## Adolescent Gambling: A Research Update Since 2010

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In 2010, the Journal of Adolescent Health published a review article with the purpose of summarizing the research on adolescent gambling, including implications for research and prevention or intervention [1]. This review was intended to be of service by addressing the following questions related to adolescent gambling (a) what types of research are being conducted, (b) what measurement instruments or diagnostic criteria are being used, (c) what is the state of understanding about adolescent gambling, and (d) what recommendations can be made for future research and prevention or intervention? The methodology involved a comprehensive and systematic search of "adolescent or youth gambling" in three diverse electronic databases (MedlineAdvanced, PsycINFO, and Sociological Abstracts) and three peer-reviewed journals (International Journal of Gambling Studies, International Journal of Mental Health and Addiction, and Journal of Gambling Issues). The search resulted in 137 articles (1985-2010) focusing on gambling among youth aged between 9 and 21 years. The conclusion was that the study of adolescent gambling could be summarized as follows: (a) it was conducted by a relatively small group of researchers in Britain, Canada, and the United States; (b) it was primarily prevalence-focused, quantitative, descriptive, school-based, and atheoretical; (c) it had most often been published in the Journal of Gambling Studies; (d) it was most often examined in relation to co-morbidity with alcohol use; (e) it had relatively few valid and reliable screening instruments that were developmentally appropriate for adolescents, and (f) it lacked diverse samples. Four recommendations were presented for both research and prevention or intervention: (1) provide greater attention to the development and validation of survey instruments or diagnostic criteria to assess adolescent problem gambling; (2) begin to develop and test more gambling prevention or intervention strategies; (3) examine the co-morbidity of gambling and substances other than alcohol, and (4) pay greater attention to racial and ethnic differences in the study of adolescent gambling. Based on the findings and recommendations discussed above, two questions are posed below concerning the future of the field of adolescent gambling research.

The first question addressed here is: How has the field changed since 2010 in terms of paying greater attention to cultural and racial/ethnic differences in the study of adolescent gambling? According to So and Wang [2], there has been an unexpected and rapid growth of legalized gambling opportunities in the Asian-Pacific region in the last ten years. These venues have included a) legalized sports betting in Malaysia and Hong Kong; b) a flourishing casino gambling industry in Macau with 33 casinos, and c) an expected expansion of casino gambling in Australia, Cambodia, China, Japan, Korea, Taiwan, Thailand, and Vietnam in the near future. As a result, the inaugural issue of the Asian Journal of Gambling Issues and Public Health was published in October 2010. The journal aimstofacilitate exchange of experience in gambling research, prevention, treatment and policy advocacy, across international jurisdictions. It represents a cross-cultural collaboration in a shared mission of enhancing public health and reducing the negative social impact of problem gambling (p. 2). Since 2010, the adolescent gambling literature began to contain studies that addressed such cross-cultural topics as: a) pathological gambling in youth in China [3]; b) comparisons between East Asians and Caucasians in cultural influences on stigmatization of problem gambling; c) validation of Chinese versions of gambling assessment scales [4]; d) gambling

This is the author's manuscript of the article published in final edited form as: Blinn-Pike, L. (2017). Adolescent gambling: an update on research since 2010. Journal of Adolescent Health, 60(5), 481-482. https://doi.org/10.1016/j.jadohealth.2017.02.009 behavior among underage adolescents in Hong Kong [5]; e) risk factors in problem gambling in Chinese American adolescents [6]; and differences in gambling problem severity and gambling and health/functioning characteristics among Asian-American and Caucasian high school students [7]. It remains to be seen if this new journal and the resulting Asian-related gambling research will continue to grow and expand in the future.

The second question addressed here is: How has the field changed since 2010 in terms of paying greater attention to the comorbidity of adolescent gambling and marijuana other than, or in addition to, alcohol? Vaughn [8, p. 246] pointed to the tremendous changes with respect to the medicalization, decriminalization, and legalization of marijuana in the United States (U.S.) and asked what do changes in the availability and use of marijuana mean for young people as we try to understand adolescent marijuana use risk in a 21st century. Vaughn summarized this issue by stating that several studies have painted a complex picture in terms of changing perceptions, family relationships, and adolescent marijuana use, although gambling was not included in this discussion. Cronce, Bittinger, Lodovicvo and Liu [9], in this issue, stated that students who report gambling also tend to report the use of alcohol and marijuana, but little research has explored the associated risks of using these substances in relation to gambling episodes. To address this gap, they explored associations between the independent and co-occurring use of alcohol and marijuana before/during gambling episodes and gambling outcomes. They concluded that the use of marijuana alone before/while gambling may confer the same level of risk for negative gambling outcomes as the use of both marijuana and alcohol. Petry and Tawfik [10] compared problem gambling and non-problem gambling youth who were seeking treatment of marijuana abuse and found that, after controlling for age, gender, and race, problem gamblers were more at risk for severe drug use, higher frequency of alcohol and marijuana use, greater illegal activity, anxiety and HIV infection. Prevention efforts may, therefore, benefit from targeting marijuana use, alone or in addition to alcohol use, in relation to adolescent gambling. Additional research is needed due to recent and upcoming state legislation on the legalization of marijuana.

Two questions were addressed here regarding adolescent gambling research. Will it: 1) expand beyond Britain, Canada, and the United States, and 2) become more focused on co-morbidity with other substances, such as Marijuana? With recent trends related to increases in globalization and policy changes in legalized gambling, it is likely that this field will have a broader scope in the future, hopefully to the benefit of diverse groups of youth.

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