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Original article

Transitions in Gambling Participation During Late Adolescence and Young Adulthood

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A B S T R A C T

Purpose: The purpose of this study was to examine transitions in gambling participation from late adolescence into emerging adulthood and to identify factors (i.e., gender, race, intervention status, lunch status, conduct disorder, parental monitoring, neighborhood environment, and substance use) that might influence these transitions.
Methods: Markov modeling was used to describe the movement between past-year gambling states (i.e., nongambling and gambling) across 5 years. Annual data on the past-year gambling behavior and substance use were collected from 515 young men and women starting at the age of 17 years.
Results: Past-year gambling declined from 51% prevalence at the age of 17 years to 21% prevalence at the age of 22 years. Participants who reported no past-year gambling at a particular annual assessment had more than an 80% probability of also reporting no past-year gambling at the following assessment. Men were 1.07–2.82 times more likely than women to transition from past-year nongambling to gambling year to year, and women were 1.27–5.26 times more likely than men to transition from past-year gambling to nongambling year to year. In addition, gender and past-year tobacco use interacted such that men who used tobacco were most likely (and men who did not use tobacco least likely) to gamble at baseline.
Conclusions: Transition rates between gambling states appear to be relatively stable over time from late adolescence into emerging adulthood; however, men and those who engage in substance use may be at an increased risk of gambling participation.

IMPLICATIONS AND CONTRIBUTION

The present study provides important information about the naturalistic transitions in gambling behavior during late adolescence and emerging adulthood among an urban, mainly ethnic minority population. The finding that approximately one half of the past-year gamblers do not gamble during the following year suggests that gambling follows a variable developmental course.

Gambling is being recognized as an important public health concern [1] as the availability of legalized opportunities continues to expand in the United States [2]. Much of the work on adolescent and adult gambling has been conducted with cross-sectional studies, limiting the ability to draw conclusions about normative gambling development. Studies have used different methodologies to provide insight into longitudinal changes in gambling behavior and serve as the foundation for the present study. Vitaro et al. [3] examined longitudinal trajectories of gambling among male French-Canadian youth aged 11–16 years. Three trajectories indicating low gambling, chronic high

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gambling, and late-onset gambling were identified. Another study by Betancourt et al. [4] used similar methods and identified two trajectories of gambling behavior (i.e., early gambling and later gambling) among adolescents aged 10–15 years. Gender, coping mechanism, impulsivity, and substance use were all associated with the trajectory group membership. The methods used by Vitaro et al. [3] and Betancourt et al. [4] provide a flexible approach to identify clusters of individuals' continuous, developmental trajectories within the population and descriptions of characteristics of individuals within the clusters [5].

Evidence suggests that gambling behavior over time does not follow a smooth, continuous curve but has considerable intraindividual variability with discontinuous change between discrete states over time. Among college students assessed annually for 4 years, Goudriaan et al. [6] created four gambling classes at each assessment from data on the past-year gambling activities. One class consisted of students who did not gamble or gambled very sporadically (i.e., low gambling); the three other classes were based on primary gambling activity (i.e., card gambling, casino/slot gambling, and extensive gambling). There was considerable mobility between the low gambling and any of the other three gambling classes year to year.

Gender, race/ethnicity, and substance use are three of the most important correlates of gambling for both adolescents and adults [7]. Research has consistently shown that gambling and problem gambling are more prevalent among males than females [8]. Females also tend to initiate gambling later in life (i.e., in adulthood) compared with males and have a faster progression to problem gambling than males [9–12]. Research also shows that ethnic minorities, particularly African-Americans, have higher prevalence of gambling and problem gambling than Caucasians [13].

