



Differences in the Association of Problem Drinking and Gambling Disorder by Sex

K. Swasey, MPH¹, G. Rosenthal, MD, PhD^{1,2,4}, F. Adetunji, BS¹, A. Monaghan, BA¹, C. Scheele, MA¹, J.K. Tracy, PhD^{1,3, 4}

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

INTRODUCTION

Prior studies show that men and those who abuse alcohol are more likely to have gambling disorder than women and those who do not abuse alcohol. However, it is unclear how the relationship between problem drinking and gambling disorder varies among men and women.¹⁻³

OBJECTIVES

- To assess the association between problem drinking and gambling disorder
- To examine the relationship between problem drinking and gambling disorder by sex
- To evaluate the association between sex and level of gambling disorder risk

METHODS

- Participants (N=1346) were recruited as part of the Prevention in and Etiology of Gambling Addiction in the US (PEGASUS) study, a 5-year prospective cohort study of gambling behavior and determinants of gambling among adult Maryland residents
- Data on participants collected through semi-structured interviews and self-reported surveys, including information on demographics, health behavior, and gambling activities
- Present cross-sectional study included an analytic sample of 1231 survey respondents
- Independent variable was problem drinking
 - Assessed using Alcohol Use Disorders Identification Test (AUDIT)
 - AUDIT score ≥ 8 : problem drinking
- Dependent variable was gambling disorder characterized by DSM-V
 - Assessed using Alcohol Use Disorder and Associated Disabilities Interview Schedule (AUDADIS-IV)
 - Gambling disorder (past year) defined by 4 or more DSM criteria reported on AUDADIS

RESULTS

Table 1. Characteristics of Survey Respondents (N=1231)

Respondent Characteristics	Total, n (%)	Men, n(%)	Women, n (%)	P-value
Age (years), median (IQR)	41.7 (28.1-53.9)	40.5 (28.1-53.2)	43.3 (28.4-54.4)	0.15
Sex				
Men	584 (48)	-	-	
Women	640 (52)	-	-	
Race				<0.0001
White	525 (43)	288 (49)	234 (37)	
Black	571 (46)	227 (39)	342 (53)	
Other/Mixed	135 (11)	69 (12)	64 (10)	
Smoking				0.07
Non-Smoker	823 (67)	372 (64)	447 (70)	
Smoke some days	108 (9)	58 (10)	50 (8)	
Smoke every day	300 (24)	154 (26)	143 (22)	
Drug Abuse Screening Test Category				<0.0001
No Problem	593 (48)	238 (41)	353 (55)	
Low Problem	489 (40)	256 (44)	229 (36)	
Intermediate				
Problem	67 (5)	39 (7)	28 (4)	
Substantial				
Problem	43 (4)	28 (5)	14 (2)	
Severe Problem	39 (3)	23 (4)	16 (3)	
Depression				0.86
Minimal	902 (73)	430 (74)	467 (73)	
Mild	149 (12)	66 (11)	82 (13)	
Moderate	111 (9)	54 (9)	57 (9)	
Severe	69 (6)	34 (6)	34 (5)	
Problem Drinking				<0.0001
Yes	213 (17)	138 (24)	74 (12)	
No	1018 (83)	446 (76)	566 (88)	
Gambling Disorder				0.65
Yes	368 (30)	171 (29)	195 (30)	
No	863 (70)	413 (71)	445 (70)	

Table 2. Adjusted association between problem drinking and gambling disorder, stratifying by sex

	Men			Women		
	OR*	95% CI	P-value	OR*	95% CI	P-value
Problem Drinker	0.9	(0.5, 1.5)	0.64	2.0	(1.0, 4.0)	0.04
Non-Problem Drinker	ref			ref		

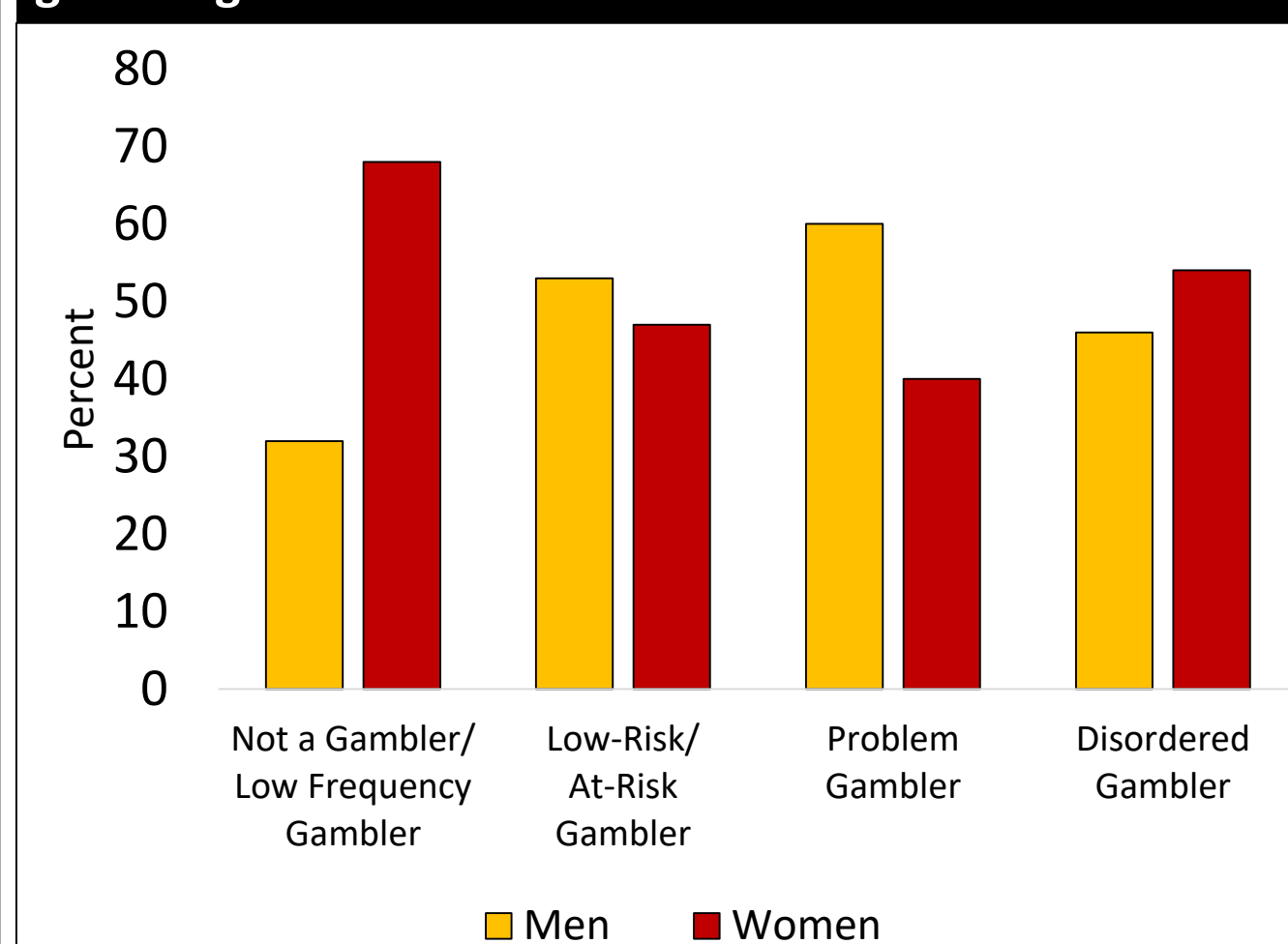
*Adjusted for age, race, DAST, smoking, and depression
Ref: reference

Table 3. Adjusted association between sex and gambling disorder risk level*

	OR (95% CI)	P-value
Men	1.7 (1.3, 2.1)	0.0002
Women	ref	

*Adjusted for race and DAST
**Risk levels: not a gambler/low-frequency gambler, low-risk/at-risk gambler, problem gambler, and disordered gambler

Figure 1. Distribution of men and women by level of gambling disorder risk



RESULTS

Problem Drinking and Gambling Disorder by Sex

Bivariate Analysis

- Men were significantly more likely to be problem drinkers than women
- There was a similar proportion of men and women with gambling disorder

Multivariable Logistic Regression

- Problem drinking was not statistically associated with gambling disorder (OR: 1.2, 95% CI 0.8, 1.9, p=0.29)
- Sex did not significantly modify the relationship between problem drinking and gambling disorder

Association between Sex and Gambling Disorder Risk Level

- The odds of being a low-risk gambler, problem gambler, or disordered gambler versus a non-gambler was 1.7 times higher for men than for women

CONCLUSIONS

- Though the sex difference was not statistically significant, women who are problem drinkers have a higher odds of also having a gambling disorder than men who are problem drinkers
- However, men have greater odds of being problem gamblers or disordered gamblers compared to women

REFERENCES

- American Psychiatric Association. What Is Gambling Disorder? <https://www.psychiatry.org/patients-families/gambling-disorder/what-is-gambling-disorder>. Published January 2016. Accessed April 17, 2018.
- Welte JW, Barnes GM, Tidwell M-CO, Hoffman JH, Wieczorek WF. Gambling and Problem Gambling in the United States: Changes Between 1999 and 2013. *J Gambli Stud*. 2015;31(3):695-715. doi:10.1007/s10899-014-9471-4
- Pilver CE, Libby DJ, Hoff RA, Potenza MN. Gender differences in the relationship between gambling problems and the incidence of substance-use disorders in a nationally representative population sample. *Drug Alcohol Depend*. 2013;133(1):204-211. doi:10.1016/j.drugalcdep.2013.05.002

FUNDING

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