

# Gambling in Ethnic Adolescent Populations: An Exploratory Study of the Utility of Problem Behaviour Theory as an Explanatory Framework

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**Abstract** Problem gambling is a growing concern among adolescents today. According to recent studies, rates of problem gambling among youth are higher than those reported by adults. Though few in number, studies have also shown certain ethnic communities to be prone to gambling-related problems and related problematic behaviours. As yet, there is no conceptual model available that can guide thinking about the risk factors for, and prevention of, problem gambling among ethnic adolescents. This study aimed to provide an initial perspective on the possible utility of Problem Behaviour Theory, a well-validated model for the emergence of problem behaviours such as alcohol and cannabis use in adolescents. Problem Behaviour Theory posits that the emergence of these behaviours is influenced by three systems of psychosocial influence: the Personality System, the Perceived Environment System and the Behaviour System, in addition to demographic and socialization factors. Problem gambling among youth in various ethnic communities may have the potential to be explained by PBT, as it employs a psychosocial framework to explain adolescent involvement in behaviours socially defined as deviant or inappropriate. We conducted separate focus groups for adolescent and adult members of three ethnocultural communities: Portuguese, Tamil and Polish. Discussions began with general perceptions of the community and gambling, and were guided to the consideration of factors that are important to gambling behaviour. Discussions were taped, transcribed and coded for the presence of general themes and for comments related to specific components of the Problem Behaviour Theory conceptual framework. The results suggested that all three

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ethnic groups, and both adolescents and adults, viewed the determinants of behaviour, and gambling behaviours in particular, in ways that were consistent with Problem Behaviour Theory. Participants seemed to emphasize in particular the important roles of demographic (particularly religion), socialization and Perceived Environment System factors in influencing the behaviour of young people in their communities. These results suggest that Problem Behaviour Theory may provide a useful model for understanding the emergence of gambling in ethnic adolescent populations. Additionally, it may be useful to assess the validity of other conceptual frameworks using the methods used in this study.

**Keywords** Adolescent · Gambling · Ethnic · Problem behaviour theory

Problem gambling is a growing concern among adolescents today. According to recent studies, rates of problem gambling among youth are higher than those reported by adults (Gupta and Derevensky 1998a; Jacobs 2000; NRC 1999; Shaffer and Hall 1996). Ample empirical research supports this finding, given the current definition of problem gambling and the screening instruments used for its assessment (Derevensky et al. 2003).

Due to the increasing availability of gambling and the liberalization of gambling regulation, the prevalence of gambling-related problems is on the rise (Zangeneh et al. 2004a; National Council on Welfare 1996). Among youth there is a rapid movement from social gambler to problem gambler (Derevensky and Gupta 1996, 1999; Gupta and Derevensky 1998a). Adolescent problem gamblers report initiating gambling at an early age (approximately 10 years of age) as compared with peers who report gambling but have few gambling related problems (Derevensky and Gupta 2001; Gupta and Derevensky 1997, 1998b; Wynne et al. 1996). Other studies have reported that youth with gambling problems have poor general coping skills (Marget et al. 1999; Gupta and Derevensky 2001; Nower et al. 2000). As well, they report more daily hassles and major traumatic life events (Gupta and Derevensky 2001; Kaufman et al. 2002). It has also been found that adolescent problem gamblers are at increased risk for the development of multiple addictions (Gupta and Derevensky 1998a, 1998b, 2001; Kusyszyn 1972; Lesieur and Klein 1987; Winters and Anderson 2000).

New Canadians represent a growing and a very important part of the Canadian population. Canadian multicultural policy was established in 1971 and has provided a framework in which Canadians view ethnicity. Our multicultural policy encourages individuals to identify with ethnic and cultural identities of their choice without fear of discrimination. Although concentrated in Toronto, immigrants and ethno-cultural communities can be found throughout Ontario, especially in the larger cities. Statistics Canada indicates that Ontario has people from 83 separate “ethnic origins”. Based on the 2001 Census data, Ontario has a population of 11,410,045 and approximately 85% of the Ontario population associate themselves with an ethnic origin other than just Canadian (Statistics Canada 2003).

Although rarely examined, ethnicity and culture are relevant to gambling behaviour through culturally produced attitudes towards gambling. At the same time, immigrants to Canada and members of ethno-cultural groups are affected by their new cultural environment, an environment with expanding gambling opportunities and other special challenges (McCready et al. 2007). The normal demands of life are complicated by the necessity of adapting from the culture of the old country to the new, dominant culture in

Canada. Recent immigrant groups experience a particularly stressful life in their host country due to their attempts at adapting to the new culture (Zangeneh et al. 2004a). Often, as a result of difficulty in adjusting, individuals engage in various problem behaviours as a means of coping with this stress (Zangeneh et al. 2004a; Zangeneh et al. 2004b; Martella and Zangeneh 2004; Raylu and Oei 2004; Marcell 1994). Several studies have shown that various ethno-cultural groups and recent immigrant groups turn to alcohol and substance abuse as a result of acculturation difficulty (Zangeneh et al. 2004a; Zangeneh et al. 2004b; Martella and Zangeneh 2004; Raylu and Oei 2004; Alaniz 2002; O'Hara and Tran 2002; Bhattacharya 2002; James et al. 1997). Zangeneh et al. (2004a) examined the relation between the acculturation process and faulty coping in the form of drug use among newly arrived Iranian youth. They found a negative correlation between a subject's acculturation success and drug use as a maladaptive coping mechanism. Though few in number, studies have also shown certain ethnic communities to be prone to gambling-related problems and related problematic behaviours (Zangeneh et al. 2004a; Zangeneh et al. 2004b; Martella and Zangeneh 2004; Raylu and Oei 2004). For example, Zangeneh et al. (2004a) found that problem gambling is stigmatized among Iranians in Toronto, thus its significance is underestimated in the community. In a study conducted by Petry et al. (2003) among South East Asian immigrants in the United States, a high prevalence of pathological gambling was found.

It has been suggested that ethno-cultural groups often engage in various problem behaviours such as alcohol and substance abuse to deal with acculturation stress. Problem gambling is thus a concern among recent immigrant groups, particularly among their youth. However, there is relatively little research on gambling among young members of ethnocultural communities, and there appear to be no conceptual models that have been presented to guide research on this topic. In this study, we examined the utility of the Problem Behaviour Theory model for understanding problem gambling among immigrant youth. In doing so, we hoped to start a dialogue in the literature about what types of models are the most appropriate for this type of research, so we can ultimately arrive at a point where we can devise evidence-based prevention and intervention strategies for this population.

