

Research In Brief

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The Association of Form of Gambling with Problem Gambling Among American Youth

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Following a national study of adult gambling and alcohol use in the United States, Drs. Welte and Barnes and their colleagues conducted a second national survey dealing with gambling and substance use among youth and young adults aged 14 to 21 years old. The National Survey of Youth and Gambling reported on the relationship between specific forms of gambling and the extent of related problem gambling symptoms among youth.

Findings

- The types of gambling most associated with gambling problems were card games, casino gambling, betting on games of skill (e.g., basketball, pool or golf) and “other” gambling (e.g., betting on fights at school).
- Rapid forms of gambling, such as playing slot machines not in a casino or on the Internet, were not associated with gambling problems when other forms of gambling were taken into account.
- More males (77 percent) than females (58 percent) gambled in the past year.
- Males were more likely (27 percent) than females (9 percent) to report at least one problem gambling symptom.

Background

A random telephone survey was conducted with 2,274 youth aged 14 to 21 years old, equally distributed between males and females. Approximately one quarter of the young people were in each of the two-year age groups: 14-15, 16-17, 18-19 and 20-21. Sixty-two percent of the youth were white, 15 percent black and 16 percent Hispanic. Forty-eight percent of the respondents were currently in high school, 9 percent were in a two-year college and 17 percent were in a four-year college program. Sixty-eight

Gambling, Alcohol, and Other Substance Use Among Youth in the United States

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Alcohol, tobacco and marijuana are the three substances most commonly used by youth and the misuse of these substances constitutes a major public health problem in the U.S. In this first survey of gambling among youth in the U.S., Drs. Barnes, Welte and colleagues compared the patterns and co-occurrence of gambling and substance use among youth ages 14-21 years.

Findings

- Problem gambling and substance misuse are prevalent among young people.
- Black youth have a significantly lower probability of heavy drinking and a significantly higher probability of frequent gambling than other youth.
- There is a high co-occurrence of alcohol problems and gambling problems among youth.

Background

The survey was conducted from August 2005 through January 2007 by trained interviewers using computer-assisted telephone interviewing. Parental permission was obtained for respondents younger than age 18.

Terms used in this study:

- **Gambling behavior** included gambling for money on raffles, charitable small-stakes gambling, lottery, pulltabs, Internet gambling, casino gambling, card games, or betting on sports events.
- **Gambling problems** included going back another day to win back money lost; gambling with more money than intended; needing to gamble with more and more money to get the same excitement; trying to quit or cut down on gambling; or raising money to gamble by writing bad checks.

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percent of respondents reported having gambled in the previous year.

Those interviewed were asked about the number of days over the past 12 months they had participated in 15 different forms of gambling (i.e., office pools, raffles and charitable small stakes gambling; lottery including Powerball, daily lottery and scratch-off tickets; pulltabs; Internet gambling; casino gambling; betting on horses, dogs or other animals; gambling machines not in a casino; card games not in a casino; betting on a game of skill, such as pool, golf or backgammon; lottery video-keno games such as Quick-Draw; bingo; dice games not in a casino; sports betting; buying trading cards in the hope of reselling the insert cards; and any other gambling). Symptoms of problem gambling were assessed using the South Oaks Gambling Screen Revised for Adolescents (SOGS-RA; Winters, Stinchfield and Fulkerson, 1993). An example of a SOGS-RA item is: "In the past 12 months, how often have you gone back another day to try to win back the money that you lost?"

Study Results

The most prevalent forms of betting among all of the young people were card games (33 percent), office pools and charitable gambling (30 percent), lottery (29 percent) and games of skill (21 percent). The least frequent form of betting was Internet gambling (2 percent); however, among those youth who participated in Internet gambling, they did so an average of 48 days per year, the highest average number of days of any form of gambling.

A higher proportion of males than females gambled in the previous year (77 percent vs. 58 percent) and, males were more likely than females to report at least one problem gambling symptom (27 percent vs. 9 percent). Also, males had four times as many total gambling days as females (105 gambling days for males vs. 25 gambling days for females). Males also had higher gambling versatility than females (3.3 vs. 2.2); that is, males played more different forms of gambling.

