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ORIGINAL PAPER

Cultural Influences on Stigmatization of Problem Gambling: East Asian and Caucasian Canadians

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Abstract Cultural influences on problem gambling stigma were examined using a between subject vignette study design. Students of East Asian (n = 64) and Caucasian (n = 50) ancestry recruited from a Canadian University rated a vignette describing either an East Asian problem gambler or a Caucasian problem gambler on a measure of attitudinal social distance. In accordance with the hypothesis, a factorial ANOVA revealed that East Asian Canadians stigmatize problem gambling more than Caucasian Canadians. Moreover, East Asian participants stigmatized the East Asian individual described in the vignette more than they did the Caucasian individual. Individuals with gambling problems were generally not perceived as being dangerous. However, participants who perceived problem gambling as a dangerous condition wanted more social distance than those who did not perceive individuals with a gambling problem as dangerous.

Keywords Problem gambling · Stigma · Culture

Introduction

Many people participate in gambling activities without it interfering with their lives, yet 2% of the Canadian population experience gambling related problems (Marshall and Wynne 2004). These problems include interpersonal difficulties, financial difficulties, and difficulties maintaining jobs (Lesieur et al. 1991). The rates of problem gambling are actually higher

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amongst adolescents as compared to adults (Lesieur and Klein 1987). Research suggests that 10–15% of youth are at risk of developing a severe gambling problem, and 4–6% meet the criteria for pathological gambling (Derevensky and Gupta 2004).

Treatment has the potential to reduce negative consequences, however, barriers to treatment exist. Problem gamblers report that stigma is a major barrier to treatment (Tavares et al. 2002). Research suggests that stigma may cause individuals with mental illness to terminate treatment before adequate results are achieved (Sirey et al. 2001).

Cultural factors influence gambling and problem gambling rates (Ellenbogen et al. 2007). However, few studies have examined the impact of culture on stigma and problem gambling. Horch and Hodgins (2008) determined that ethnicity may moderate stigma associated with problem gambling, with non-Caucasians in Canada stigmatizing problem gambling more than Caucasians. Due to the diversity of participants recruited, firm conclusions regarding the impact of ethnicity on stigma could not be made. As East Asians are known to have higher rates of gambling and problem gambling in combination with lower rates of treatment seeking (Raylu and Oei 2004), the present study determined whether East Asian Canadians and Caucasian Canadians differed in the level of stigmatization expressed and experienced. Understanding cultural influences on attitudes towards problem gambling may aid in the development of better treatment and prevention plans (Raylu and Oei 2004) and may lead to increased numbers of East Asians seen in treatment centers.

Stigma

Stigma plays a major role in the lives of individuals who have a mental illness. Stigmatization of problem gambling may lead to shame which prevents treatment seeking (Tavares et al. 2002; Pulford et al. 2009). One theory explaining the origin of stigma in mental disorders is the danger appraisal theory (Corrigan et al. 2002). This theory states that individuals with mental disorders are thought of as being dangerous by the general public and are therefore feared (Corrigan et al. 2002). This fear leads to a desire to avoid the individual (Corrigan et al. 2002) and increases social distance (Link et al. 1999). The stereotype that individuals with a mental illness are dangerous has actually increased in prevalence over the past 50 years despite efforts to educate the public (Link et al. 1999).

Another important theory of the etiology of stigma is the contact hypothesis (Allport 1954), which suggests that the greater familiarity a person has with members of a stigmatized group, the less social distance the person desires from affected individuals. Some studies have found that increased familiarity with various mental disorders does decrease stigma (Link and Cullen 1986; Penn et al. 1994) while others have shown that contact with problem gamblers is not associated with social distance scores (Horch and Hodgins 2008).

Cultural Influences on Stigma and Problem Gambling

The meaning, practice, and outcome of stigma depend to a large extent on culture (Yang et al. 2007). Culture also influences the level of attachment within a family, and for Chinese families, kinship ties are extremely important (Yang et al. 2007). Individuals belonging to collectivist cultures feel strongly that the needs of the whole family come before those of the individual and revealing that a member of the family has a gambling problem can lead to shame and isolation for the entire family; mental illness is a disgrace to the whole family (Raylu and Oei 2004). For close-knit families, stigma also has the potential to destroy the social life of the family as a whole because the entire family is stigmatized and the community distances from it (Yang et al. 2007). Embarrassment felt by

the family because of the illness of one member may eventually lead to family members distancing themselves from the affected individual which would result in greater stigmatization for the affected person (Yang et al. 2007). Being stigmatized by your own family can be extremely painful in a collectivist country where the family unit is important.