### **Problem Behaviour Theory**

The study aimed to explore the link between two high-risk problem gambling factors, youth and ethnicity, using Problem Behaviour Theory as its theoretical base. It has been suggested that ethno-cultural groups often engage in various problem behaviours such as alcohol and substance abuse to deal with acculturation stress. Despite the lack of existing literature, problem gambling is also a concern among recent immigrant groups, particularly among their youth.

Problem Behaviour Theory (PBT) was initially put forward by Jessor and colleagues (Jessor and Jessor 1978; Jessor 1987; Jessor and Jessor 1977) to explain adolescent problem drinking and related issues. Problem behaviour is defined as behaviour that society disapproves of, and society's response to this behaviour can range from mild to severe. PBT presents a social-psychological model to account for the development of alcohol abuse, drug misuse and other problem behaviours. The core of PBT is a focus on three systems of psychosocial influence: the Personality System, the Perceived Environment System and the Behaviour System. Within each system explanatory variables reflect either instigations or controls of problem behaviour and together they generate proneness, a state that determines

**Table 1** Explanatory Concepts and Variables in Problem Behaviour Theory (Jessor & Jessor, 1977)

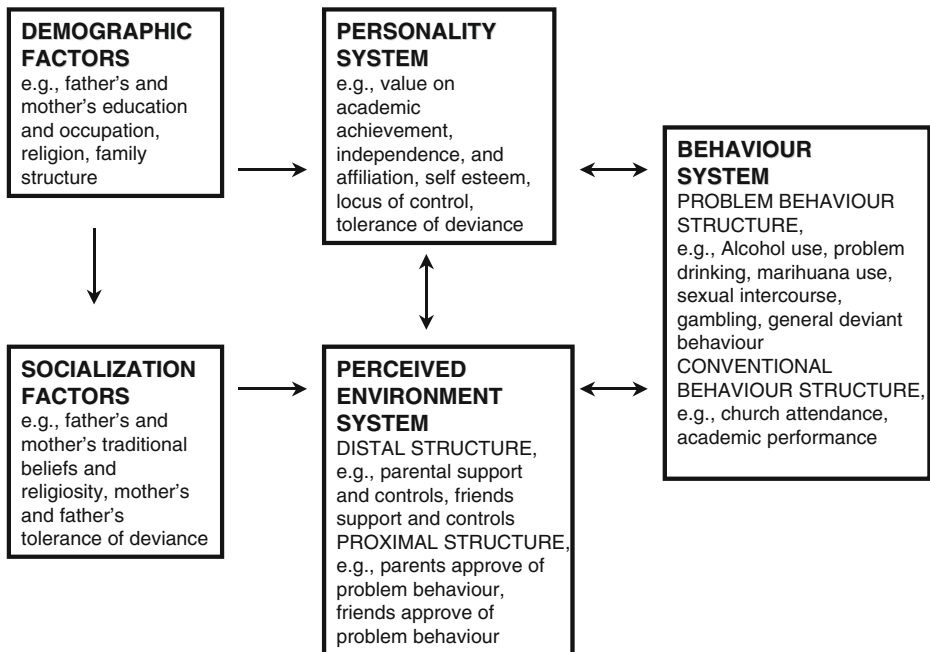
Personality System	Perceived Environment System	Behaviour System
Motivational-Instigation Structure	Distal Structure	Problem-Behaviour Structure
Value on academic achievement	Parental support	Marijuana use
Value on independence	Parental controls	Sexual intercourse
Value on affection	Friends support	Activist protest
Independence-achievement value discrepancy	Friends controls	Drinking
Expectation for academic achievement	Parent-friends compatibility	Problem drinking
Expectation for independence	Parent-friends influence	General deviant behaviour
Expectation for affection	Proximal Structure	Multiple problem-behaviour index
Personal Belief Structure	Parent approval problem behaviour	Conventional Behaviour Structure
Social criticism	Friends approval problem behaviour	Church attendance
Alienation	Friends models problem behaviour	Academic performance
Self-esteem		
Internal-external locus of control		
Personal Control Structure		
Attitudinal tolerance of deviance		
Religiosity		
Positive-negative functions discrepancy		

the chances of a problem behaviour occurring. Proneness is similar to risk, and can be used to predict and explain variation in problem behaviour.

Table 1 presents variables linked to the three systems of influence. Some of the variables are linked to problem behaviour directly (e.g., Attitudinal Tolerance of Deviance) and others are linked indirectly by theory (e.g., Self Esteem). Those more directly linked are proximal variables and those less directly linked are distal variables to the problem behaviour. According to Jessor (1987), the theory assumes that, "all behaviour is the result of person-environment interaction, that logic of explanation requires mapping both of those systems simultaneously, and that causal priority cannot be allocated to either one alone" (Jessor 1987, p. 332). Fig. 1 presents an overview of the general structure of PBT, illustrating the relationships among the three core systems, and in addition identifies important influences of demographic and socialization factors. The value of this theory has been demonstrated in a large number of studies.

PBT has been used to study and explain a variety of behaviours among youth such as drinking and driving (Klepp and Perry 1990; Donovan 1993; Jessor 1987), alcohol use, (Rachal et al. 1975), sexual behaviour (Jessor and Jessor 1975), and marijuana and other illicit drug use (Jessor et al. 1980; Jessor and Jessor 1978). However, PBT has not been applied to problem gambling.

PBT has the potential to explain problem gambling among youth in various ethnic communities. As noted above it employs a psychosocial framework to explain adolescent involvement in behaviours socially defined as deviant or inappropriate. It is used to identify



**Fig. 1** Pathways of influence in problem behaviour theory (Jessor and Jessor 1977)

specific behavioural, environmental, and personality factors associated with problem behaviours (Fig. 1). The model identifies important domains of variables that are important determinants of behaviour, and these domains should in principle be similarly influential across cultures. Demographic factors such as father's and mother's education, socialization factors such as parental religiosity, Personality System factors such as locus of control and tolerance of deviance, and Perceived Environment System factors such as parental support and friends' approval of problem behavior should in principle influence behavioural development in all cultures. These domains exert direct and indirect influences on the Behaviour System, including both conventional behaviours such as academic performance, and problem behaviours such as alcohol use, drug use, and possibly gambling. The model also asserts that several problem behaviours co-occur among youth at the same time (Jessor and Jessor 1977). Thus, if one engages in problematic drinking, it is likely this person also engages in other problem or risk behaviours. In this way, PBT can be helpful in identifying proneness or the risk that someone one will engage in the problem behaviour of interest. Thus PBT has important implications for prevention efforts.