Among females, the most prevalent form of gambling was the lottery (29 percent) and among males, card games (45 percent). Although nearly as many females as males played the lottery (29 percent vs. 30 percent), bingo was the only form of gambling played more frequently by females than males (13 percent vs. 11 percent). Males were much more likely than females to bet on sports (35 percent vs. 11 percent) and bet on games of skill (33 percent vs. 8 percent).

Certain forms of gambling were associated with high rates of problem gambling symptoms. For instance, on the high end, 65 percent of respondents who gambled on the Internet had at least one symptom of problem gambling. On the low end, only 25 percent who played the lottery or bingo and 28 percent who

engaged in office pools or charitable gambling had at least one symptom of problem gambling.

When all forms of gambling were considered, those most related to having symptoms of problem gambling were card games, casino gambling, other daily routine forms of gambling, and betting on games of skill.

Discussion

This analysis focused on the extent to which various forms of gambling are associated with gambling problems. The form of gambling associated with the largest increase in problem gambling symptoms was card games. The second strongest association was with casino gambling. Although the vast majority of respondents in the study could not gamble legally in a casino, investigation of this issue has invariably shown that young gamblers do get around the prohibitions. In addition, a young gambler who goes to a casino demonstrates his or her keen interest in gambling, while casino gambling is less exceptional for an adult.

The third strongest association between form of gambling and the presence of problem gambling symptoms was found for "other gambling." This refers to an eclectic mix that includes routine daily events (e.g., betting on elections, school fights, whether one can stop smoking and who can shoot the biggest deer). A small percentage of respondents engaged in these unusual forms of gambling, but those who did tended to gamble frequently and to report more symptoms of problem gambling. The conclusion to be drawn is not that betting on deer hunting is a problematic form of gambling, but rather that betting on routine daily events may be a sign that the individual is a problem gambler.

Betting on games of skill such as basketball or pool, was the fourth most significant form of gambling that contributed to gambling problems. Playing gambling machines (other than in a casino) and video keno were not associated with increases in the risk for problem gambling in this study. Furthermore, despite the high gambling symptoms associated with Internet gambling, Internet gambling was not significant in predicting gambling problems when all other forms of gambling were taken into account. Internet gamblers had a high versatility; that is they played many different types of games.

One principle demonstrated by the current analyses is that one must be cautious when interpreting data that show that persons who engage in a particular form of gambling have a high rate of problem gambling. Some gamblers who do have a high relationship to problem gambling are Internet gamblers. The overall frequency of gambling and versatility of gambling for Internet gamblers is also higher than for those individuals who engage in other forms of gambling. It appears that it is playing a

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- **Alcohol consumption** was calculated from quantity/frequency questions about beer, ale, malt liquor, wine, fortified wine, wine coolers, distilled spirits and flavored malt beverages. **Heavy drinking** was defined as drinking of five or more drinks in one day, on at least 12 days in the past year.
- **Alcohol problems** included missing school or work, driving a car or motorcycle while drunk, having sex while drunk, or having frequent arguments with parents or other adults about drinking. **Alcohol misuse** was defined as having three or more alcohol problems in the previous year.
- **Tobacco use** refers to use of cigarettes, cigars, cigarillos, pipes or smokeless tobacco use and the number of each smoked on a typical day. **Tobacco dependence** was defined as having three or more symptoms of dependence, such as using more tobacco than intended, being unable to cut down, needing larger amounts of tobacco to get the same effect and having withdrawal symptoms.
- **Marijuana use** was calculated from the frequency of marijuana or hashish use in the past year, with **heavy marijuana use** defined as 52 times or more.

Study Results

Gambling. More than two thirds (68 percent) of the youth reported having gambled in the past year. The most commonly reported gambling activity (33 percent) was card games; males (45 percent) gambled at cards twice as often as females (21 percent). The second most common form of gambling for both males (37 percent) and females (24 percent) was office pools, raffles, or charitable small stakes gambling.

