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The association between at-risk gambling and binge drinking in the general Swedish population

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ABSTRACT

While the association between problem gambling and alcohol use disorders has been studied previously, little is known about the association between risk gambling and risk drinking. This study aimed at examining the association between at-risk gambling and binge drinking in the general Swedish population and to test whether this association remained after controlling for demographic factors. The data was part of a larger ongoing survey in the general Swedish population. Respondents (N = 19 530) were recruited through random digit dialing and interviewed about their alcohol habits (binge drinking), at-risk gambling (the Lie/Bet questionnaire) and demographics (gender, age, education, residence size, marital status, labor market status, country of origin and smoking). There was an association between lifetime at-risk gambling and current (12 months) weekly binge drinking for both men (OR = 1.73; CI 95%: 1.27–2.35) and women (OR = 2.27; CI 95%: 1.05–4.90). After controlling for demographics this association no longer remained significant (OR = 1.38; CI 95%; .99–1.90 for men and OR = 1.99; CI 95%: .94–4.66 for women). Age and smoking had the largest impact on this association. At-risk gambling and binge drinking are associated behaviors. However, it seems as if this association may be confounded by demographic variables. We hypothesize that similarities in personality profiles and health aspects could account for an additional part of the association.

1. Introduction

Excessive gambling and drinking can yield severe consequences affecting individuals, their families and society. Gambling disorder (GD) and Alcohol Use Disorders (AUD) are commonly described as two separate syndromes (American Psychiatric Association, 2013).

Shaffer et al. (2004), however, suggest an addiction syndrome with common etiology underlying both substance and behavioral addictions. Both GD and AUD share common diagnostic features, such as for instance increased tolerance and withdrawal. Further, meta-analyses show that individuals with GD and individuals with Substance Use Disorders (SUD) seem to have a similar personality profile characterized by high neuroticism, disinhibition and disagreeableness, (Kotov, Gamez, Schmidt, & Watson, 2010; Maclaren, Fugelsang, Harrigan, & Dixon, 2011). The prevalence of other psychiatric disorders, such as depression, anxiety and personality disorders, has shown to be significantly higher in individuals with both GD and AUD, than in individuals with GD only (Abdollahnejad, Delfabbro, & Denson, 2014). In addition, demographic factors such as age, gender, marital status, residential size, ethnicity, education, income and employment are associated with both gambling and drinking (Johansson, Grant, Kim, Odlaug, & Götestam, 2009; Marsh & Dale, 2005; Matzger, Delucchi, Weisner, & Ammon, 2004; Nalpas et al., 2011; Swendsen et al., 2009). However, there seem to be gender differences and some studies have not confirmed an association between problematic gambling and drinking among females (Griffiths, Wardle, Orford, Sproston, & Erens, 2010; Huang, Jacobs, & Derevensky, 2011).

The behaviors also seem to have a direct impact on each other. Among non-pathological gamblers, about 80% reported consuming four to ten drinks of alcohol during their last episode of gambling on electronic gaming machines (Baron & Dickerson, 1999). Further, alcohol consumption paired with gambling has shown to result in larger bets and greater and more rapid losses (Cronce & Corbin, 2010; Giacopassi, Stitt, & Vandiver, 1998). In addition, hazardous drinking has been found to be one of the strongest predictors of problem gambling stability (Abbott, Williams, & Volberg, 2004).

A complication in this research field is the many terms defining excessive gambling and drinking. The two diagnoses alcohol abuse and alcohol dependence are integrated into Alcohol Use Disorders (AUD), ranging from mild to severe (DSM-IV-TR; American Psychiatric Association, 2000; DSM-5; American Psychiatric Association, 2013). There is no general consensus on a definition of risk drinking, but at-

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risk drinking (or hazardous drinking) is sometimes referred to as drinking more than 14 standard drinks per week for men, or more than seven for females, and binge drinking as drinking five drinks or more in a row for males and four or more for females (National Institute on Alcohol Abuse and Alcoholism, 2005). Binge drinking has been associated with injuries, car accidents, unsafe sexual activity, falls, assaults and overall poor neuropsychological functioning (Fillmore & Jude, 2011). In addition, binge drinkers have an elevated risk for developing AUD. The term pathological gambling has been replaced with Gambling Disorder (DSM-IV-TR; American Psychiatric Association, 2000; DSM-5; American Psychiatric Association, 2013). Studies suggest that the changes in the DSM yields a higher prevalence of GD compared to pathological gambling (Rennert et al., 2014), but will only have a minimal impact on SUD prevalence (Peer et al., 2013). The broader term problem gambling is often used to also include individuals that do not fill the criteria for a diagnosis but still suffer significant consequences of their gambling (Blaszczynski & Nower, 2002; Williams & Volberg, 2014). Further the term at-risk gambling is a behavior that may lead to more severe consequences — a gambler being at-risk for developing gambling problems. Often it is defined by a gambler experiencing one or two negative consequences of their gambling (Problem Gambling Research and Treatment Centre, 2011). At-risk gamblers have been found to experience higher distress level, more family problems from their gambling and higher levels of alcohol dependence than have non-problem gamblers (Marshall & Wynne, 2004),

Research on the association between problem/pathological gambling and AUD have reported large variation estimates across studies. Meta-analyses found prevalence rates ranging from 19–29% for problem gambling among treatment seeking patients with AUD and 9–73% for AUD among problem gamblers in community based samples, respectively (Cowlishaw, Merkouris, Chapman, & Radermacher, 2014; Lorains, Cowlishaw, & Thomas, 2011). Another study found a stronger association between pathological gambling and AUD in groups with higher socioeconomic status (Welte, Barnes, Wieczorek, Tidwell, & Parker, 2001). However, for milder problems such as problem gambling (rather than pathological gambling) and alcohol abuse (rather than dependence), the association no longer remained statistically significant when controlling for socio-demographic variables (Kessler et al., 2008; Park et al., 2010; Petry, Stinson, & Grant, 2005). Studies have found gender, education and race/ethnicity to have an impact on this association (Elia & Jacobs, 1993; Rennert et al., 2014; Toneatto & Brennan, 2002).