### Purpose of This Study

The goal of the study was to explore, through the application of PBT, factors associated with gambling and problem gambling among adolescents in various ethnic communities. A study of this nature has yet to be done, and would be valuable in understanding the increase of gambling-related problems among ethnic youth.

In this exploratory study we used focus group interviews to provide an initial assessment of the applicability of PBT in understanding gambling behaviour and problems in

adolescents in differing ethnic groups. In previous research we identified ethnic groups with differing gambling behaviours and perspectives on gambling (Martella and Zangeneh 2004). Specifically, we observed considerable levels of gambling in the Portuguese, Punjabi, Tamil and Vietnamese communities. In contrast, relatively low levels of gambling were observed in the Polish community. In this research, focus groups were conducted with members of two communities with high levels of gambling (Portuguese and Tamil) and one with low levels of gambling (Polish), to determine if community members' perceptions of the factors that influenced gambling behaviour were similar to or different from those suggested by the PBT model.

Thus, our principle goal was to consider the face validity of PBT, as seen from the perspective of the participants in the groups. Face validity refers to the extent to which a measure looks as if it reflects what it is supposed to measure (Nunnally 1979). Additionally, the involvement of differing ethnocultural communities and age groups allows for a triangulation of results, so that the generality of findings can be assessed.

## Research Design and Methods

Focus group discussions have been developed as a means to obtain information on feelings, opinions, values and experiences of small groups or subgroups (Basch 1987; Patton 1990). Increasingly, focus groups and other qualitative approaches have been viewed as important strategies for understanding and evaluating behavioural health and safety-related issues (Basch et al. 1989; Pucci and Haglund 1992). Focus groups have the added benefit, for the purposes of this research, of the inclusion of interaction within the group (Morgan 1988), which may simulate the types of peer pressure interaction patterns that facilitate high risk gambling, but which may not be readily observable in other ways.

We recruited participants from two communities with high levels of gambling (Portuguese and Tamil) and one with low levels of gambling (Polish), based on previous research with members of these communities (Martella and Zangeneh 2004).

### Focus Group Recruitment

Two focus groups for each community were recruited. One involved adults/parents, while the other involved adolescents (all adolescent participants were aged 16 and older). It is important to obtain the perspectives of both groups in order to understand as well what generational influences may be occurring. A target sample size of ten participants per group was chosen.

Participants were recruited through contact with participating communities, community centres and key stakeholders utilising informal and snowball recruitment procedures. The goal of recruitment was to obtain participants who represent the views of their respective communities.

Participants were given a verbal description of the research. In it they were given a brief description of the research and its goals and procedures. They were told that all comments made in the context of the focus group discussions should not be discussed outside of the focus group, and also were warned that any comments made in the focus group could be repeated outside of the group by others. Participants were paid a nominal amount of \$20.00 as an incentive to participate in the focus group. The

project was reviewed and approved by the Research Ethics Board at the Centre for Addiction and Mental Health.

Focus groups were facilitated in English, Portuguese, Polish and Tamil, depending on the language of the group. Facilitators were fluent in English and the language of the group.

### Sample Selection

#### *Portuguese*

We conducted one focus group with 10 Portuguese youth (five male and five female) and another with ten Portuguese adults (six male adult, four female adult). In the youth group, the age range of participants was 18–25, with the range of settlement in Canada varying from 5 to 20 years. For adults, the age range was 55–64, and the range of settlement in Canada varied from 5 to 15 years.

#### *Tamil*

We conducted one focus group with ten Tamil youth (seven male and three female) and another with ten female Tamil adults. The age range of participants in the youth group was 18–23, with the range of settlement in Canada varying from 3 to 8 years. The age range of participants in the adult group was 49–67 and the range of settlement in Canada varied from 5 to 15 years.

#### *Polish*

We conducted one focus group with ten Polish youth (six male and four female) and another with ten female Polish adults. The age range of participants in the youth group was 18–25, with the range of settlement in Canada varying from 4 to 15 years. The age range of participants in the adult group was 45–48 and the range of settlement in Canada varied from 2 to 12 years.

### Focus Group Guide

The focus groups began with a discussion of gambling, its prevalence and acceptability in the community, and the factors that may act on individuals, and adolescents in particular, to encourage them to gamble. In this stage, the groups' spontaneous identification of key aspects of the PBT model was examined. Following this phase, the groups were then asked to consider and discuss the importance of specific domains of PBT (as indicated in Fig. 1) in determining gambling behaviour in adolescents. In this stage they were asked to indicate the extent to which they think demographic factors, socialization factors, personality factors, perceived environment factors, and behaviour system factors influence the gambling behaviour of young people in their community.

### Data Analysis

All focus groups were tape-recorded and the tapes were transcribed. Subsequently, the transcriptions were examined by the investigators to identify patterns, themes and

categories in the data (Patton 1990). Analysis of the data focused on qualitative and simple descriptive measures. First, for each group the extent to which participants spontaneously identified aspects of the PBT model as determinants of gambling in their communities was identified. Second, for each group the extent to which they agreed with the importance of specific aspects of the model as determinants of gambling behaviour in their communities were summarized, using simple narrative/thematic means. Finally, simple comparisons of the groups were performed, comparing groups' spontaneous agreement with the models, agreement/disagreement with the presented elements of the model, and any emerging themes on gambling that were observed. For narrative/theme analyses, we followed the process outlined by Basch et al. (1989), which consists of 'generating a list of key ideas, words, phrases and verbatim quotes and capturing sentiments; using the ideas to formulate categories of concerns and placing the ideas and quotes in the most appropriate categories; examining the contents of each category for subtopics and selecting the most useful quotes and illustrations for each idea' (p. 391).

## Results

### Key Themes and Content

As described in the Methods section, the six focus groups were tape recorded and the tapes were transcribed. This material was then examined following procedures described by Basch et al. (1989) to identify key themes, ideas and sentiments that emerged from the discussions. In coding this material, two types of themes were of particular interest, those that appeared to arise spontaneously from the discussions, and those that were linked to the organizing concepts of PBT (as summarized in Fig. 1 and Table 1). The thematic areas that emerged were summarized as 'Descriptions of Gambling Activities', 'Perceptions of Gambling/Betting', 'Cultural Attitudes towards Gambling/Betting', 'Gambling in the Home', 'Attitudes Towards Problem Gambling', 'Characteristics of the Family', 'Family Structure', 'Personality Structure', and 'Socialization Factors'. We describe these here, and also provide some description of the similarities and differences between the groups.

