canadian Journal of Experimental Psychology, 57, 69–75.*

The gambler's fallacy, the mistaken belief that independent events such as the results of a coin toss are influenced by recent outcomes (for example, that "tails" is more likely to turn up after several "heads"), is studied under two conditions: a clinical trial following a run of several heads or tails was grouped with the prior sequence as part of "Block 1," and the trial was grouped as the start of a new sequence, as the start of "Block 2." In the former case, the gambler's fallacy was evident, but not in the latter. These findings suggest that the standard "judgment approach," involving education on the nature of random sequences, may not yield the desired results. Conversely, a Gestalt approach, wherein people are taught to reframe the sequence in such a way that the following event is perceived as a new starting point rather than as a continuation of the prior sequence, may prove more effective. The authors caution that their findings are preliminary and that more study is required.

Rose, I. N. (2006). Congress close to devastating internet gambling. *Gaming Law Review, 10, 443-444.*

Author starts by discussing how the U.S House of Representatives Judiciary Committee approved legislation essentially designed to outlaw internet gambling. Though dated, this article speaks to the growing importance of this type of gambling activity, with the House passing legislation by an overwhelming 317-93 margin. Problems with foreign enforcement are discussed. As a new technology, the internet still has few legal precedents governing it, and difficulties pertaining to such uncharted legal ground are discussed.

Rose, I. N. (2008). Gambling and the law®: Regulators punt on proposed internet gaming regulations. *Gaming Law Review, 12, 1-4.*

Brief article discusses difficulties associated with banning the transfer of money for illegal online gambling, with the added benefit of a discussion of how regulators try to offload enforcement duties to financial institutions. The effect, though, will be inconsistent, with limits placed upon legal gambling as well. Author concludes with an analogy: the legislation in question will fail, as did the prohibition of alcohol.

Sévigny, S., Cloutier, M., Pelletier, M. & Ladouceur, R. (2005). Internet gambling: misleading payout rates during the “demo” period. *Computers in Human Behavior, 21, 153-158.*

Given the lack of regulation of internet gambling, it was hypothesized that certain sites would use questionable means to attract business. This study was designed to determine whether some “demo” games offer unrealistic payouts (and hence expectations), or whether such rates would still apply when money is actually involved. Authors found that a full 39% (45 out of 117) of the sites they visited practiced deception in the described

manner. Some sites even tried to interfere with cognitive functions by offering false ideas about randomness. A section titled “Anecdotal Observations” (p. 157) discusses the ways in which free credits are employed in manipulative ways.

Shaffer, H. (2003). A public health perspective on gambling: The four principles. *AGA Responsible Gaming Lecture Series, 2* (1), 1–27. Available at <http://www.americangaming.org/assets/files/LectureSHAFFERfnl.pdf>

The author identifies four principles upon which a public health perspective should be based: (1) Scientific research should form the basis of public health knowledge. (2) Such knowledge should be derived from population-based observations. (3) Health initiatives should be proactive. (4) A balanced perspective, incorporating harms as well as benefits of gambling, is required. The author discusses four "opposite" principles and their implications in order to firmly validate his own position.

Shaffer, H. (2004). The road less travelled: Moving from distribution to determinants in the study of gambling epidemiology. *Canadian Journal of Psychiatry, 49*, 504–516.

The author argues that it is time to put less emphasis on general population-prevalence data and instead focus upon the risk and protective factors associated with the onset of gambling disorders. Little is known about incidence among vulnerable and resilient populations. Yet prevalence studies should focus upon groups with increased vulnerability (such as adolescents and substance abusers). More focus should be directed at onset and determinants of problem gambling. But before we can travel down this road, current diagnostic screens, theoretical constructs, and epidemiological tools require revision. Primary and secondary prevention options are discussed with an eye to how they could be improved once research has taken this direction. Matching specific efforts to specific populations will be key.

Shaffer, H., Forman, D., Scanlan, K., & Smith, F. (2000). Awareness of gambling-related problems, policies and educational programs among high school and college administrators. *Journal of Gambling Studies, 16*, 93–101.

A survey of high school and college representatives in Massachusetts found that educators were largely unaware of the prevalence of gambling-related problems among youth. A survey instrument designed to evaluate policies and training programs was employed. Both high schools and colleges were found to lack policies and regulations pertaining to gambling and to provide few channels for students and faculty to educate themselves on the potential hazards. The authors suggest that it is unlikely that the educators under study are equipped to engage in meaningful detection and preventative efforts.

