A prospective study of adolescent risk and protective factors for problem gambling among young adults

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ABSTRACT

There is a paucity of research examining prospective predictors of problem gambling. The current study utilised a large longitudinal data set ($N = 2328$) to examine a large range of adolescent risk and protective factors for problem gambling in young adulthood. These risk and protective factors covered the domains of the community, family, school, peer group and individual. Numerous predictors associated with the family, school and peer-individual were statistically significant in analyses adjusted for gender and age. However, in the fully adjusted multivariate analyses, only two predictors were statistically significant. Within this model, gender (female) was associated with a reduced risk of young adult problem gambling, while family rewards for prosocial involvement moderated the risk relationship between adolescent alcohol use and young adult problem gambling. These findings highlight the importance of adolescent alcohol use and family environment as potentially modifiable predictors of young adult problem gambling.

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Gambling is a relatively common behaviour in western cultures. The most recent British Gambling Prevalence Survey found that 73% of the adult population over the age of 16 had participated in some form of gambling in the past 12 months (Wardle et al., 2011). In Australia, a recent review of gambling literature found that between 70 and 90% of Australian adults gamble at least once per year (Delfabbro, 2008). Academic and governmental literature utilises various terminology to describe problems with gambling, including 'problem gambling', 'pathological gambling' and 'at risk gambling', each of which is often associated with different criteria or classification systems. Problem gambling generally refers to when an individual's gambling behaviour causes harms to themselves, their family, friends or society (Ferris & Wynne, 2001; Neal, Delfabbro, & O'Neil, 2005). According to diagnostic texts, pathological gambling is diagnosed when there is a persistent and maladaptive pattern of gambling behaviour characterised by problems such as preoccupation with gambling; recurrent unsuccessful attempts to manage, cut back or stop gambling; perpetration of illegal acts to fund gambling behaviour, and restlessness or irritability when trying to cut down or stop gambling (e.g. American Psychiatric Association, 2000). The current paper focuses on problem gambling as defined above.

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In Australia, state-wide population estimates for problem gambling range between 0.4 and 0.8%, depending on the state under study, and the method used to score problem gambling severity (Jackson, Wynne, Dowling, Tomnay, & Thomas, 2010; The Allen Consulting Group, Problem Gambling Research and Treatment Centre, & Social Research Centre, 2011). Similar population prevalence estimates for problem gambling have been reported in the United Kingdom and other European countries (Wardle et al., 2011). Prevalence estimates for problem gambling among adolescents and young adults are reportedly higher and more variable than among the general adult population (Derevensky, Gupta, & Winters, 2003; Jackson, Dowling, Thomas, Bond, & Patton, 2008). For example, one national study in the United States (US) found that the past year prevalence of problem gambling among 18–19 year olds was 2.6%, while among 20–21 year olds it was 3.3% (Welte, Barnes, Tidwell, & Hoffman, 2008). Similarly, a state-wide prevalence study in South Australia found that 2.6% of 18–24 year olds were classified as problem gamblers (moderate/high risk) (Population Research and Outcome Studies Unit, 2005).

Research in the field of gambling has expanded substantially over the past 10 years, yet there remains relatively little research on modifiable child and adolescent behavioural and social environmental factors contributing to the development of problem gambling (i.e. risk factors). Reviews of the available literature have shown that individual demographics such as age and gender are consistently linked to the risk of problem gambling. Male gender and younger age (below age 29) have been shown to be risk factors for problem gambling (Johansson, Grant, Kim, Odlaug, & Gotestam, 2009). Personality traits such as impulsivity, and to a lesser extent, sensation seeking, have also been found to be associated with problem gambling (Johansson et al., 2009; Raylu & Oei, 2002; Shead, Derevensky, & Gupta, 2010). A strong association between problem gambling and both substance use and mental health problems has also been consistently reported (Johansson et al., 2009; Raylu & Oei, 2002; Shead et al., 2010). Other commonly reported risk factors in literature reviews include cognitive distortions (Johansson et al., 2009; Raylu & Oei, 2002), delinquency (Johansson et al., 2009; Shead et al., 2010) and exposure to gambling activities through both the family and community (Shead et al., 2010). Many of these factors have also been shown to be risk factors for adolescent gambling (Jackson et al., 2008) and problem gambling (Dowling, Jackson, Thomas, & Frydenberg, 2010).

