

Evaluating Racial Differences Between Income and Problem Gambling Behavior

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INTRODUCTION

- Pathological gambling is more prevalent among African Americans than whites^{1,2}
- Few studies explore underlying reasons for this difference³
- Low income is associated with increased prevalence of pathological gambling⁴

OBJECTIVES

- Evaluate the association between income level and pathological gambling
- Evaluate for effect modification by race in the association between income level and pathological gambling

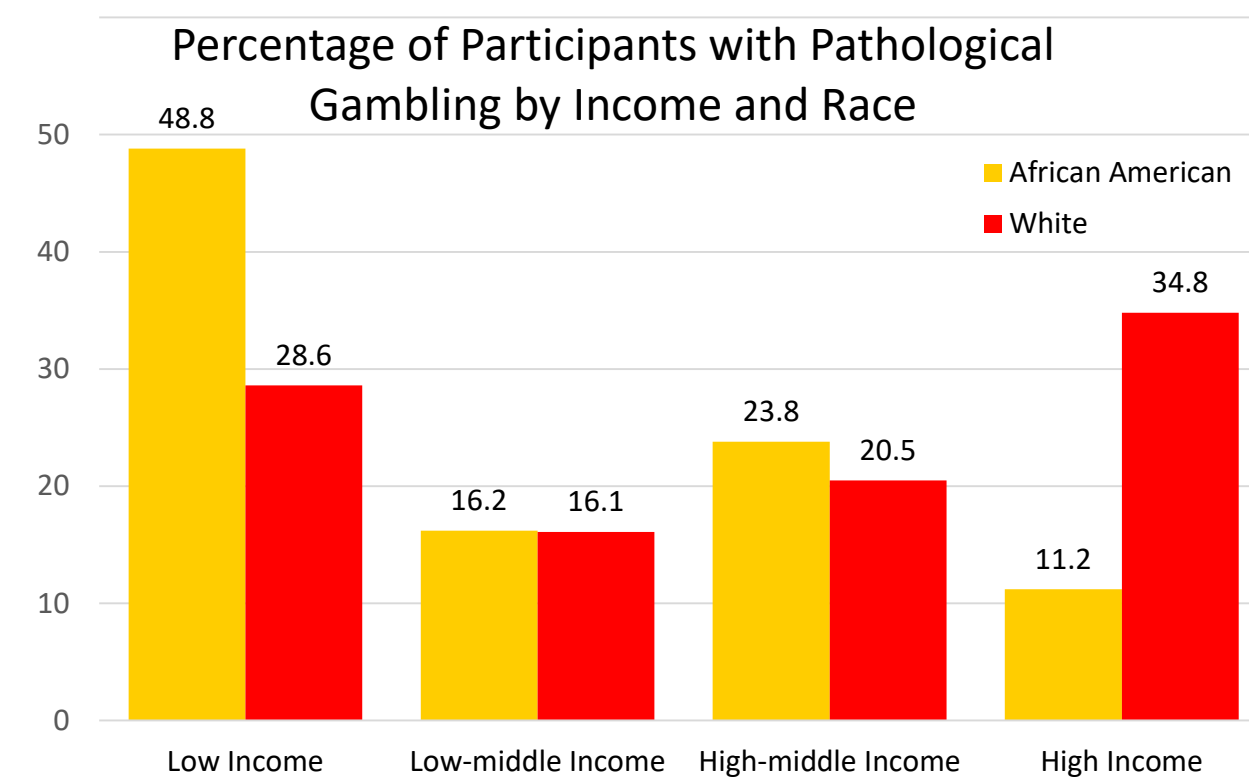
METHODS

- Design: Baseline data from the Prevention and Etiology of Gambling Addiction Study in the US (PEGASUS), a 5-year longitudinal cohort study among Maryland residents were used for cross-sectional analysis
- Data collection: Battery of self-administered questionnaires that included demographics, health behaviors, and gambling activity
- Participants: 1346 participants recruited in the parent study via posters and online advertisements
 - This analysis included 910 participants
 - Reasons for exclusion:
 - 182 participants in “other” race categories
 - 254 participants with missing data for variables of interest
- Main independent variable: income level
- Dependent variable: lifetime pathological gambling (using the Alcohol Use Disorder and Associated Disabilities Interview Schedule [AUDASIS])
- Statistical analysis: multivariable logistic regression with test for interaction between race and income

