
**RESEARCH QUESTIONS**

Do blacks exhibit higher rates of pathological or problem gambling (PPG) than whites? Are rates of psychiatric disorders associated with past-year gambling problem severity in both blacks and whites? Is the relationship between rates of psychiatric disorders and past-year gambling problem severity stronger in blacks than whites?

**PURPOSE**

The purpose of the present study was to examine the relationships between sociodemographic characteristics and psychiatric disorders accompanying varying levels of past-year gambling problem severity among black and white respondents.

**HYPOTHESIS**

It was hypothesized that black respondents would exhibit higher rates of PPG than white respondents. It was also expected that rates of psychiatric disorders would be associated with past-year gambling problem severity in both black and white respondents, but that the relationship would be stronger in black respondents.

**PARTICIPANTS**

The National Epidemiologic Survey on Alcohol and Related Conditions sampled a nationally representative group of US non-institutionalized residents ≥ 18 years of age. Multistage cluster sampling was used to identify respondents: census sampling units, households, and then household members were sequentially sampled. The sample was augmented with members of group living environments. The final sample consisted of 43,093 respondents. For the purposes of the present study, the sample was restricted to 32,316 respondents (42% males; average age = 48 years), 7,888 of whom self-identified as black (13%) and 24,428 as white (87%).

**PROCEDURE**

Participants were asked to provide sociodemographic information, including: race, gender, marital status, education, employment, age, and income. To assess psychiatric disorders, selected DSM-IV Axis I and Axis II psychiatric disorder data were collected by trained interviewers using the Alcohol Use Disorder and Associated Disability Interview Schedule-DSM-IV, a structured diagnostic interview.

**MAIN OUTCOME MEASURES**

The following DSM-IV-related Axis I and Axis II diagnostic variables (derived from the diagnostic interview) were used, grouped as follows: mood disorder (major depression, dysthymia, mania, hypomania); anxiety disorder (panic disorder, social phobia, simple phobia, generalized anxiety); substance use disorder (alcohol abuse/dependence, drug abuse/dependence, nicotine dependence); and personality disorder clusters A (paranoid, schizoid), B (histrionic, antisocial), and C (avoidant, dependent, obsessive-compulsive). The researchers used past-year Axis I diagnoses with general medical condition and substance use exclusions; these diagnoses could thus be viewed as “primary,” as per DSM-IV/DSM-IV-TR guidelines. In contrast to the past-year timeline for Axis I psychiatric diagnoses, Axis II diagnostic criteria were not restricted to the past year. Respondents were asked how they felt or acted most of the time, irrespective of the situation, throughout their lives. Respondents’ answers to the gambling-related items from the Alcohol Use Disorder and Associated Disability Interview Schedule-DSM-IV were used to classify them into 1 of 3 gambling groups: “no gamblers or low-frequency gamblers” (i.e., those reporting that they had never gambled > 5 times per year in their lifetime); “low-risk or at-risk gamblers” (i.e., those reporting gambling > 5 times in a year but who exhibited 0-2 inclusionary criteria of PG in the previous year); and “problem or pathological gamblers” (i.e., those reporting ≥ 3 inclusionary criteria of PG in the previous year). The Alcohol Use Disorder and Associated Disability Interview Schedule-DSM-IV assessed the 10 DSM-IV...
diagnostic inclusionary criteria for PG. Respondents who indicated that they had gambled ≥ 5 times in at least 1 year of their life were asked about inclusionary criteria of DSM-IV PG. The Alcohol Use Disorder and Associated Disability Interview Schedule-DSM-IV assessed the 10 DSM-IV diagnostic inclusionary criteria for PG by asking 15 questions. Problem gambling was operationally defined as meeting 3-4 DSM-IV criteria and PG was operationally defined as meeting ≥ 5 DSM-IV criteria. Respondents with PPG were grouped together in the study because of the low proportion of participants (< 1%) who met criteria for PG. Similarly, the researchers grouped together low-risk or at-risk gamblers in order to have sufficient power to test hypotheses with less frequently acknowledged diagnoses, particularly among black respondents.

KEY RESULTS
Among whites but not blacks, the PPG group, compared to the no gambling or low-frequency gambling and low-risk or at-risk gambling groups, less frequently acknowledged a college-level education (13% vs. 29% vs. 24%, respectively) and more frequently reported part-time employment (13% vs. 11% vs. 10%, respectively). The majority of black and white respondents reported either no gambling or low-frequency gambling (66% and 64% for black and white men, respectively, and 78% and 77% for black and white women, respectively) or low-risk or at-risk gambling (33% and 36% for black and white men, respectively, and 21% and 23% for black and white women, respectively). The prevalence rates of PPG were higher for black respondents (.96%) than white respondents (.45%), and higher for men (.71%) than women (.36%). The findings generally supported the hypotheses that black respondents, compared to white respondents, would exhibit higher rates of PPG, and that rates of psychiatric disorders would be associated with past-year gambling problem severity in both black and white respondents. Although patterns of co-occurrence appeared to be largely similar across racial groups, the relationship between past-year gambling severity and several forms of psychopathology appeared to be stronger in black respondents, specifically in the relationship between subsyndromal gambling and mood disorders (particularly hypomania) and substance use disorders.

LIMITATIONS
First, the survey was cross-sectional, which limited statements regarding causation among study variables. Second, due to the low rates of past-year pathological and at-risk gambling, past-year problem and pathological gambling were combined. Past-year low-risk and at-risk gambling were also combined to facilitate comparisons. As a result, possible differences between the gambling subgroups could not be examined. Third, as there was no established standard for categorizing gambling problems along a continuum, the authors operationally defined past-year non-gamblers and low frequency gamblers as those who had not gambled > 5 times per year in their lifetime, and set the threshold for PPG at ≥ 3 inclusionary criteria; these categorizations were not based on empirically derived thresholds. Fourth, low rates of endorsement of some psychiatric disorders (e.g., dependent personality disorders) limited ability to conduct meaningful comparisons. Finally, due to concerns about response burden, the National Epidemiologic Survey on Alcohol and Related Conditions did not exhaustively assess Axis I and Axis II disorders, which meant that certain diagnoses which may have been clinically relevant to gambling problem severity, were not assessed.

CONCLUSIONS
Blacks were more likely than whites to exhibit PPG and a stronger relationship between subsyndromal gambling and any mood disorder, hypomania, and any substance use disorder. Differences in the patterns of co-occurring disorders between syndromal and subsyndromal levels of gambling in black and white respondents underscore the importance of race-related factors in mental health prevention and treatment strategies.

KEYWORDS: race, problem gambling severity, psychiatric disorders, comorbidity

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