#### *Descriptions of Gambling Activities*

A substantial portion of the discussion involved a description and discussion of the various gambling activities in their communities that group members were familiar with or participated in. Portuguese youth participants reported that betting on games including culturally-specific games such as Sweca is common in the community. They also discussed how certain games are played and bet on by high school students. They suggested that gambling games are common among Portuguese youth. Portuguese adult participants talked about the widespread problem of gambling among Portuguese adults. They referred to culturally-specific games that are bet on by the community members.

Tamil youth participants reported that gambling games are common among Tamil youth, and referred to various games that they bet on. Tamil adults reported that gambling is very common in the community and named culturally specific games that they bet on.

Polish youth participants reported that they know people in their community who gamble, and claimed that it is mostly adult people who gamble; however several participants reported that polish teenagers and young adults gamble as well, but they stressed that gambling is not very common in the community. Polish adult participants



reported that gambling is not very common in the community, while other problems such as alcoholism are more visible. They suggested that Polish adults sometime engage in gambling by going to a casino or betting on sports. Several participants reported that Polish youth sometimes play card games that do not involve betting.

Tamil and Portuguese participants reported a higher participation level in gambling and betting on games than Polish participants. Both community groups (Tamil and Portuguese) also named culture-specific games that their community members play and bet on compared to Polish participants.

### *Perceptions of Gambling/Betting*

Many of the comments reflected an individual's perception or understanding of gambling. Portuguese youth participants mostly associated gambling with pride and emotional attachments and ways to construct self concept, while Portuguese adult participants associated gambling perception with casino visits and negative consequences such as addiction. Tamil youth participants mostly perceived gambling as fun and exciting and as an acceptable activity to some degree. Tamil adult participants did not perceive gambling and betting as something negative, but viewed it more as a friendly and fun activity. Polish youth expressed their understanding of what gambling is about (betting on any game with negative expected return; financial risk) while Polish adults' understanding of betting and gambling was specific to casino games and Lotto 6/49.

Gambling seemed to be perceived positively among Tamil and Portuguese youth participants, while Polish youth participants had a more neutral view of betting. Polish adult participants had a limited familiarity with gambling and betting, Portuguese adult participants perceived betting negatively and Tamil adult participants perceived it positively.

### *Cultural Attitude on Games and Betting*

In addition to individual perceptions of gambling, participants described or identified cultural attitudes on gambling. The participants clearly imparted a sense that their culture had a particular attitude towards gambling. Polish youth participants told us that gambling is generally frowned upon in the community and that gambling is not seen as a social pastime. They further indicated that gambling was not perceived as common in the culture, and informed us that no word for gambling exists in Polish. Adult Polish participants also confirmed what was reported by Polish youth.

Most Portuguese youth participants perceived gambling as an acceptable and harmless social activity. While most Portuguese adult participants indicated that their culture and religion do not permit betting, they suggested that gambling is common especially in the backroom of many social gathering places.

Tamil youth participants' responses were mixed. Several participants thought that betting, especially for Muslims, was culturally and religiously inappropriate but reported that many Christians and Hindus in the community practice it widely. Tamil adult participants reported more negative perceptions of gambling and thought that money gained from gambling is not acceptable.

Polish participants had more consistent attitude toward gambling in their discussions. Portuguese youth and adult subjects offered a mixed picture of cultural attitude of gambling but indicated that gambling is common in their community. Tamil subjects also reported mixed attitudes toward gambling.

### *Gambling in the Home*

Several comments were related to gambling activities in the home. These comments tended to identify whether or not it occurred, or was permitted, in the home environment. Portuguese youth and adult participants reported that gambling is allowed and practiced at home. Most Tamil participants reported that gambling is common and allowed at home. Most Polish youth participants reported that gambling is not allowed at home, while Polish adult participants reported of occasional gambling at home in their community.

### *Attitudes Toward Problem Gambling*

Some interesting differences in attitudes to problem gambling were observed. Portuguese youth participants talked about negative attitude towards problem gambling in the community where problem gambling is stigmatized and not talked about, while Adult Portuguese participants gave ambiguous responses and expressed a passive attitude towards gambling and problem gambling. Tamil youth participants viewed problem gambling negatively, while Tamil adults took a passive attitude towards gambling and problem gambling. Polish youth participants reported that problem gambling is not visible in the community, while both youth and adult participants indicated more problems with alcohol in the community.

It seems that problem gambling is not viewed as an issue in the Polish community, while both Portuguese and Tamil subjects mostly took a passive or negative attitude towards problem gambling.

### *Characteristics of the Family*

Respondents in all groups provided a rich discussion of family characteristics in their cultural communities. Education was frequently commented on. Portuguese youth and adults reported that Portuguese parents came from a mixed educational background ranging from no formal education to university degree. Tamil youth and adults reported that Tamil parents came from a mixed educational background ranging from no formal education to university degree. Polish youth and adults reported that Polish parents were well educated.

Respondents also commented on occupational activities and levels. Polish youth and adults reported that despite their parents' high education, they are mostly working in low paying jobs. Portuguese youth and adults reported that Portuguese parents work in low to mid level professions ranging from construction to service jobs. Tamil youth and adults reported that Tamil parents work in low to high level professions. A frequent comment in all groups was the difficulty faced by newcomers in securing employment commensurate with their abilities and education.

### *Parents' Religion*

Parental religion was commented on in most groups. All groups reported strong religious views, but differences between cultures were observed. Portuguese youth and adults reported that Portuguese parents are religious and strict. Tamil youth reported that their parents are not strict, while adults reported that Tamil parents follow moral rules. Polish youth and adults reported that Polish parents are religious and strict.

It seems that religiosity and restrictiveness is common among parents as reported by both youth and adults in the Polish and Portuguese communities, while Tamil youth and adults expressed contradictory responses.

### *Family Structure*

Comments on family structure frequently reflected relatively strong parental control and often gender differences were noted. Portuguese youth and adults reported that boys and men have more freedom compared to females in the family. Tamil youth and adults also reported that boys and men have more freedom compared to females in the family. Polish youth and adults perceive their family structure as restrictive. While Polish subjects reported that their families are strict and overprotective in general, Portuguese and Tamil subjects reported that males are treated differently than females and that families have a more strict approach to parenting when it comes to females in the family.

### *Personality System*

Portuguese youth participants reported that drinking and gambling is tolerated by their parents. They further commented that parents are busy providing food for the family, and do not push their children to pursue formal education. Portuguese adult participants reported that gambling and drinking are tolerated and practiced in the community, and believed that children must learn to be hard workers and to support the family through financial means.