Parental monitoring serves to limit deviant behavior by bolstering the parents' ability to manage their children's behavior [14–17]. High parental monitoring during adolescence can serve as a protective factor associated with nongambling, delayed gambling initiation, and transitions from gambling back to nongambling. Cross-sectional studies have found that high parental monitoring decreased the odds of gambling among youth [18,19], but one longitudinal study found no such association [20]. Lee et al. [15] showed that higher parental monitoring during early adolescence (11–14 years of age) was associated with less problem gambling between 16 and 22 years of age. It is important to consider the effects of protective factors such as parental monitoring in addition to those of risk factors such as gender and substance use when examining transitions in gambling behavior.

An important gap in the current gambling literature deals with potentially discrete transitions in gambling behavior over time, particularly among urban, predominantly minority, youth. The purpose of this study is to (1) examine naturalistic transitions in past-year gambling participation from adolescence (age 17) into emerging adulthood (age 22) and (2) examine how key demographic characteristics and behaviors, as well as parental monitoring, may influence these transitions among a longitudinal sample of urban, primarily African-American, low socioeconomic status youth. Transitions among states reflecting gambling severity (i.e., nongambling, social gambling, and at-risk or problem gambling) were considered but could not be examined due to low rates of at-risk or problem gambling in this community-based sample.

Method

Participants

Data for the present study were from the Johns Hopkins University Center for Prevention and Early Intervention Second Generation Intervention Trial (JHU PIRC) [21]. The JHU PIRC is a longitudinal prospective study that recruited urban first graders (age 7) in Baltimore, Maryland, in the fall of 1993. Detailed information about the trial design is available elsewhere [21]. Using a randomized block design with schools as the blocking factor, classrooms were divided into two intervention groups and a control group. One intervention was classroom based and the other involved parents; the control group received the usual school curriculum. Both interventions were designed to impact long-term antisocial behavior, substance use, anxiety, and depression by increasing achievement and reducing aggressive behavior. The intervention component of the JHU PIRC lasted 1 year, but students were followed up annually.

Six hundred and seventy-eight students participated in the original study (46.6% female; 86.3% African-American). The sample for the present study consisted of 515 individuals (45.0% female; 87.8% African-American; 76.0% of the original sample) who provided data on gambling participation for at least one wave of data collection during the course of the study and who provided data on all substance use predictors of interest. Distal outcome measures on past-year gambling were collected from participants annually from 2004 (age 17; i.e., reporting on behavior since 16 years of age) to 2009 (age 22; i.e., reporting on behavior since 21 years of age), except in 2005 (when gambling data were not collected due to lack of funding). Demographic characteristics of the participants and prevalence of missing data are listed in Table 1. Of the 515 participants analyzed, 357 (69.3%) provided data on gambling behavior at all five waves, 85 (16.5%) at four waves, 39 (7.6%) at three waves, 22 (4.3%) at two waves, and 12 (2.3%) at one wave. Excluded students did not differ significantly from participants analyzed here on gender, birth year, race, free lunch status, or intervention status ($p > .05$).

Measures

Gambling. Past-year gambling was the primary outcome of interest. Two gambling instruments assessed gambling involvement. The South Oaks Gambling Screen-Revised for Adolescents (SOGS-RA) [22] assessed annual gambling frequency (i.e., not at all, less than once a week, at least once a week), type of gambling activities (e.g., lottery), and gambling problems (e.g., hiding evidence of gambling). The SOGS-RA uses items whose wordings and response options have been adapted from the SOGS [23] to reflect adolescent gambling behavior at an age appropriate reading level. The SOGS-RA was administered at the ages of 17, 19, and 20 years (in years 2004, 2006, and 2007, respectively) and had Cronbach's alphas ranging from .61 to .72. The SOGS assessed the annual gambling frequency, activities, and problems at the ages of 21 and 22 years (in years 2008 and 2009, respectively) and had Cronbach's alphas ranging from .60 to .70. Participants were categorized at each wave as past-year nongamblers or past-year gamblers according to their responses to Question 1 of the SOGS-RA/SOGS, which asks about 13 different types of gambling activities. Prevalence of past-year gambling during the course of the study and missing data are listed in Table 2.