Substance Use. One half of the youth consumed alcohol, one quarter smoked tobacco and nearly one fifth used marijuana in the previous year. Significant proportions of young people engaged in these behaviors frequently and experienced gambling and substance-use-related problems. For instance, 17 percent of youth reported gambling 52 or more times in the past year and the same percentage drank five or more drinks on 12 or more days in the past year.

Gender. Males had significantly higher rates than females on every gambling and substance-use-misuse variable considered, except for smoking. Heavy gambling was reported by 27 percent of males and 8 percent of females. Sixteen percent of males and 3 percent of females met study criteria for gambling problems. Heavy drinking showed a similar gender gap, with 24 percent of males and 11 percent of females reporting that they drank five or more drinks on 12 or more days in the past year.

Age. Substance use increased with age, with 25 percent of the 14-15 year olds consuming alcohol in the past year and 4 percent drinking heavily. By ages 20-21, 74 percent reported drinking and 31 percent reported heavy drinking.

Ethnicity. Alcohol use in the past year was highest among whites (57 percent), next was Hispanics (49 percent), followed by blacks (30 percent). Nearly one third of whites, 22 percent of Hispanics and 16 percent of blacks smoked tobacco. Nineteen percent of whites, 16 percent of Hispanics and 14 percent of blacks use marijuana. Gambling was lowest among blacks (60 percent) compared with non-Hispanic whites (70 percent) and Hispanics (71 percent). However, blacks experienced heavy gambling at the highest rate (24 percent) compared with whites (15 percent) and Hispanics (21 percent).

Co-occurrence. There was a strong co-occurrence between gambling and substance use in this sample of young people. Heavy gambling and gambling problems were significantly associated with heavy drinking, smoking and marijuana use. Among non-drinkers, 11 percent of young people were heavy gamblers. Among heavy drinkers, however, 37 percent of youth were classified as heavy gamblers. The rate of heavy gambling was twice as great for those who smoked marijuana 52 or more days (36 percent) as for those who did not smoke marijuana (15 percent). Co-occurrence was significantly related to the frequency of heavy alcohol use, tobacco and marijuana use, and with problems/symptoms associated with each of the three substances.

Discussion

This study demonstrates that gambling is a prevalent behavior, with more than two thirds of young people gambling in the past year and a significant minority of youth gambling weekly and having gambling-related problems. In a comparison of this study with Dr. Welte's national adult study, gambling was not found to be higher among U.S. youth than among U.S. adults.

The gender gap for gambling is larger than are the gender differences for substance use. Specifically, the rate of heavy gambling among males is three times that of females. However, the rate of heavy drinking among males is two times that of females. The rate of heavy marijuana use is slightly higher among males compared with females and the rate of heavy smoking is the same for both genders.

Gambling has a higher prevalence in the early teens, compared with alcohol and other substances. Given that frequent gambling is linked with other problem behaviors, acceptance of youth gambling is an issue for public health education.

Consistent with previous research, this national survey shows that black youth have lower overall rates of substance use than do white youth. In addition, although the odds of heavy gambling are significantly higher for blacks than whites, the odds of heavy drinking are significantly lower for blacks than whites. Most regional surveys of youthful gambling have not had large subgroups of minority youth, and therefore these discrepancies

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greater number of games that is most related to the presence of problem gambling symptoms.

Conclusion

Informal gambling, such as card games, betting on games of skill, and betting on everyday events can be a cause for concern among young people. Adolescents and young adults also seem to have problems arising from casino gambling, even though it is illegal, based on their age to patronize casinos.

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between the patterns of substance use and gambling according to race/ethnicity have not been widely reported.

This study showed significant co-occurrence between gambling and substance misuse that is consistent with various regional samples in the U.S., Canada and England. Additionally, previous studies have shown that gamblers were more likely to use alcohol and other substances than non-gamblers. It may be that co-occurring gambling and substance use may have shared antecedent factors (Barnes et al., 2005).

Conclusion

This research demonstrates that not only is there a significant co-occurrence between gambling and substance use among youth, but also that this relationship is considerably stronger in some population subgroups than others. In particular, young males and blacks show a very high co-occurrence for alcohol problems and gambling problems. Therefore, males and black adolescents are particularly important groups for targeted prevention and intervention strategies.

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