Tamil youth participants reported that drinking and gambling are tolerated in the community, and that parents are too busy providing food for the family, and that parents do not push their children to pursue formal education. They also reported that their parents view gambling as an acceptable pastime activity for bachelor men but not for married individuals. Tamil adults reported that gambling and drinking are tolerated and practiced by all in their community and that children must learn to work hard and support the family through financial means. They also thought that betting is not a serious problem in the community.

Polish youth participants informed us that Polish parents are more tolerant with alcohol than drugs. They commented that parents push their children very hard to succeed, and are strict with financial achievement. Polish adult participants said that youth should not be allowed to go to gambling venues; they also said that alcohol use is popular and poses a serious problem in the community.

It appeared that Polish parents are tolerant with alcohol but push their children to pursue a higher education and a professional career. Gambling and alcohol is tolerated in both Portuguese and Tamil communities perhaps at differing degrees and there seems to be more emphasis on hard work than on formal education among Tamils and Portuguese community members.

### *Socialization Factors*

Groups all identified important socialization factors, and the important effects of these factors on behaviour in general and gambling in particular. Portuguese youth reported that their parents are religious and traditional yet tolerant of gambling and alcohol. Portuguese

adults echoed what was reported by youth participants. Tamil youth subjects reported that their parents are religious and traditional, yet tolerant of gambling and alcohol, although they thought that losing the family's money to gambling is not considered appropriate. Tamil adults echoed what was reported by youth and further commented that gambling by those who are not married is considered normal.

Polish adolescents reported that their parents are very religious and traditional where they view gambling in terms of addiction. Polish adults discussed how young Polish people get involved in gambling including 16 to 17 years old youth.

It seems that religiosity and adhering to traditional beliefs are common among all three communities, but Portuguese and Tamils' behaviour tend to be less consistent with their beliefs compared to Polish participants.

### *Perceived Environment System*

Perceived environment factors seemed to be viewed as very important determinants of behaviour and of gambling. Portuguese youth reported that boys' drinking and gambling behaviors are not monitored and controlled by parents, and that parents themselves gamble at home. Gambling is considered as a social activity among friends. Portuguese adults echoed what was said by Portuguese youth and further emphasized that genders are treated differently where parents are stricter with girls, and boys tend to have more freedom. Tamil youth and adults said that boys are free to engage in social activities without any restrictions while girls must abide by parents' rules, and that gambling is practiced in some homes.

Polish youth subjects described their parents as very controlling and restrictive. They commented that their parents teach them to bind closely with their church community. They suggested that drinking is more tolerated compared to gambling in the community although they thought that gambling was mainly practiced by youth. Polish adult subjects talked about the widespread of drinking in the community and how it is a common practice.

Polish subjects spoke of familial control and how gambling is not very tolerated in the community. On the other hand, Tamil and Portuguese subjects talked about parents' behavioural and attitude characteristics, where boys and girls are treated differently, and boys have more freedom.

### *Comparing and Contrasting the Groups*

The focus group data suggested some interesting differences between the groups that could be relevant to group differences in gambling, and to the possibility that PBT could provide a useful model for understanding adolescent gambling in different ethnocultural groups.

In comparison to the Polish participants, Tamil and Portuguese reported engaging in more forms of gambling, and betting on games. Both the latter groups appeared to have forms of gambling that they were more likely to see or participate in, compared to Polish participants. Among young people, Tamil and Portuguese participants appeared to view gambling more positively than Polish participants, whose perceptions appeared to be more neutral.

An interesting observation seemed to be that the attitudes of Polish participants appeared to be more consistent with regards to gambling, while for Tamil and Portuguese participants more variability seemed to be observed. These trends were observed among both youth and adult participants. For example, among Polish participants gambling seemed to be identified as a neutral or bad activity ('It's not moral'; 'Polish people are not big

gamblers’). However, among Portuguese and Tamil participants more of a range from negative to positive was seen (‘Betting on games is bad’, ‘It’s normal to play cards with money’, ‘Reason why people gamble because it is fun and intense’).

A general observation was that the comments of the groups, in terms of their observations on the amount of gambling and the acceptability of gambling in their communities, were generally consistent with previous observations on the level of gambling in these communities (Martella and Zangeneh 2004). Thus, among participants from the Polish community gambling was reported to be less common, and was viewed to be something that was not supported by the community. The Portuguese and Tamil participants reported gambling as being more common, with fewer restrictions on it placed by community and family. Adolescent Portuguese and Tamil respondents identified several positive aspects of gambling, and these communities also appeared to have special forms of gambling that were noted as being particularly popular. Nevertheless, gambling was reported in all communities.

## Discussion

The exploratory nature of this investigation precludes definitive conclusions from being drawn. Nevertheless, the results are of substantial interest. They provide a valuable perspective on gambling in three different ethnocultural communities in Ontario. They also provide an important first look at the possibility that Problem Behaviour Theory, a model that has proven useful in understanding the development by adolescents of problem behaviours such as cannabis use, underage alcohol use, drinking and driving, and premature sexual behaviour (Jessor and Jessor 1977; Donovan 1993), may be useful in understanding the emergence of gambling behaviour among adolescents in ethnocultural communities in Ontario.

The goal of the study is to assess if focus group participants from three different ethnic groups identified factors that influenced behaviour in general, and gambling in particular, that are consistent with the postulates of PBT. It has been suggested that ethno-cultural groups often engage in various problem behaviours such as alcohol and substance abuse to deal with acculturation stress. Despite the lack of existing literature, problem gambling is also a concern among recent immigrant groups, particularly among their youth. PBT has been used to study and explain a variety of behaviours among youth including drinking and driving (Klepp and Perry 1990; Donovan 1993; Jessor 1987), alcohol use (Rachal et al. 1975), sexual behaviour (Jessor and Jessor 1975), and marijuana and other illicit drug use (Jessor et al. 1980; Jessor and Jessor 1978). However, PBT has not been applied to problem gambling.

PBT has the potential to explain problem gambling among youth in various ethnic communities as it employs a psychosocial framework to explain adolescent involvement in behaviours socially defined as deviant or inappropriate. It is used to identify specific behavioural, environmental, and personality factors associated with problem behaviours (Fig. 1). The model identifies important domains of variables that are significant determinants of behaviour. These domains include demographic factors such as father and mother’s education, socialization factors such as parental religiosity, Personality System factors such as locus of control and tolerance of deviance, and Perceived Environment System factors such as parental support and friends’ approval of problem behavior. These domains exert direct and indirect influences on the Behavior System, including both conventional behaviours such as academic performance, and problem

behaviours such as alcohol use, drug use, and possibly gambling. The model also asserts that several problem behaviours co-occur among youth at the same time (Jessor and Jessor 1977). Thus, if one engages in problematic drinking, it is likely this person also engages in other problem or risk behaviours. In this way, PBT can be used to identify “prone-ness”, or the likelihood that one will engage in the behaviour being studied.