Shaffer, H., & Korn, D. (2002). Gambling and related mental disorders: A public health analysis. *Annual Review of Public Health, 23*, 171–212

The authors apply a public health perspective (see Korn & Shaffer, 1999; Shaffer, 2003) to the prevalence of gambling and related mental disorders. Effects on public health are discussed in psychological, economic, and social terms, with harms and benefits taken into account. Vulnerable groups are examined. The public health "paradigm" implies a broad approach to prevention, the latter being promoted as a "community priority." Harm reduction should focus more on people with subclinical levels of gambling problems.

Shaffer, H., LaBrie, R., & LaPlante, D. (2004). Laying the foundation for quantifying regional exposure to social phenomena: Considering the case of legalized gambling as a public health toxin. *Psychology of Addictive Behaviors*, 18, 40–48.

Exposure and adaptation models offer divergent, even conflicting, viewpoints on the relation between addictions and environmental influence. Exposure theory identifies certain influences as "toxins," with the corollary that an institution such as a casino would have a direct effect upon the frequency of problem gambling. Conversely, adaptation theory grants this premise only for the short term, proposing that individuals should eventually become resistant to the aggravating agent. This article discusses a public health regional exposure model (REM) designed to acquire empirical evidence for both perspectives. Modified to address gambling, the REM is able to quantify social constructs by means of standard indices of regional social exposure. Given that gambling studies is a new field, the numerous sources of gambling exposure are hard to identify and measure, and this article makes use of some knowledge already available in the substance abuse field. The methodology section discusses the ways in which exposure can be calculated. Themes discussed include dose, potency, and duration. Limitations, such as the time sensitivity of REM calculations, are also discussed. Adaptation theory is treated as relevant to understanding the prevention of gambling problems.

Smeaton, M., Poole, A., Chevis, A., & Carr, J. (2004). *Study into underage access to online gambling and betting sites*. London: GamCare. Available at <http://www.gamcare.org.uk/pdfs/StudyReportFinal.pdf>

The authors of this U.K. study note that debit cards are available to minors, sometimes as young as 11. This makes Internet and other remote forms of gambling among youth a serious concern. Age verification procedures are inconsistent and inadequate. Of 37 sites tested, only 7 blocked an underage volunteer posing as a player (and claiming to be 21).

Smith, G., & Wynne, H. (2004). *VLT gambling in Alberta: A preliminary analysis*. Edmonton, AB: Alberta Gaming Research Institute.

This comprehensive report covers its topic at many levels and even contains a 27-page literature review. A main rationale for the study is that video lottery terminal (VLT) gambling is still a novelty, so its implications are still poorly understood. This is largely a social impact study, though information provided about the demographic characteristics of VLT players (both problem gambler and non-problem gambler) is very pertinent to the theme of prevention.

Stinchfield, R. (2002). A comparison of gambling by Minnesota public school students in 1992, 1995, and 1998. *Journal of Gambling Studies*, 17, 273–296.

Rates of gambling among Minnesota public school students in the 9th and 12th grades were compared for 1992, 1995, and 1998. While fewer students gambled in 1998 than in the other years, the number of 12th-grade students who had gambled frequently had increased slightly. Participation in the lottery among 9th-grade students declined, though it increased among 12th-graders. The authors note that illegal ticket playing among youth is cause for concern and that the generation under investigation is the first to be exposed to widespread access to legal gambling venues and advertising. Fewer students gambling overall suggests that prevention efforts may be working, though other explanations are possible. Yet more youth are gambling frequently. Prevention efforts targeted at specific types of youth are needed, and some may require more intensive efforts as they may already be overinvolved in gambling. Schools are a good place for the enactment of such measures.

Strong, D., Breen, R., Lesieur, H., & LeJuez, C. (2003). Using the Rasch model to evaluate the South Oaks Gambling Screen for use with nonpathological gamblers. *Addictive Behaviors*, 28, 1465–1472.

While the South Oaks Gambling Screen (SOGS) may be effective in identifying pathological gamblers, this study found it to be less effective in determining the degrees of severity among those who may be at risk yet do not meet the criteria for full-blown pathology. Notably, the SOGS relies upon informants identifying a sufficient number of items, without consideration of the type of problem within each category. Investigators used a logistic item response model, Rasch, to identify levels of problem gambling severity reflected in each item. Items best suited to identify those at risk involve financial difficulty, and this study supports the movement toward a harm-based conception of problem gambling, which treats the issue on a continuum, rather than a strict conception of pathology such as that offered by DSM-IV.

Tripoli, L. (2007). The post-Unlawful Internet Gambling Enforcement Act online-gaming surge? *Gaming Law Review*, 11, 18-20.