Despite the importance of culture on stigma, many studies investigating gambling do not consider it (Betancourt and Lopez 1993). According to Raylu and Oei (2002), several factors have been implicated in the development of gambling behaviour (e.g. personality, biological factors, familial factors), yet these factors alone cannot account for cross-cultural differences in the frequency of gambling behaviour. Culture plays an important role in the development and maintenance of gambling behaviour. For instance, one study determined that when gambling habits were investigated among United States university students, Asians had a significantly higher rate of gambling (12.5%) as compared to Caucasians, African Americans, and American Indians (4–5%; Lesieur et al. 1991). The beliefs of a cultural group also play a role in the acceptance, stigma, and help seeking behaviours of gamblers (Raylu and Oei 2004). Cultural values and beliefs have the ability to influence the pattern of gambling and whether treatment is sought once the problem spirals out of control (Raylu and Oei 2004).

Globally, societies that contain many cultural groups are the norm (Berry et al. 1992). In such societies, ethnic minority cultures may experience changes as a result of the influence from the dominant cultural group (Berry 1992). This process of change is known as acculturation (Berry 1992). At an individual level, acculturation can result in changes in the identity, values, and attitudes of the individual undergoing the process (Berry et al. 1992). Acculturation does not necessarily lead to cultural loss (Berry et al. 1992) but refers to a process of cultural change. It has been suggested that the acculturation process could play a role in problem gambling development and help seeking behaviour (Raylu and Oei 2004). Tata and Leong (1994) noted that acculturation can change an individual's help seeking behaviour; individuals who are more acculturated will show help seeking attitudes that mimic those of the host country more closely. For instance, Chinese Americans born in Taiwan or China perceived greater shame in using Western psychiatric services in comparison to traditional Chinese medicine, whereas, Chinese Americans born in the U.S. displayed no differences in the shame they experienced in using either of the two treatment approaches (Yang et al. 2008).

The Present Study

East Asians were specifically chosen for this study because past studies have shown that these cultures have a higher rate of gambling yet are underrepresented at treatment facilities (Raylu and Oei 2004). Therefore, the present study investigated the role East Asian culture plays in attitudes towards gambling addictions. Participants rated vignettes describing either an East Asian or Caucasian man displaying problem gambling behaviour on a measure of attitudinal social distance. For the purposes of this study an individual was classified as belonging to the East Asian culture if their family had immigrated from China, Japan, Korea, Hong Kong, or Taiwan; individuals of European descent were classified as Caucasian. No limitations were placed on the length of time the individual had spent in Canada. Stigma was operationalized as social distance.

Based on Horch and Hodgins (2008), it was hypothesized that East Asian Canadians would stigmatize individuals with a gambling problem more than Caucasian Canadians. It was also hypothesized that East Asian Canadians would prefer more social distance from East Asians suffering from problem gambling than they would from Caucasians suffering

from the same disorder. This latter hypothesis was made based on the premise that, in the East Asian culture, the knowledge that a person is exhibiting problem gambling behaviours leads to the entire family being isolated from society (Raylu and Oei 2004). It may be that East Asians stigmatize more against East Asians who display problem gambling behaviours because they feel, from a collectivist viewpoint, that this individual is selfish for causing his/her family shame in comparison to a Caucasian who exhibits problem gambling behaviours. East Asians may not hold Caucasian individuals displaying problem gambling behaviours to the same standards as the Caucasians are not part of the collectivist culture.

Methods

Participants

Students from the University of Calgary were recruited from the Psychology Department Research Participation System (RPS) and received partial course credit. Eligibility criteria included ethnicity; 50 participants had a Caucasian background and 64 were of East Asian ethnicity. The RPS includes a pre-screening feature so that only studies for which the student is eligible are provided as options for that individual. Participants were recruited for a study on "attitudes towards gambling" and were not informed that culture was of interest prior to their participation in the study. Whether participants engaged in gambling activities was not a criterion for recruitment.

Procedure

Informed consent was obtained and anonymity was emphasized to minimize social desirability bias. Participants completed one of two questionnaire packages, one package containing a Caucasian problem gambler and the other an East Asian disordered gambler. The order of questionnaire administration was as follows—vignette, attitudinal social distance measure, perceived causes measure, a perceived dangerousness item, a controllability attributions item, level of contact report, involvement in gambling checklist, problem gambling severity index, social desirability measure, manipulation check, and the Suinn-Lew Asian self identity acculturation scale.