However, the vast majority of studies simply examine factors that tend to co-occur with gambling problems (Johansson et al., 2009). Longitudinal studies are necessary to determine which factors are antecedent of gambling problems. There have been very few longitudinal studies examining risk factors for problem gambling. One Australian longitudinal study found that male gender, mother in a defacto relationship, heavy tobacco use and commencement of smoking and drinking before age 15 were independent predictors of gambling problems in young adulthood (Hayatbakhsh et al., 2006). A longitudinal study of youth in the US found that male gender, parental gambling history, delinquency, substance abuse, psychological distress and poor school performance in adolescence were predictive of young adult problem gambling (Winters, Stinchfield, Botzet, & Anderson, 2002). Another US study measured a range of predictors including impulsivity and parental monitoring; they found only mothers' education and peer delinquency to be predictive of engagement in gambling (Barnes, Welte, Hoffman, & Dintcheff, 2005). A study of the Dunedin birth cohort found that problem gambling at age 21 was associated with higher scores on measures of negative emotionality and lower scores on the personality dimension constraint at age 18 (Slutske, Caspi, Moffitt, & Poulton, 2005). Importantly, the personality profile linked with problem gambling was similar to those linked to other addictive disorders, including alcohol, cannabis and nicotine dependence (Slutske et al., 2005).

While these studies provide some information about potential targets for prevention, only a small range of possible predictors were measured in each study. Further, many of the models tested accounted for only a small amount of variance in problem gambling, suggesting that there are other important variables not included in these models which are predictive of gambling problems (Barnes et al., 2005). Additionally, many predictors in the univariate analyses were reduced to statistical non-significance in multivariate analyses, indicating that they are not unique predictors of problem gambling (Hayatbakhsh et al., 2006; Winters et al., 2002). Finally, there is a lack of research examining protective factors for problem gambling, which are also potentially important targets for prevention efforts. Protective factors directly decrease the likelihood of adverse outcomes (Jessor, Turbin, & Costa, 1998) and can also moderate or mediate the impact of risk factors (Dowling et al., 2010; Garmezy, 1985). It is clear that further investigation of prospective risk and protective factors for problem gambling is required.

The Communities that Care youth survey has been designed to measure a comprehensive range of child and adolescent risk and protective factors for adult health and social problems. This survey originated in the US but has been modified for use in Australia and applied to the prediction of a number of problem behaviours, including adolescent substance use (Beyers, Toumbourou, Catalano, Arthur, & Hawkins, 2004; Hemphill et al., 2011) and violent behaviour (Hemphill et al., 2009). Many of the identified predictors of problem gambling in the extant literature have also been shown to be predictive of other problem behaviours such as delinquency and substance use (Barnes et al., 2005; Shead et al., 2010). Examination of the Communities That Care framework in the context of problem gambling may provide a more comprehensive picture of prospective risk and protective factors for problem gambling, and would enable identification of similarities and differences between the risk factors for problem gambling, substance use and delinquency as identified within this framework.

The Communities That Care framework is based on the Social Development Model (SDM), a model used to explain the origins and development of delinquent behaviour among children and adolescents (Catalano & Hawkins, 1996). The SDM is based on the premise that children adopt the beliefs and behavioural patterns of their social environment- including family, peers, school and neighbourhood. As such, this model hypothesises that if the social environment is characterised by factors that promote prosocial attachment, then a child will assume a prosocial orientation, whereas if the social environment is antisocial, the child will engage in problem behaviour (Catalano & Hawkins, 1996). The risk and protective factors measured in