Even though the association between AUD and problem gambling has been studied before, very few studies have examined the association between risk gambling and risk drinking. A study examining SUD in treatment seeking problem gamblers found a prevalence rate of 16.5% for risky or harmful alcohol use (Smith et al., 2010) and Bischof et al. (2013) found that 44% of at-risk gamblers also filled the criteria for AUD. Adolescent problem gamblers were significantly more likely to binge drink then non-problem gamblers, but also non-problem gamblers had a higher risk of weekly binge drinking than individuals who did not gamble at all (Walker, Clark, & Folk, 2010). In Sweden, nearly 55% of problem gamblers had risky drinking habits, whereas 13% with risky alcohol habits were also at- risk gamblers (Swedish National Institute of Public Health, 2010).

Even though risk behaviors affect a substantially larger group than diagnostic conditions (e.g. AUD and GD), studies on the association between at-risk gambling and risk drinking are sparse. To our knowledge and our surprise, we found no published study examining the association between at-risk gambling and risk drinking. Furthermore, the influence of demographics is overlooked at times. Therefore, this study aimed at examining the association between at-risk gambling and binge drinking in the general Swedish population, controlling for relevant demographic variables.

The aim of this study was to examine the association between lifetime at-risk gambling and current (12 months) binge drinking in the general Swedish population and to test whether this association remained after controlling for confounding variables.

2. Methods

2.1. Participants

This cross-sectional study is part of the larger, ongoing so called Monitoring project (Ramstedt, Lindell, & Raninen, 2013). The Monitoring project aims at estimating alcohol- and tobacco use in the Swedish population and the data is used as a basis for the official alcohol statistics in Sweden. The sampling, through random-digit dialing, and interviewing, carried out using Computer Aided Telephone Interviews (CATI), are conducted by a commercial company (Ipsos) specialized in performing telephone interviews (Raninen, Leifman, & Ramstedt, 2013). The Monitoring project has been evaluated by an independent expert group who concluded that the methods of the project were satisfying (Ramstedt, Sohlberg, Engdahl, & Svensson, 2009). The Monitoring project has been previously described (Leifman & Trolldal, 2013; Ramstedt et al., 2013; Ramstedt, 2010; Raninen et al., 2013) and will only be summarized here. Every month 1500 randomly assigned respondents answer questions about their alcohol and tobacco habits. Multiple (30) contact attempts are made before it is coded as a non-response (Ramstedt, 2010). From April 2012 until May 2013, all participants were also screened for at-risk gambling. Accordingly, this represents the time frame for the database to the present study.

The participants consisted of 19,530 randomly selected, nationally representative Swedish residents. Out of the 19,530, 54% were female and 46% male. They were between 16–82 years old with a mean age of 50. In total, 40% had a university education, 67% were married or cohabiting and 92% were born in Sweden. In total, 3.1% reported lifetime at-risk gambling and 4.4% current weekly binge drinking.

The monthly non-response is about 60% during the study period. A respondent not being reached or declining participation is replaced, so that 1500 individuals are interviewed every month. A previous study of 2500 non-responders that were re-contacted a year later, found no significant differences in alcohol habits between those and responders answering at the first occasion (Wennberg, Svensson, & Ramstedt, 2011). Though, the proportion of abstainers was significantly higher among the initial non-responders.

2.2. Measures

Respondents were screened for at-risk gambling using the Lie/Bet questionnaire (Johnson et al., 1997). Respondents reporting that they had, 1. lied to people important to them about how much they gambled and/or 2. felt the need to bet more and more money, were classified as lifetime at-risk gamblers. A previous study conclude that the Lie/Bet screening showed both high sensitivity (.92) and specificity (.96) for screening problem and pathological gamblers in a community sample (Götestam, Johansson, Wenzel, & Simonsen, 2004). The respondents screening positive on one of the Lie/Bet questions, and accepting to participate in an upcoming study, were sent a postal survey (Sundqvist & Wennberg, 2014) including the short version of the National Opinion Research Center DSM-IV Screen for Gambling Problems (NODS). The short version NODS-PERC, consists of four of the originally 17 questions (Volberg, Abbott, Rönnberg, & Munck, 2001). The authors found the combination of the four questions about Preoccupation, Escape, Risked relationships and Chasing (PERC) to best predict problem gambling. A majority of the respondents were not classified as problem or pathological gamblers according to the PERC and hence, at-risk gambling seems as an accurate definition of this group.

To screen for binge drinking the respondents were asked: *During the last 12 months, how often did you at the same occasion drink alcohol equivalent to at least a bottle of wine (75 cl), or 5 glasses of strong spirits (25 cl), or 4 cans of strong beer or strong cider (>3.5 percentage per volume), or 6*