Measures

Vignette (See Appendix A)

Two near identical vignettes were used that differed only in regards to the ethnicity of the individual depicted. The individual in the vignette was described as being East Asian or Caucasian. The name of the individual was kept consistent between both vignettes to avoid having participants respond to the questionnaire based on the name of the problem gambler and not ethnicity. Problem gambling was indicated by including reference to five of the ten DSM-IV (APA 1994) diagnostic criteria for pathological gambling. To receive a diagnosis of pathological gambling a person needs only to meet five of the ten diagnostic criteria (DSM-IV), therefore to create a vignette in which an individual met all ten of the diagnostic criteria was not considered appropriate because this presentation is rare (Horch and Hodgins 2008).

For the purposes of this study the criteria that were used were a loss of control, withdrawal, tolerance, relationship problems, and financial difficulties. Information regarding other aspects of the vignette individual's life (e.g., works at the local grocery store, university student) was added so ethnicity was not particularly salient in the description.

Attitudinal Social Distance

The items used on this scale have been modified to apply to disordered gambling (Horch and Hodgins 2008). Questions on this scale ranged from willingness to have a problem gambler as a neighbour to whether a participant would be tolerant of a disordered gambler marrying into their family. There were six items and the responses ranged from "definitely" (0) to "definitely not" (3). A sum score was calculated resulting in a social distance index that ranges from 0 to 18 with higher scores indicative of social distance. Past studies have used this scale and have shown good internal consistency ($\alpha = .75$; Link et al. 2004).

Perceived Causes

A six item Likert type scale was used to assess individual opinions for the likely cause of the problem gambling. The six items on the scale were phrased in a similar manner: "in your opinion, how likely it is that John's situation might be caused by [Cause]". The six listed causes included bad character, chemical imbalance in brain, way individual was raised, stressful circumstances, inherited problem, and God's will. Ratings ranged from "very unlikely" (1) to "very likely" (4).

Perceived Dangerousness

This measure consisted of one question which asked how likely it was that the individual in the vignette would do something violent towards other people. The response to this question ranged from "very unlikely" (1) to "very likely" (4).

Controllability Attributions

Controllability was assessed by the participant answering the question, "is John's situation controllable?" The answers received ranged from "definitely" (0) to "definitely not" (3).

Level of Contact Report (Holmes et al. 1999)

This report measured the amount of contact a participant has had with someone who has a gambling problem. This was a 12 item checklist with rank ordered situations describing a variety of levels of contact from living with someone with a gambling problem to not ever knowingly coming in contact with someone with a gambling problem. Participants were asked to indicate each situation that they had encountered. A score was obtained by taking the score of the highest item endorsed. Higher values are indicative of greater contact.

Participant Gambling

Participants completed a checklist of their personal involvement in gambling activities which is based on the work of Ferris and Wynne (2001). Participants also completed the Problem Gambling Severity Index (PGSI; Ferris and Wynne 2001). The PGSI was

included to account for any discrepancy in results that may have occurred because the participants themselves engaged in problem gambling behaviour. Items were rated from never (0) to almost always (4). A score of 8–27 is indicative of problem gambling, a score of 3–7 indicates moderate risk, low risk is indicated by a score of 1–2, and 0 indicates no problem (Ferris and Wynne 2001).

Balanced Inventory of Desirable Responding (BIDR; Paulhus 1988)

The Impression Management Scale of the BIDR was included to assess any intentional deception on the part of the participant to provide a socially desirable image (Leite and Beretvas 2005). The subscale consisted of 20 items which were answered on a seven point Likert type scale where answers ranged from not true (1) to very true (7). This subscale was scored using a continuous scoring method (Paulhus 1988). Past research with this scale has produced internal reliability alpha values between .73 and .86 (Stober et al. 2002).

Ethnicity Awareness Check

This was included to verify whether the participants were aware of the ethnicity of the problem gambler in the vignette when filling out the questionnaires. Participants were asked if they remembered the ethnicity of the problem gambler and to name the ethnicity if they could recall it at the conclusion of the study.

Demographic Questionnaire

This questionnaire was to examine possible moderator variables. Participants were asked to provide information pertaining to their age, sex, marital status, education, religion, ethnicity and political orientation.

