

Social Network Profiles Of Clients Accessing A Rural Health Department Clinic

Joseph R. Pruis, