

Depression as a Predictor of Disordered Gambling Behavior

 A. Monaghan BA¹, C. Scheele, MA¹ W. Seymour, MPH¹, L. Levy, JD, MPH², H.M. Nichols MSW³, J.E. Swanberg, PhD³, J.K. Tracy, PhD^{1,4,5}

 1. Department of Epidemiology and Public Health, University of Maryland School of Medicine, Baltimore, MD. 2. University of Maryland Law School, Baltimore, MD
 3. University of Maryland School of Social Work, Baltimore, MD. 4. Maryland Center of Excellence on Problem Gambling 5. Department of Medicine, University of Maryland School of Medicine, Baltimore, MD

INTRODUCTION

- Following national trends, legalized gambling has expanded significantly in Maryland in the last decade. Previous research has identified an association between disordered gambling and depression status but much of this research has been conducted with clinical populations that are racially and ethnically homogenous.^{1,2,3,4}

OBJECTIVE

- To examine the relationship between depression and gambling behavior in an adult sample.

METHODS

- Participants (n=893) were recruited as part of the PEGASUS (Prevalence and Etiology of Gambling and Substance Use in the US) study, an on going longitudinal cohort study of gambling behavior in Maryland residents.
- Participants completed a battery of self-administered questionnaires that included demographics, health behaviors, and gambling activity.
- Depression was measured by the Beck Depression Inventory[®]-II and participants categorized with:
 - Minimal depression
 - Mild depression
 - Moderate depression
 - Severe depression
- Gambling behavior was assessed with the Alcohol Use Disorder and Associated Disabilities Interview Schedule (AUDADIS-IV).
 - Gambling disorder (lifetime) indicated by 4 or more DSM symptoms reported via the AUDADIS

RESULTS

Table 1: Demographics

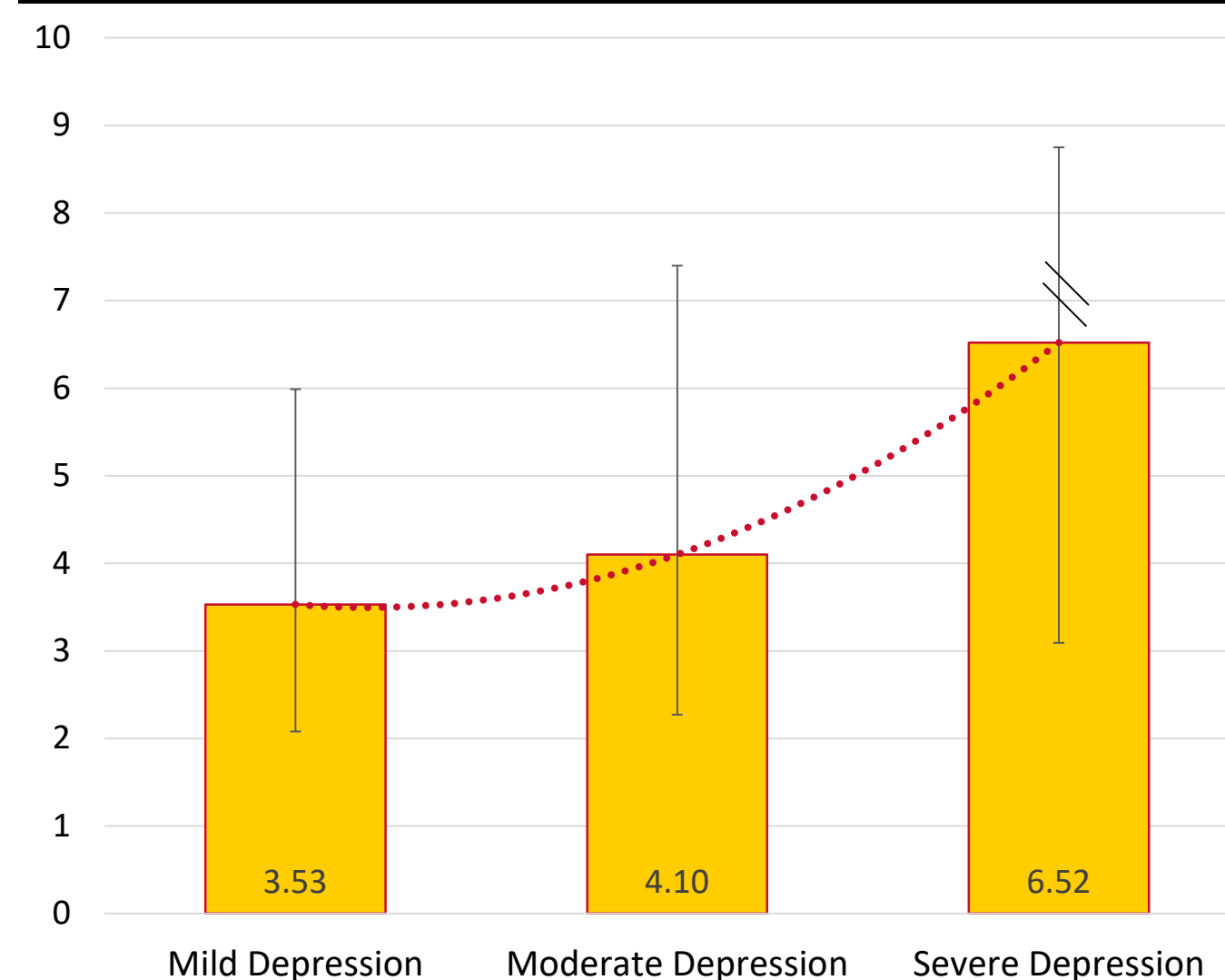
	Range	M	SD
Age (years)	18-73	43.0	13.9
	n	%	
Gender	889		
Male	414	46.6	
Female	475	53.4	
Race	887		
White	352	39.7	
African-American	446	50.3	
Other or Mixed Race	89	10.0	
Level of Education	890		
High School or Less	259	29.1	
Some College	271	30.5	
Bachelor's Degree or Higher	360	40.5	
BDI-II Depression Category	893		
Minimal Depression	643	72.0	
Mild Depression	103	11.5	
Moderate Depression	84	9.4	
Severe Depression	63	7.1	
Disordered Gambling Status	893		
Non-Disordered Gambler	389	43.6	
Disordered Gambler	504	56.4	