Suinn—Lew Asian Self Identity Acculturation Scale (SL-ASIA; Suinn et al. 1987)

Acculturation was measured using the SL-ASIA. This scale has 21 questions regarding topics that are associated with acculturation, these questions range from preference of language use to ethnic attitudes an individual may have. Questions used on this scale include "What is your music preference?", "Where were you raised?" and "Do you participate in Asian occasions, holidays, traditions, etc.?" The final score obtained ranges from 1 (low acculturation) to 5 (high acculturation). Low scores are indicative of high identification with Asian culture and high scores indicate identification with Western culture. A score of 3 reflects a bicultural individual. Past research that has used this scale to measure acculturation has yielded internal reliability coefficients of .79 for Asian samples and between .88 and .91 for Asian American participants (Yeh 2003).

Results

Preliminary Analyses

All analyses were conducted in Statistical Package for Social Sciences (SPSS) 16.0. One hundred twenty nine participants were recruited, although the results obtained from 15

South Asian participants were excluded due to a screening error, leaving a sample of 114. The age of the participants ranged from 16 to 36 years ($M = 20.8$, $SD = 3.1$). The majority of the participants were female (71.1%); 70.3% of the East Asian participants recruited were female and 72.0% of the Caucasian participants recruited were female. Most of the participants recruited were liberal (30.7%), single (93.9%), not at all religious (38.6%), and employed part time (54.4%). Religiosity ($t(112) = 0.21$, $P > .05$) and political orientation ($t(112) = 0.25$, $P > .05$) did not differ significantly between the East Asian and Caucasian participants. Mean attitudinal social distance scores for East Asian participants was 10.9 ($SD = 3.6$, range 0–18) and 9.2 for Caucasian participants ($SD = 3.1$, range 0–14). The mean of the social desirability scale for Caucasian participants was 4.0 ($SD = 0.8$, range 2.1–5.8) and for East Asian participants was 4.1 ($SD = 0.8$, range 2.3–5.6). Forty five participants (40.6% of East Asian participants and 38.0% of Caucasian participants) did not remember the ethnicity of the problem gambler depicted in the vignette and 69 participants (59.4% of East Asian participants and 62% of Caucasian participants) remembered the ethnicity of the problem gambler in the vignette.

On average the East Asian participants had spent 14 years ($SD = 7.0$) living in Canada and the Caucasian participants had spent 20 years ($SD = 5.1$) residing in Canada. The mean scores on the SL-ASIA for the East Asian participants was 2.9 ($SD = 0.6$, range 1.7–5.0). Thirty four (54%) of the East Asian participants indicated that they were first generation Canadians, that is, they were born in Asia or a country other than Canada; 26 (41.3%) stated that they were second generation Canadians (they were born in Canada, however, at least one parent was born in a country other than Canada); 2 (3.1%) reported being third generation Canadians (they were born in Canada as were their parents, however, all grandparents were born outside of Canada); and only 1 (1.6%) participant reporting being a fourth generation Canadian (he/she was born in Canada, his/her parents were born in Canada, and at least one grandparent was born in Canada). East Asian participants were also asked how they culturally identified themselves. Only 1 (1.6%) identified himself/herself as Oriental, 17 (27.4%) identified themselves as Asians, 6 (9.7%) identified themselves as Asian-Canadian, 26 (41.9%) identified themselves as Chinese-Canadian/Japanese-Canadian/Korean-Canadian, and 12 (19.4%) identified themselves as Canadian.

Participants indicated that stressful life circumstances were the most likely cause of problem gambling ($M = 3.3$, $SD = 0.7$). Participants also indicated, in a decreasing order, that the way in which an individual was raised ($M = 2.8$, $SD = 0.8$), a persons' own bad character ($M = 2.5$, $SD = 0.8$), a chemical imbalance in the brain ($M = 2.5$, $SD = 0.8$), genetics ($M = 2.0$, $SD = 0.9$) and God's will ($M = 1.2$, $SD = 0.6$) could be causes of disordered gambling. For each of the six perceived causes, a 2 (participant ethnicity) $\times$ 2 (ethnicity of problem gambler in the vignette) analysis of variance (ANOVA) was conducted to examine the effects of participant ethnicity and ethnicity of the problem gambler in the vignette. The results achieved from these ANOVAs were not significant indicating perceived causes were not influenced by the ethnicity of the participant or the ethnicity of the problem gambler in the vignette (see Appendix B).

The highest level of contact participants had with an individual with a gambling problem, and their personal gambling habits were also examined. For most of the participants the highest level of contact they had had with a person displaying problem gambling behaviours included having watched a movie or television show in which a character depicted a person with a gambling problem (31.6%), 16.7% had watched a documentary on television about severe problem gambling, 20.2% indicated that they had a relative with a gambling problem, 11.4% indicated that a friend of the family had a severe gambling

problem, and 7.0% had worked with an individual who had a severe gambling problem. The highest level of contact was not influenced by gender, $t(112) = 1.56$, $P > .05$. On average, participants engaged in less than one gambling activity ($M = 0.4$, $SD = 0.3$). The most common forms of gambling activities participants had occasionally engaged in included raffle tickets (57.0%), scratch tickets (46.5%), and gambling on cards with friends and family (40.7%).

Participants completed the Problem Gambling Severity Index. Only 3 (2.6%) qualified as problem gamblers (2 Caucasian and 1 East Asian participant), 11 (9.8%) were at a moderate risk of developing problem gambling (2 Caucasian and 9 East Asian participants), 19 (16.6%) were at a low risk of developing problem gambling (4 Caucasian and 15 East Asian participants), and 81 (71.1%) were non-problem gamblers or non-gamblers (42 Caucasian and 39 East Asian participants). East Asian participants ($M = 0.6$, $SD = 0.8$) scored slightly higher on the PGSI in comparison to Caucasian participants ($M = 0.3$, $SD = 0.7$; $t(112) = 1.97$, $P = .05$). There was no significant differences between scores obtained by males and females on the PGSI, $t(112) = 1.37$, $P > .05$. Acculturation did not correlate significantly with problem gambling severity ($r = -0.11$, $P > .05$).

On average participants in this study rated the individual with a gambling problem as being somewhat likely to be dangerous (40.4%) and 36.8% of participants gave the individual with a gambling problem depicted in the vignette a rating of two (somewhat unlikely) on the perceived dangerousness item. Gender did not influence perceptions of dangerousness, $t(112) = 0.68$, $P > .05$. Acculturation did not significantly correlate with dangerousness attributions ($r = -0.12$, $P > .05$).

Correlates of Social Distance

Pearson product moment correlations coefficients were computed to determine the degree to which social desirability, perceived dangerousness, familiarity, and acculturation were associated with attitudinal social distance. Social desirability did not correlate significantly with attitudinal social distance, $r = 0.01$, $P > .05$. The correlation between perceived dangerousness and social distance was significant, $r = 0.30$, $P < .01$. Participants who perceived problem gamblers as being dangerous wanted more social distance from them than participants who did not perceive problem gamblers as being dangerous. The correlation between familiarity with problem gambling and social distance was also significant, $r = -0.26$, $P < .05$. Participants who had a higher level of familiarity with problem gambling wanted less social distance from individuals displaying problem gambling behaviour as compared to those participants who had a lower level of familiarity. Acculturation did not correlate significantly with attitudinal social distance, $r = -0.06$, $P > .05$.

Principle Analyses

A 2 (participant ethnicity—Caucasian, East Asian) × 2 (ethnicity of problem gambler in the vignette—Caucasian, East Asian) × 2 (ethnicity awareness check—remembered the ethnicity of the problem gambler in the vignette, did not remember the ethnicity of the problem gambler in the vignette) between groups factorial ANOVA was conducted to examine the effects of the participant ethnicity, ethnicity of the problem gambler in the vignette, and ethnicity awareness check on scores on the social distance measure. The results of the ANOVA indicated a significant main effect for the participant ethnicity condition, $F(1, 106) = 8.46$, $P < .05$ (Fig. 1). On average, East Asians scored higher

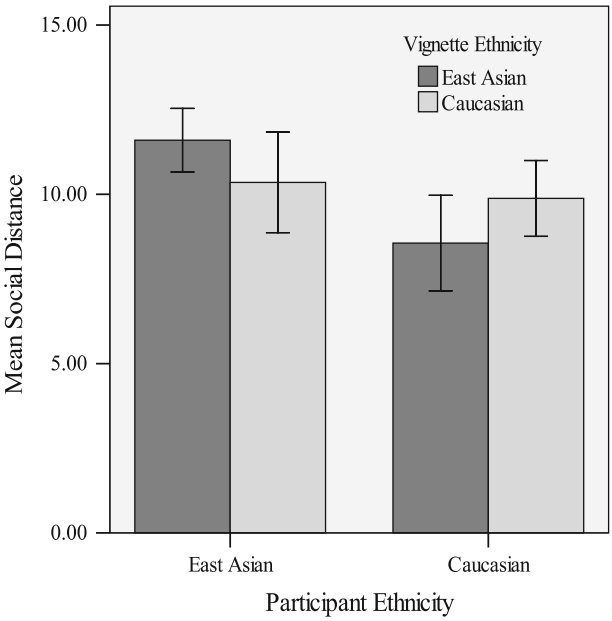

Fig. 1 Mean (*standard deviation*) social distance by participant ethnicity and vignette ethnicity

($M = 10.9$, $SD = 3.6$) on the social distance scale than did Caucasians ($M = 9.2$, $SD = 3.1$). The main effects of the ethnicity awareness check, $F(1, 106) = 0.46$, $P > .05$, and ethnicity of the problem gambler depicted in the vignette were not significant, $F(1, 106) = 0.24$, $P > .05$. However, a significant interaction between participant ethnicity and the ethnicity of the problem gambler depicted in the vignette was found, $F(1, 106) = 4.20$, $P < .05$ (see Fig. 1). Simple effects revealed that only comparisons for the East Asian vignette were significant, $F(1, 53) = 14.42$, $P < .01$. East Asian participants desired greater distance from the East Asian problem gambler depicted in the vignette ($M = 11.6$, $SD = 2.51$) as compared to the Caucasian problem gambler ($M = 8.6$, $SD = 3.4$). There was also a significant interaction between the ethnicity of the problem gambler in the vignette and the ethnicity awareness check, $F(1, 106) = 5.07$, $P < .05$ (see Fig. 2). Simple effects revealed that only comparisons for the Caucasian vignette were significant, $F(1, 57) = 4.59$, $P < .05$. Participants desired more social distance from the Caucasian problem gambler depicted in the vignette when they did not remember the ethnicity of the problem gambler ($M = 11.3$, $SD = 4.0$) as compared to when they did remember the ethnicity ($M = 9.3$, $SD = 3.2$).

Discussion

Results obtained from the current study support the claim that East Asian Canadians and Caucasian Canadians differ in the level of stigma that is associated with problem gambling. There was a main effect of participant ethnicity on social distance scores; East Asian Canadian participants wanted more social distance from the problem gambler in the vignette than did the Caucasian Canadian participants. The current study corroborated the findings of Horch and Hodgins (2008) that participants of non-European origin wanted

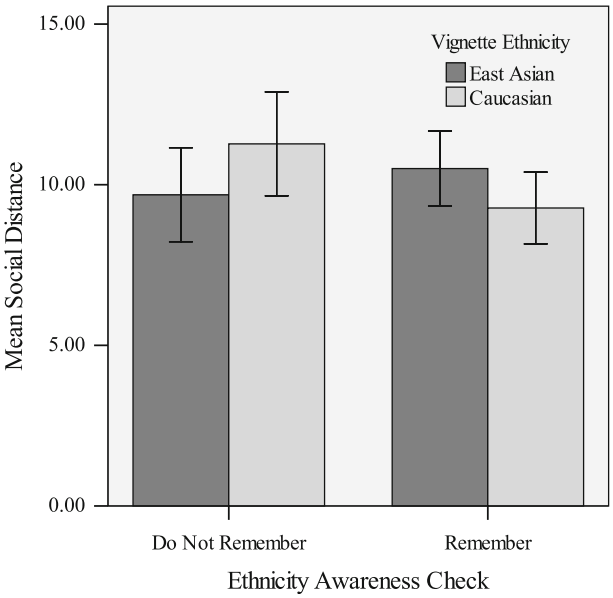

Fig. 2 Mean (*standard deviation*) social distance by ethnicity awareness check and vignette ethnicity

more social distance from individuals with a gambling addiction than did European participants. The results obtained suggest that culture influences stigmatization of problem gambling; East Asian Canadians stigmatize problem gambling to a greater extent than do Caucasian Canadians.

The interaction between participant ethnicity and the ethnicity of the problem gambler in the vignette required further investigation. Results obtained supported the hypothesis that participants of East Asian ancestry desired more social distance from East Asian problem gamblers compared to the social distance they desired from Caucasian problem gamblers. According to Link and Phelan (2001), the separation of oneself from the stigmatized group is a component of the stigmatization process. In general, one could hypothesize that since problem gambling is stigmatized to a greater extent by East Asian Canadians as compared to Caucasian Canadians, East Asian participants wanted to distance themselves from the problem gambler depicted in the vignette so as to not be associated with them. It could also be hypothesized that people may relate more closely to problem gamblers of the same ethnicity and want more social distance from them for fear of ending up like them.