RESULTS

Table 1. Participant Characteristics

	Total		White		African American		p-value
	No.	%	No.	%	No.	%	
Observations	1164	100	532	45.7	629	54	
Income, Annual Household							<.0001
Low income <\$15,000	362	31.1	111	20.9	250	39.8	
Low-middle income \$15,000 to <\$25,000	170	14.6	61	11.5	109	17.3	
Middle income \$25,000 to <\$50,000	288	24.7	136	25.6	152	24.2	
High income >\$50,000	328	28.2	221	41.5	106	16.9	
Pathological gambling	463	39.8	112	21.1	350	55.6	<.0001
Age, years (median, IQR)	45.1	30.6, 55.2	39.1	27.4, 53.7	48.6	34.8, 55.9	<.0001
Sex							<.0001
Male	541	46.5	291	54.7	250	39.8	
Female	618	53.1	240	45.1	376	59.8	
Education level							<.0001
Less than high school	89	7.7	21	4	68	10.8	
High school	267	22.9	68	12.8	199	31.6	
Beyond high school	645	55.4	329	61.8	315	50.1	
Employment status							<.0001
Employed	616	52.9	311	58.5	304	48.3	
Unemployed	299	25.7	88	16.5	210	33.4	
Non-working	238	20.5	130	24.4	108	17.2	
Veteran	86	7.4	27	5.1	59	9.4	0.0023
Marital status							<.0001
Single	636	54.6	294	55.3	341	54.2	
Married	228	19.6	128	24.1	100	15.9	
Divorced, separated, or widowed	296	25.4	110	20.7	185	29.4	
Current smoker	402	34.5	119	22.4	282	44.8	<.0001
Alcohol abuse	192	16.5	112	21.1	80	12.7	0.0004
Substance abuse	150	12.9	48	9	101	16.1	0.0001


Table 2. Unadjusted Association Between Income and Pathological Gambling

	Pathological Gambling		
	No.	%	OR (95% CI)
Low income	198	43.8	3.98 (2.87, 5.54)
Low-middle income	73	16.2	2.45 (1.65, 3.65)
Middle income	104	23	1.86 (1.31, 2.65)
High income	77	17	Referent

Table 3. Unadjusted Association Between Income and Pathological Gambling, Stratified by Race (Two Reference Groups)

	African American		White		p-value
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	
Low income	3.58 (2.22, 5.76)	1.91 (1.12, 3.28)			0.08
Low-middle income	1.82 (1.06, 3.15)	1.95 (1.02, 3.74)			
Middle income	2.07 (1.24, 3.45)	0.96 (0.54, 1.69)			
High income	Referent	Referent			

Table 4. Unadjusted Association Between Income and Pathological Gambling, Stratified by Race (One Reference Group)

	African American		White		p-value
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	
Low income	9.33 (6.04, 14.42)	1.91 (1.12, 3.28)			0.08
Low-middle income	4.75 (2.85, 7.92)	1.95 (1.02, 3.74)			
Middle income	5.4 (3.37, 8.65)	0.96 (0.54, 1.69)			
High income	2.61 (1.54, 4.42)	Referent			

Table 5. Adjusted Association Between Income and Pathological Gambling, Stratified by Race (Two Reference Groups)

	African American		White		p-value
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	
Low income	1.67 (0.88, 3.18)	1.11 (0.54, 2.28)			0.15
Low-middle income	0.96 (0.48, 1.88)	1.2 (0.55, 2.59)			
Middle income	1.46 (0.78, 2.7)	0.64 (0.32, 1.26)			
High income	Referent	Referent			

Table 6. Adjusted Association Between Income and Pathological Gambling, Stratified by Race (One Reference Group)

	African American		White		p-value
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	
Low income	3.61 (1.97, 6.63)	1.11 (0.54, 2.28)			0.15
Low-middle income	2.06 (1.08, 3.94)	1.2 (0.55, 2.59)			
Middle income	3.14 (1.76, 5.61)	0.64 (0.32, 1.26)			
High income	2.16 (1.12, 4.15)	Referent			

RESULTS

- Bivariate analysis:
 - Income was significantly associated with: race, pathological gambling, age, education, employment, marital status, smoking, alcohol abuse, substance abuse, homelessness
 - Pathological gambling was significantly associated with: race, income, age, education, employment, marital status, smoking, alcohol abuse, substance abuse, homelessness
 - In adjusted analyses, race did not modify the association between income and gambling

CONCLUSIONS

- After controlling for confounders, there was no evidence of effect modification by race in the association between income and pathological gambling (p=0.15).
- More explorations will be performed to further assess the association between income, race and gambling status.

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