Article sheds light on difficulties associated with passing and enforcing laws governing internet gambling. A federal law is passed, yet such gambling activity seems to rise drastically, almost overnight. Partly, author concedes, this was because many were checking to see if it was still possible. The point, though, is that it was. Arguably, this is a communication issue: the internet renders it difficult to inhibit communication, regardless of the purpose

Tse, S., Wong, J., & Kim, H. (2004). A public health approach for Asian people with problem gambling in foreign countries. *Journal of Gambling Issues*, 12. Available at http://www.camh.net/egambling/issue12/jgi_12_tse.html

Asians make up the fastest growing ethnic group in New Zealand, due largely to the increase in Asian immigration to English-speaking countries in general. Recent research and news articles give credence to anecdotal accounts of high levels of gambling among Asian people. The article treats problem gambling among Asians in social terms, with an emphasis on the difficulties associated with adjusting to life in a new country. Public health involves more than biological and behavioural considerations. Access to health care and social services along with socioeconomic issues such as income and employment are all pertinent to a public health approach to gambling. This article presents five principles, based on a public health perspective, for an effective strategy for preventing gambling-related harm among Asian populations: (1) "Acknowledging similarities and differences within Asian populations": while acknowledging that "Asian" makes a useful umbrella, the author cautions against overlooking the differences between, for example, immigrants from Japan and the Philippines. (2) "Ensuring that approaches are evidence-based": a comprehensive typology of different forms of evidence is provided. (3) "Treating Asian problem gambling in an acculturation framework": this refers to issues pertaining to people (notably immigrants) coming into contact with different cultures and trying to adjust to the ensuing realities. (4) "Addressing the issue of shame associated with problem gambling": themes such as "keeping face" tend to be family related among Asians, and the shame associated with problem gambling can be aggravated by issues specific to immigration. (5) Targeting at-risk subgroups: the author discusses subgroups within the Asian community at greater risk of developing gambling problems.

Tu'itahi, S., Guttenbeil-Po'uhila, Y., & Hand, J. (2004). Gambling issues for Tongan people in Auckland, Aotearoa-New Zealand. *Journal of Gambling Issues*, 12. Available at http://www.camh.net/egambling/issue12/jgi_12_tuitahi.html

This article discusses a research project, conducted by the Auckland Regional Public Health Service, on gambling issues among the Tongan people in Auckland, New Zealand. Low socioeconomic status and low education levels, both indicators of gambling prevalence in the region, figure significantly among the Tongans. Another rationale for studying the Tongan community was the lack of knowledge about gambling in that community and the potential for comparison with the Samoan community, which had already been studied. The article outlines progress made at the time of writing and preliminary findings. Fifty interviews had been conducted, and the data were still under analysis, though anecdotal evidence that gambling is a serious health issue within this community had been confirmed. The stated research goals for this project were as follows: (1) "To explore the relevant issues for Tongan people in Auckland which contribute to the risk of developing addiction to gambling and problem gambling"; (2) "To identify the effects of gambling on Tongan people in Auckland"; (3) "To provide relevant information to health providers and planners in the planning and implementation of culturally appropriate strategies against problem gambling for Tongan people in New Zealand."

Turner, N., & Horbay, R. (2004). How do slot machines and other electronic gambling machines actually work? *Journal of Gambling Issues, 11*. Available at http://www.camh.net/egambling/issue11/jgi_11_turner_horbay.html

Electronic gaming machines (EGMs) are now available in many venues, and they seem to generate many myths. This is partly because of the absence of accurate information and partly because of the way the machines are designed. This article was written to demystify the machines and to dispel some myths, with counsellors and prevention workers as the main target audience. The paper discusses the ways in which EGMs can effectively simulate randomness in payouts. The paper describes the problems with human reasoning responsible for certain myths (most of which are due to misunderstanding the independent nature of random events) and provides a technical account of how the machines function. There is even a list of questions and answers. It is important to note that payment is *not determined* by how recently a machine has paid out. As well, reasoning that may work with cards (a number that has not come up recently may be due) does not apply to EGMs. Such information is important to the creation of effective prevention programs.

Volberg, R. (2002). *Gambling and problem gambling among adolescents in Nevada*. Carson City, NV: Nevada Department of Human Resources. Available at http://www.hr.state.nv.us/directors/NV_Adult_Report_final.pdf

This report presents the findings of a statewide survey of gambling and related problems in Nevada. Some demographic information was found. For example, while whites and Hispanics were likely to identify "entertainment" as a reason for gambling, blacks were more likely to play in order to win money. Hispanic nongamblers were most likely to refrain from gambling for moral reasons. The author recommends extending healthcare insurance coverage to problem gambling, promoting responsible gambling policies, and providing more money for public education and prevention. Public education should target the increasing number of gambling venues, from grocery stores to Laundromats (where gaming machines may be located). Prevention should focus on those at greatest risk—including youth and certain minorities—who may be more responsive to such efforts than full-blown pathological gamblers.