There was also a significant interaction between the ethnicity of the problem gambler in the vignette and the ethnicity awareness check. The ethnicity awareness check was initially included so as to remove participants from the analysis who did not attend to ethnicity. However, because many participants failed to attend to ethnicity, the ethnicity awareness check variable was included as an exploratory factor. The results obtained indicated that participants desired more social distance from the Caucasian problem gambler depicted in the vignette when they did not remember the ethnicity of the problem gambler as compared to when they did remember the ethnicity. One would assume that participants would envision a Caucasian individual in the absence of any other information regarding ethnicity, which would lead to the prediction that there would be no difference in social

distance ratings. If this finding proves reliable in future research, then perhaps it suggests that some unconscious process occurs in the presence of ethnicity information that is "not recalled."

Previous research has found that when an individual with a mental illness is perceived as being dangerous they are more likely to be stigmatized against (Corrigan et al. 2002; Horch and Hodgins 2008). When the dangerousness attribution hypothesis was considered in this study, previous results were replicated. Perceptions of dangerousness influenced stigma. In this study participants did not perceive the problem gambler as being very dangerous, however, those rating individuals with a gambling problem as dangerous wanted greater social distance. This finding has implications in terms of reducing the stigma associated with problem gambling.

Combating Stigma Within a Cultural Context

According to Corrigan et al. (2001), familiarity with a mental illness through direct contact or education has the effect of lowering social distance desired from these individuals. This finding was supported in the present study, with individuals who were more familiar with problem gambling desiring less social distance from the problem gambler. These findings suggest that stigma may be reduced by increasing the familiarity the population has with problem gambling. The media may be helpful in achieving this goal as long as accurate information is provided. Most of the university students who participated in this study had been exposed to problem gambling via movies (95.6%) but fewer had watched documentaries (36%).

Educational programs can also help to reduce stigma towards mental illness (Penn and Martin 1998) and may also be helpful regarding problem gambling as long as they are specific to the disorder and focus on the myths and attributions a culture has about individuals who exhibit problem gambling behaviour. Cultural values and beliefs must be taken into consideration when educational programs are created. For instance, in Chinese cultures mental illness shames the whole family (Raylu and Oei 2004). Future research may want to look at how culture specific attitudes and beliefs influence the stigma problem gamblers experience within that community.

The results from studies such as this one, while informative, could also prove to be detrimental to the examined cultures by causing East Asians to be seen in a negative light because the results suggest that East Asians are not as accepting of individuals with gambling problems and are more likely to engage in problem gambling behaviours. Results such as the ones found in this study and those found in the study conducted by Horch and Hodgins (2008) may lead researchers to believe that non-Caucasians are less accepting of other mental illnesses as well. In trying to reduce stigma within the East Asian culture, Western researchers may try to challenge the beliefs East Asians hold which could lead to cross-cultural hostility. Cross-cultural research is extremely important. The results obtained could prove to be hazardous if researchers do not approach them with cultural sensitivity.

Limitations

Results obtained from this study supported the hypothesis that culture does influence stigma experienced by individuals with a gambling problem. However, conclusions could be stronger in the absence of some limitations. The university sample limits the generalizability of the results as this population had a restricted age range and political orientation.

The participants recruited were between 16 and 34 years of age and 30.7% of them described their political orientation as liberal. Past research has shown that political conservatism is linked to prejudice (Jones 2002). The liberal political attitudes of the participants may have minimized the degree of stigmatization observed. While using a university sample does limit the external validity of the results, results obtained with this population are important in and of themselves as problem gambling is highly prevalent within university populations (Lesieur et al. 1991).

Only two cultures were investigated (East Asian, Caucasian) and individuals from different East Asian countries were placed together into a single category of being East Asian, limiting the ability to extend these findings to other cultures and to the various subgroups within each culture. The results support the hypothesis that culture does influence stigma, but this statement may not generalize to other cultures. Future research should consider investigating other cultures and various subcultures within the dominant culture. It would be interesting to study individuals from cultures in which gambling is illegal (e.g., Taiwan). One could also study how religious beliefs that do not condone gambling influence attitudes people have towards problem gambling.