### PBT and Gambling: General Perceptions

Respondents identified and discussed components of the PBT model in ways that are consistent with the model’s postulates on the factors that influence behaviour, and on the factors involved in the development of problem behaviour in particular. Demographic factors were the topic of much discussion. Although some of these were not specifically linked to gambling and gambling problems, it was clear that respondents viewed demographic factors as strongly contributing to the context of the environment in which they lived. For example, even though parental education and occupation were not specifically linked by respondents to gambling, these factors were seen to influence behaviour in both direct and indirect ways. For example, many respondents, but particularly those from the Polish community, commented on the difficulties experienced by individuals and families in finding employment in Canada commensurate with their educational level and qualifications. While no direct link between this conflict and gambling problems was identified, it may nevertheless contribute to acculturation-related stressors that could increase the likelihood of a variety of health and behavioural problems (Raylu and Oei 2004).

Religion was identified by all groups as important in influencing behaviour, and as influential within their communities. Several comments also pointed to more direct effects of religion on gambling behaviour, for example, noting that gambling was considered a sin by the church. Some cultural differences between youth and adults were seen. There appeared to be a closer correspondence in views on religion in the Polish and Portuguese groups, while in the Tamil groups the young participants appeared to have a wider diversity of opinion on the importance of religion than adult participants.

The perceived importance of socialization factors in governing behaviour was observed in all groups. Several youthful participants indicated that their parents had raised them according to their culture. Adult Polish participants noted that gambling was not a part of their culture, although other problematic behaviours, e.g., drinking, were. Tamil youths noted that their culture was intolerant of deviance, drinking and gambling. The differences in socialization processes between Canada and home countries were occasionally noted too. One adult Tamil participant noted that ‘Back home someone who is gambling is looked down upon but here in Canada it isn’t as bad,’ suggesting that for new immigrants Canadian culture may be more tolerant and accepting of gambling than their home culture.

Personality System factors were noted by all groups as potentially important determinants of behaviour. Portuguese respondents noted that people tended to be tolerant of gambling and other behaviours such as drinking. Consistent with the model, respondents noted a value on academic achievement, and the importance of social criticism as a factor that influences behaviour. Nevertheless, there were relatively few comments that linked personality system variables to gambling.

Perceived Environment System factors were frequently identified, and also linked to gambling. All the groups identified parental approval and control, and to some extent peer approval, as important determinants of behaviour. One Polish participant noted that ‘Our parents don’t do it, so we don’t do it.’ The role of the community was also commented

upon. As well, important gender differences were observed, particularly among Tamil and Portuguese respondents. In these groups, it was noted that parental control was exercised more strongly over boys than girls.

### PBT, Gambling and Adolescents

Many of the comments reflected specific perceptions of the validity of various aspects of PBT for adolescents, from both the adult and adolescent groups. In general it was clear that all groups saw the various aspects of the model that were identified as being important to determining behaviour in general as also applying to adolescents. The role of parents, church and culture in shaping and influencing the behaviour of adolescents was noted by participants in all groups. Some of the comments of adolescents that made this clear included, 'It really depends on what is passed down to you by your parents', '(Parents are) intolerant of deviance (such as) drinking and gambling', 'Parents are very controlling,' and 'What's the Polish word for gambling? I don't know. It's not part of our language'.

There appeared to be some occasional differences between the perceptions of adolescents and of adults. For example, among Polish respondents the comments of adolescents suggested that gambling was not permitted and was rare in their community. However, adult respondents seemed to suggest that gambling was more common ('Gambling happens occasionally. Yes, it is allowed in people's homes. Groups will get together and play bridge for small amounts of money'). Similarly among Tamil respondents, there were differences between adolescents and adults in the views on personality structure factors. An adolescent respondent noted that, '(There is an) intolerance of alcohol and gambling', while an adult respondent noted that, 'Gambling and drinking (are) tolerated and practiced by all'. Similarly, in reflecting on how common gambling is, one adolescent respondent noted, 'It is common, but not at school', while an adult respondent noted, '(Gambling is) extremely rare. They might learn about this at school.'

Some of the comments of adolescents noted the attractions of gambling. Portuguese adolescents noted, 'Betting adds excitement', and 'Betting is about pride. For example if you put money down on the team you're playing for it shows your confidence in yourself'. A young Tamil participant noted, '(The) reason why people gamble (is) because it is fun and intense', while a young Polish participant noted, 'It is not considered a problem among young guys. (It is) something fun....' Adolescent respondents showed a modest but not strong awareness of the hazards of gambling, and the possibility of developing gambling-related problems. Some were aware of denial, or of efforts to hide gambling-related problems. A Portuguese adolescent noted, 'Gambling is bad if it takes away (the) family's income'. A Polish adolescent noted, 'Only extreme cases (of gambling problems) are considered in the family...', and a Tamil respondent commented, 'Once you get started you get addicted'.

The potential for problem behaviours to occur together was occasionally commented on. For example, Portuguese and Tamil adolescents noted that drinking and gambling is a social activity that occurs with friends. Other comments seemed to reflect a cultural conditioning of what problem behaviours occurred. A Polish adolescent commented that, 'Alcohol is practised so we see it more often'.

Finally, some comments reflected the stresses that new Canadian families must deal with, and how these can affect parenting practices. One Polish adolescent noted, '(Our) parents pushed us very hard because our parents sacrificed their lives', and another

commented, 'Parents try to give everything...'. A Tamil respondent noted that, 'Parents (are) more concerned with providing food for kids'.

In summary, the observations gathered from these groups provide support for the validity of PBT as a potential explanatory model for the emergence of gambling in ethnic adolescent populations. Both adult and adolescent groups identified factors consistent with the postulates of the model that exerted significant influence over the behaviour of young people. Particularly noteworthy were the perceived importance of religion, socialization, and Perceived Environment factors as significant determinants of behaviour within participants' cultural groups. If additional research confirms these observations and the value of the model in general for understanding and predicting gambling and gambling problems in ethnic adolescent populations, the framework can then be used to guide prevention efforts.

### Limitations

Several important limitations must be kept in mind in interpreting the results of this research. First of all, this research is exploratory in nature. The intent of this work is to generate hypotheses and suggestions for future research, rather than to draw any definitive conclusions. While the qualitative methods used are well suited for the exploratory nature of the research, they do not permit generalization. Thus, the results obtained in the focus groups with the Polish, Portuguese and Tamil participants cannot be considered as representative of those cultural groups.