Wiebe, J., & Falkowski-Ham, A. (2003). *Understanding the audience: The key to preventing youth gambling problems*. Toronto: Responsible Gambling Council of Ontario. Available at http://www.responsiblegambling.org/articles/understanding_the_audience_youth_2003.pdf

This study was designed to assist in the development of problem gambling prevention strategies for youth between the ages of 9 and 16. In a quest to learn about the early development of gambling-related attitudes, beliefs, and behaviours, the authors focus upon the general lifestyles of young people along with issues such as attitudes toward responsible and problem gambling, the language they employ to address these issues, and their reactions to gambling advertisements. Methodology involved three phases: (1) building upon a YTV (a Canadian children's television channel) report on youth lifestyle;

(2) focus groups designed to assess linguistic, experiential, and cognitive issues; and (3) quantitative analysis of the findings from Phase 2. Key findings include the following: youth attribute different meanings to betting and gambling, with the latter perceived in more negative terms; Internet gambling among youth is on the rise, and a serious concern; over 4% of youth in this study reported problems related to gambling, including fights and loss of money; fewer than 25% of youth consider gambling cool, though youth who perceive themselves as either leaders or risk-takers are more likely to gamble; though youth understand that they are likely to lose on scratch or lottery tickets, their understanding of probability is wanting; most youth realize that gambling can lead to difficulties and understand that behaviours such as borrowing money to gamble are problematic; parental behaviours and attitudes are highly influential; and far more young people have seen advertisements promoting gambling than ads addressing problem or responsible gambling. The authors claim that their findings highlight the importance of prevention strategies aimed at younger ages. They identify understanding the language of the target group as key.

Williams, R. J., West, B. L. & Simpson, R. I. (2007). *Prevention of problem gambling: A comprehensive review of the evidence*. Report prepared for the Ontario Problem Gambling Research Centre.

This document is thorough, dealing with themes ranging from etiology and education to policy. Mostly, it deals with policy. Authors make the challenging claim that prevention initiatives tend to employ options that are not very effective, though they acknowledge that effectiveness is still poorly explored and that hence it remains unknown to a large degree. They offer a cautionary note: “The final point to be made is that prevention efforts have to be sustained and long-lasting, because population-wide behavioural change takes a long time. As indicated earlier, even where comprehensive approaches have been applied in other fields, the immediate effects on behaviour have sometimes been small.” (p. 42)

Williams, R. J. & Wood, R. T. (2007). *Internet gambling: A comprehensive review and synthesis of the literature*. Report prepared for the Ontario Problem Gambling Research Centre.

As the title suggests, this report reviews literature on internet gambling. It is a well-organized document, with the first chapter devoted to the history of internet gambling and subsequent chapters targeting themes ranging from regulation and prevalence to motivations for internet gambling. Authors conclude predictably that this type of gambling will grow in importance. They add, though, that increases in the Asian market are likely to be greater than average. Authors caution that this kind of gambling will lead to more PG, despite our best efforts to prevent that. As well, not all websites will abide by laws and policies designed to protect consumers.

Wood, R. T. A. & Griffiths, M. D. (2008). Why Swedish people play online poker and factors that can increase or decrease trust in poker web sites: A qualitative investigation. *Journal of Gambling Issues*, 21. Available at

www.camh.net/egambling/issue21/06wood.htm - 64k

Authors suggest that responsible gaming initiatives and the perception of a safe online environment enhance player enjoyment and hence may make for a good marketing strategy. So moral and business concerns may indeed converge – responsible gaming practices might entail better profitability.

Wood, R. T. & Williams, R. J. (2007). Problem gambling on the internet: Implications for internet gambling policy in North America. *New Media & Society*, 9, 520-542.