Bivariate Analyses

- Depression was significantly associated with:
 - Gambling disorder
 - Race (African American)
 - Income (low-income)
 - Anxiety disorders
- Gambling disorder was significantly associated with:
 - Age
 - Race (African American)
 - Education (high school or less)
 - Income (less than \$25K per year)
 - Employment (unemployed)

Table 2: Adjusted Odds Ratios Predicting Disordered Gambling

	Odds Ratio	95% CI	p value
Age	1.02	[1.01 to 1.03]	0.001
Gender (Female)			
Male	2.30	[1.66 to 3.18]	<0.001
Race (White)			
African-American	5.09	[3.58 to 7.23]	<0.001
Mixed or other race	2.02	[1.19 to 3.44]	0.009
Level of Education (High school diploma or less)			
Some college education or more	0.47	[0.32 to 0.69]	<0.001
BDI-II Category (Minimal Depression)			
Mild Depression	3.53	[2.08 to 5.99]	<0.001
Moderate Depression	4.10	[2.27 to 7.40]	<0.001
Severe Depression	6.52	[3.09 to 13.75]	<0.001

Adjusted Depression Categories Odds Ratios Predicting Disordered Gambling


RESULTS

Multivariate regression analysis

- The relationship between disordered gambling and severe depression (OR: 6.52) remained significant after controlling for age, race, gender, and education.
- The relationship between depression category and disordered gambling behavior was significant and increased with higher levels of depression ($p < 0.001$).

CONCLUSIONS

- Results indicate a significant association between depression and disordered gambling.
- Findings are consistent with previous studies that have found a higher prevalence of depressive symptoms among disordered gamblers compared to the general population.
- These findings may help to inform screening and treatment practices in health care settings serving at-risk populations and contribute to efforts to reduce existing health disparities.

REFERENCES

- Bischof A, Meyer C, Bischof G, et al. Type of Gambling as an Independent Risk Factor for Suicidal Events in Pathological Gamblers. *Psychology of Addictive Behaviors*. 2016;30(2): 263-269.
- Quigley L, Yakovenko I, Hodgins DC, et al. Comorbid Gambling and Major Depression in a Community Sample. *Journal of Gambling Studies*. 2014;31(4): 1135-1152.
- Moghaddam JF, Campos MD, Myo C, Reid RC, Fong TW. A Longitudinal Examination of Depression Among Gambling Inpatients. *Journal of Gambling Studies*. 2014;31(4): 1245-1255
- Kim SW, Grand JE, Eckert ED, Faris PL, Hartman BK. Pathological Gambling and Mood Disorders: Clinical Associations and Treatment Implications. *Journal of Affective Disorders*. 2006;92(1): 109-116

FUNDING

Funding for this project was provided by the Maryland Department of Health and Mental Hygiene, Behavioral Health Administration [#M00B4400404; PI: JK Tracy].