An additional complexity involved was the necessity of translation. In the focus groups, some participants were not able to converse in English, or not comfortable in doing so. In these cases the group facilitator translated back and forth between English and either Polish, Portuguese, or Tamil. Similarly, some of the recordings of the group meetings had to be translated to English for analysis purposes. Translating sometimes difficult concepts from one language to another is a challenging task. It is likely the case that some mistakes in translation were made, and as a result some important comments may have been missed, or misinterpreted. However, it is also important to keep in mind that what is reported here is not a focus on a specific comment, but instead the generalities that could be observed from all the comments. Thus, the impact of a single missed or misinterpreted comment would be reduced.

### Conclusions and Recommendations for Future Research

Keeping in mind the limitations of this work, the results nevertheless have some valuable implications and suggestions for future research. First of all, the results do support the potential value of PBT as a framework for understanding gambling, and gambling problems, among young ethnocultural populations. All of the postulated factors for influence of behaviour were identified by focus group participants as important factors in their culture, and factors that could affect behaviour. Thus, groups identified demographic factors, socialization factors, Personality System factors and Perceived Environment System factors as ones that affected how people behaved in their cultures. Most of these factors were also identified as factors that influenced the likelihood of gambling or gambling problems as well. However, there appeared to be differences in the consistency or strength with which groups identified these factors as influencing gambling. Among demographic factors, religion stood out as being a consistent influence. Socialization factors



and Perceived Environment System factors stood out as being seen to be strongly related to the likelihood of gambling or gambling problems. In summary, these observations suggest that PBT has face validity as a method for understanding the factors that influence the appearance and severity of problem gambling behaviour among adolescents from differing ethnocultural backgrounds.

Interestingly, Personality System factors were not linked by participants in a strong way specifically to gambling or gambling problems. There could be several reasons that might account for this finding. First of all, these data were derived from focus group discussions and thus could reflect idiosyncrasies of the groups. In other words, other groups may have reacted differently and linked gambling specifically to personality system factors. Another possibility may lie in the nature of participants in these groups. Participants were all relatively recent immigrants to Canada, or in families of recent immigrants. Individuals in these circumstances are involved in a challenging process of adapting to new circumstances, in which the contrasts between the culture and ways of doing things in Canada as compared to their home culture may be particularly salient. In this situation, it is possible that socialization, cultural and Perceived Environment factors may be seen as particularly important, while personality related factors are given less weight.

Sorting out influences on the problems experienced by differing ethnocultural groups is a very challenging task. This task is complicated by several difficulties, including differing languages, differing accessibility of respondents, and the great diversity of cultural backgrounds seen in new Canadians. While it would be of substantial value to be able to validate a model that permits understanding and prediction of the likelihood for young people of differing ethnocultural background to develop problematic gambling practices and gambling problems, these barriers have so far prevented the appearance of any unifying perspective, and even of much research on these issues. Thus, our findings are of particular interest in suggesting that the methods employed here may assist in efforts to validate conceptual models for the understanding, prediction, and prevention of gambling-related problems in diverse ethnocultural groups.

Further studies using the methods outlined here, and accessing different ethnocultural groups, would appear to be useful. Additionally, using these methods to assess the face validity of other models that have proven of value in understanding various problems and guiding prevent efforts, would be valuable. Such models include the Health Belief Model (Becker 1974) and the Theory of Reasoned Action (Ajzen and Fishbein 1980). While preliminary efforts to understand and address the issue of gambling problems among ethnic adolescent populations have begun to appear (Ellenbogen et al. 2007), much more work is necessary, and the identification of a conceptual model to guide these effects would advance progress substantially.

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## References

- Ajzen, I., & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*. Englewood Cliffs, New Jersey: Prentice Hall.
- Alaniz, M. L. (2002). Migration, acculturation, displacement: Migratory workers and substance abuse. *Substance Use and Misuse*, 37, 8–10. doi:10.1081/JA-120004182.
- Basch, C. E. (1987). Focus group interview: An underutilized research technique for improving theory and practice in health education. *Health Education Quarterly*, 14, 411–448.
- Basch, C. E., DeCicco, I. M., & Malfetti, J. L. (1989). A focus group study on decision processes of young drivers: Reasons that may support a decision to drink and drive. *Health Education Quarterly*, 16, 389–396.
- Becker MH (ed) (1974) The health belief model and personal health behavior. Health Educ Monogr 2:324–473.
- Bhattacharya, G. (2002). Drug abuse risks for acculturating immigrant adolescents: Case study of Asian Indians in the United States. *Health and Social Work*, 27(3), 175–183.
- Derevensky, J. L., & Gupta, R. (1996). *Risk-taking and gambling behavior among adolescents: An empirical examination*. Chicago, IL: Paper presented to the Annual Meeting of the National Conference on Compulsive Gambling.
- Derevensky, J. L., & Gupta, R. (1999). Youth gambling problems: A new issue for school psychologists. *Nova Scotia Psychol*, 12(11), 8–11.
- Derevensky, J. L., & Gupta, R. (2001). Le problème de jeu touché aussi les jeunes. *Psychol Que*, 18(6), 23–27.
- Derevensky, J. L., Gupta, R., & Winters, K. (2003). Prevalence rates of youth gambling problems: Are the current rates inflated? *J Gambl Stud*, 19(4), 405–425. doi:10.1023/A:1026379910094.
- Donovan, J. E. (1993). Young adult dinking-driving: Behavioural and psychosocial correlates. *J Stud Alcohol*, 39(5), 600–613.
- Ellenbogen, S., Gupta, R., & Derevensky, J. L. (2007). A cross-cultural study of gambling behaviour among adolescents. *J Gambl Stud*, 23, 25–39. doi:10.1007/s10899-006-9044-2.
- Gupta, R., & Derevensky, J. L. (1997). Familial and social influences on juvenile gambling. *J Gambl Stud*, 13, 179–192. doi:10.1023/A:1024915231379.
- Gupta, R., & Derevensky, J. L. (1998a). An empirical examination of Jacobs' general theory of addictions: Do adolescent gamblers fit the theory? *J Gambl Stud*, 14, 17–49. doi:10.1023/A:1023046509031.
- Gupta, R., & Derevensky, J. L. (1998b). Adolescent gambling behavior: A prevalence study and examination of the correlates associated with problem gambling. *J Gambl Stud*, 14, 319–345. doi:10.1023/A:1023068925328.
- Jacobs, D. F. (2000). Juvenile gambling in North America: An analysis of long-term trends and future prospects. *J Gambl Stud*, 16(2/3), 119–152. doi:10.1023/A:1009476829902.
- James, W. H., Kim, G. K., & Moore, D. D. (1997). Examining racial and ethnic differences in asian adolescent drug use: The contributions of culture, background, and lifestyle. *Drugs Educ Prev Policy*, 4(1), 39–51.
- Jessor, R. (1987). Risky driving and adolescent problem behaviour: An extension of problem behaviour theory. *Alcohol Drugs Driving*, 3(3–4), 1–11.
- Jessor, S. L., & Jessor, R. (1975). Transition from virginity to nonvirginity among youth: A social-psychological study over time. *Dev Psychol*, 11(4), 473–484. doi:10.1037/h0076664.
- Jessor, S. L., & Jessor, R. (1977). *Problem Behaviour Theory and Psychosocial Development: longitudinal study of youth*. New York: Academic Press.
- Jessor, S. L., & Jessor, R. (1978). Theory testing in longitudinal research on marijuana use. In D. B. Kandel (Ed.), *Longitudinal research on drug use*. Washington DC: Hemisphere (Halsted-Wiley).
- Jessor, R., Chase, J. A., & Donovan, J. E. (1980). Psychosocial correlates of marijuana use and problem drinking in a national sample of adolescents. *American Journal of Public Health*, 70(6), 604–613. doi:10.2105/AJPH.70.6.604.
- Kaufman F, Derevensky J, Gupta R (2002). *The relationship between life stresses, coping styles and gambling behavior among adolescents*. Poster presented at the annual meeting of the National Council on Problem Gambling, Dallas, TX.
- Klepp, K., & Perry, C. L. (1990). Adolescents, drinking, and driving: who does it and why? In R. J. Wilcon & R. Mann (Eds.), *Drinking and driving: Advances in research and prevention* (pp. 42–67). New York: The Guilford Press.
- Kusyszyn, I. (1972). *Studies on the psychology of gambling*. New York: Simon & Schuster.
- Lesieur, H. R., & Klein, R. (1987). Pathological gambling among high school students. *Addictive Behaviors*, 12, 129–135. doi:10.1016/0306-4603(87) 90019-0.
- Marcell, A. (1994). Understanding ethnicity, identity formation, and risk behaviours among adolescents of mexican descent. *J Sch Health*, 64(8), 323–327.