Noting that participation in internet gambling is growing very quickly, and that such gamblers are at high risk for PG, authors discuss a study launched at characteristics of internet gamblers. A stunning result – 42.7% of 1,920 internet gamblers surveyed qualified as PG – leads authors to make strong policy-related and other recommendations. Suggestions of other researchers are taken into account. Internet gamblers ought to be given feedback pertaining to their PG status, access and use should be controlled, and so should advertising and promotion. From the Conclusion: “Observers predict that various North American governments in the United States and Canada will move to legalize and regulate internet gambling opportunities in the relatively near future. Indeed, there are strong economic rationales for doing so and a number of other western governments already have legalized internet gambling opportunities for their citizens. If governments do move to legalize and regulate internet gambling in the future, it is imperative that they adequately address the relationship between problem gambling and internet gambling. As the present study suggests, with internet gamblers potentially being 10 times more likely to have a gambling problem than other gamblers, this relationship is rather substantial. Thus, if governments wish to expand gambling operations to the internet, they must take care to do so in a way that does not exacerbate and take advantage of the problem gambling behavior of these high-risk groups.” (pp. 538-539)

Wood, R. T., Williams, R. J. & Lawton, P. K. (2007). Why do Internet gamblers prefer online versus land-based venues? Some preliminary findings and implications. *Journal of Gambling Issues*, 20. Available at <http://www.camh.net/egambling/issue20/pdfs/07wood.pdf>

This article targets an increasingly important topic: internet gambling. We have chosen to provide the authors’ Abstract in full: “At a time when land-based gambling opportunities are widely available, why might some people choose or prefer to gamble on the Internet? We investigate this question using qualitative and quantitative data collected from an Internet-based survey of 1,920 Internet gamblers. The primary reasons people gave for preferring Internet gambling were (a) the relative convenience, comfort, and ease of Internet gambling; (b) an aversion to the atmosphere and clientele of land-based venues; (c) a preference for the pace and nature of online game-play; and (d) the potential for higher wins and lower overall expenditures when gambling online. Findings suggest that online venues may offer their clientele a range of experiences and benefits that are

perceived to be unavailable at land-based venues. The authors recommend research into whether a competitive edge exists between different aspects of the gambling market, including Internet venues versus land-based gambling establishments.”

Wynne Resources. (1999). *Problem gambling public awareness campaigns in North America*. Toronto: Ontario Substance Abuse Bureau.

This study conducted for the Ontario Substance Abuse Bureau examines problem gambling public awareness campaigns throughout North America with the objective of informing the implementation of a campaign for Ontario. While many organizations and representatives were contacted, no formal evidence of effectiveness was provided. Instead, generic indicators—such as requests for information from the public—are taken by many representatives as evidence that awareness must be on the rise. There was at the time of this report no consensus of which approaches were most effective. This report makes six recommendations: (1) coordinate efforts among different regions and concerned parties for information sharing, and develop other means of accumulating knowledge; (2) implement a strategic plan with a clear statement of purpose, within an overall prevention program; (3) select specific promotional activities and media; (4) identify target groups; (5) involve other stakeholders beyond the Bureau; and (6) evaluate the campaign's effectiveness.

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For correspondence: Peter Ferentzy, PhD, Centre for Addiction and Mental Health, 45 Wynford Heights Cres., #1901. Toronto, ON, M3C 1L3. Phone: 416-779-9286, e-mail: pferentzy@sympatico.ca

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Peter Ferentzy (PhD, social and political thought, York University) is a research scientist at CAMH and has been studying GA since 2002. He has published on GA as well as the history of addiction.

Nigel Turner, PhD, is a research scientist at the Centre for Addiction and Mental Health (CAMH) in Toronto. He received his doctorate in cognitive psychology at the University of Western Ontario (1995) and has worked for CAMH for the past 11 years. He has extensive experience in quantitative research methods, including psychometrics, surveys,

experimental studies, and computer simulations. Nigel has received grants from the National Center for Responsible Gaming and the Ontario Problem Gambling Research Centre and funding from the Ontario Ministry of Health. He has published in peer-reviewed journals and has given a large number of conference presentations. He is particularly interested in cognitive models of problem gambling and has authored three papers on gambling systems. Outside of CAMH, Nigel has a keen interest in history and takes part in reenactments of historically important 19th-century battles. E-mail: Nigel_Turner@camh.net

Wayne Skinner (MSW, RSW, University of Toronto) is clinical director of the Concurrent Disorders Program and the Problem Gambling Service of the Centre for Addiction and Mental Health in Toronto, Canada. He has over 25 years' experience as a clinician, supervisor, researcher, consultant, and educator. Wayne is an assistant professor in the Department of Psychiatry at the University of Toronto. He also directs and teaches in the Addiction Studies certificate program in Continuing Education at the University of Toronto. He has studied at the doctoral level at York University, where he is an adjunct faculty member of the School of Social Work. He is editing a clinical handbook on the treatment of co-occurring addiction and mental health problems. He is co-investigator on several research studies on problem gambling.