Stigma was measured using social distance. Although social distance is a good measure of stigma, it has some drawbacks, one of which pertains to the possibility of social desirability bias (Link et al. 2004). Due to public education which teaches that it is wrong to discriminate on the basis of mental health status, individuals may not reveal their true opinions for fear of appearing uncaring (Link et al. 2004). It is also hard to state with certainty that an individual's attitudes as measured by a social distance scale reflect what their actual behaviour would be (Horch and Hodgins 2008).

Participants completed the attitudinal social distance scale and perceived dangerousness item before they completed the involvement in gambling checklist and PGSI. This order of administration wherein questions related to stigma associated with problem gambling were presented before questions concerning personal gambling habits may have influenced openness of participants in responding to questions about their own personal gambling habits. The decision to include participant gambling questionnaires after the attitudinal social distance scale was made because stigma was the primary dependent variable of interest. This order of question administration may have resulted in underreporting of personal gambling habits.

Future Directions

The present study is an important first step in establishing that culture plays a role in level of stigma associated with problem gambling. However, East Asian Canadian university students were recruited and it is possible that these individuals are more acculturated than other East Asian individuals as they interact with members of the dominant culture on a regular basis. As a result their beliefs and attitudes regarding problem gambling may be more similar to the attitudes of the dominant culture. Future research may investigate whether these results can be replicated within an East Asian population that has been in Canada for a shorter period of time or has had less contact with the dominant culture.

Finally, this research does not consider the link between cultural influences on stigma and treatment seeking. Evidence exists that suggests that stigma is a leading cause of problem gambling treatment refusal (Tavares et al. 2002) and that culture does appear to influence stigma. For instance, Yang et al. (2008) noted that culture influenced the shame

associated with the use of traditional Chinese medicine in comparison to Western psychiatric services. This suggests that incorporating traditional treatment methods into treatment for problem gambling could lead to the development of treatment options that may be preferable to East Asians as less stigma would be attached to them. Future research may want to investigate whether the incorporation of traditional medicine into treatment plans is preferable to treatment options with no reference to traditional healing (Yang et al. 2008).

In summary, research has indicated that problem gambling is a stigmatized condition and that culture may influence the stigma experienced by problem gamblers (Horch and Hodgins 2008). The current study considered both the ethnicity of the problem gambler and the participant and was able to establish that culture may influence stigma using Caucasian and East Asian university students. The results obtained suggest that future research may consider the ethnicity of the problem gamblers and the community when designing treatment.

Appendix A

Vignettes

John is an **East Asian** student in one of your university classes. He enjoys playing tennis and reading and for the past 2 years he has worked part-time at Safeway to earn some extra money while in school. This job has allowed him to enjoy the occasional visit to a casino with his friends. During the last month John has started to gamble more than his usual amount of money. He has even noticed that he needs to gamble much more than he used to in order to get the same feeling of excitement. He has tried to cut down or stop gambling several times, but he can't. Each time he has tried to cut down, he became agitated and couldn't sleep, so he gambled again. His family has complained that he has really changed for the worse and that they feel like they don't even know who he is anymore. They are also beginning to feel resentful about having to help him out financially when things are bad.

John is a **Caucasian** student in one of your university classes. He enjoys playing tennis and reading and for the past 2 years he has worked part-time at Safeway to earn some extra money while in school. This job has allowed him to enjoy the occasional visit to a casino with his friends. During the last month John has started to gamble more than his usual amount of money. He has even noticed that he needs to gamble much more than he used to in order to get the same feeling of excitement. He has tried to cut down or stop gambling several times, but he can't. Each time he has tried to cut down, he became agitated and couldn't sleep, so he gambled again. His family has complained that he has really changed for the worse and that they feel like they don't even know who he is anymore. They are also beginning to feel resentful about having to help him out financially when things are bad.

Appendix B

See Table 1.

Table 1 Vignette ethnicity by participant ethnicity analysis of variance

Perceived cause	Vignette ethnicity F(*df*)	Participant ethnicity F(*df*)	Interaction F(*df*)
Own bad character	0.00(1, 110)	1.05(1, 110)	0.26(1, 110)
Chemical imbalance in the brain	0.33(1, 110)	1.97(1, 110)	0.06(1,110)
Way the person was raised	0.01(1, 110)	1.73(1, 110)	0.04(1, 110)
Stressful circumstances in the person's life	0.31(1, 110)	1.04(1, 110)	0.75(1, 110)
Genetic or inherited problem	1.13(1, 110)	3.24(1, 110)	1.13(1, 110)
God's will	0.06(1, 110)	1.70(1, 110)	0.38(1, 110)

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