- Marget, N., Gupta, R., & Derevensky, J. (1999). *August*. Poster presented at the annual meeting of the American Psychological Association, Boston, MA: The psychosocial factors underlying adolescent problem gambling.
- Martella A, Zangeneh M (2004). *The development of culturally-appropriate service models for addressing gambling issues in Ethno-cultural communities*. COSTI Immigrant Services.
- McCready, J., Mann, R. E., Zhao, J., & Calla, M. (2007). *Gambling and Ethnicity: Sociodemographic and Mental Health Factors Associated with Problem Gambling in Members of Ethno-cultural Groups in Ontario*. Guelph, ON: Report prepared for the Ontario Problem Gambling Research Centre.
- Morgan, D. L. (1988). *Focus Groups as Qualitative Research*. London: Sage.
- National Council on Welfare. (1996). *Gambling in Canada: Report prepared the National Council of Welfare*. ON: Ottawa.
- National Research Council (NRC). (1999). *Pathological Gambling: A Critical Review*. Washington, DC: National Academy Press.
- Nower, L., Derevensky, J., & Gupta, R. (2000). The relationship of impulsivity, sensation seeking, coping and substance use in youth gamblers. *Psychol Addict Behav*, 18(1), 49–55. doi:10.1037/0893-164X.18.1.49.
- Nunnally, J. C. (1979). *Psychometric Theory*. New York: McGraw Hill.
- O'Hara, T., & Tran, T. V. (2002). Substance Abuse Among Southeast Asians in the US: Implications for Practice and Research. In G. Xuegin Ma & G. Henderson (Eds.), *Ethnicity and Substance Abuse: Prevention and Intervention* (pp. 145–155). Springfield, IL: Charles C. Thomas Publisher, Ltd.
- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods*. Newbury Park, CA: Sage.
- Petry, N., Armentano, C., Kuoch, T., Norin, T., & Smith, L. (2003). Gambling participation and problems among South East Asian refugees to the United States. *Psychiatric Services*, 54(8), 1142–1148. doi:10.1176/appi.ps.54.8.1142.
- Pucci, L. G., & Haglund, B. J. A. (1992). Focus groups: A tool for developing better health education materials and approaches for smoking intervention. *Health Promot Int*, 7, 11–15. doi:10.1093/heapro/7.1.11.
- Rachal, J. V., Williams, J. R., Brehm, M. L., Cavanaugh, B., Moore, R. P., & Eckerman, W. C. (1975). *A national Study of adolescent drinking behaviour, attitudes, and correlates, final report*. Springfield, VA: National Technical Information Service.
- Raylu, N., & Oei, T. P. (2004). Role of culture in gambling and problem gambling. *Clin Psychol Rev*, 23(8), 1087–1114. doi:10.1016/j.cpr.2003.09.005.
- Shaffer, H. J., & Hall, M. N. (1996). Estimating the prevalence of adolescent gambling disorders: A quantitative synthesis and guide toward standard gambling nomenclature. *J Gambl Stud*, 12, 193–214. doi:10.1007/BF01539174.
- Statistics Canada. (2003). *Ethnic Diversity Survey: Portrait of a Multicultural Society (Catalogue no. 89-593-XIE)*. Ottawa: Minister of Industry.
- Winters, K. C., & Anderson, N. (2000). Gambling involvement and drug use among adolescents. *J Gambl Stud*, 16(2/3), 175–198. doi:10.1023/A:1009480930810.
- Wynne, H., Smith, G., & Jacobs, D. (1996). *Adolescent gambling and problem gambling in Alberta*. Edmonton, AB: Report prepared for the Alberta Alcohol and Drug Abuse Commission.
- Zangeneh M, Sadeghi N, Sharp N (2004a). Iranians living in Toronto: Attitudes and practices of gambling and help-seeking behavior, a preliminary study about Iranian refugees and immigrants in Toronto. *Shiraz E-Medical Journal*, 5 (1), from <http://semj.sums.ac.ir>.
- Zangeneh M, Nouroozifar M, Kantini E (2004b). Acculturation stress and drug use Among Iranian Youth. *Shiraz E-Medical Journal*, 5(3), from <http://semj.sums.ac.ir>.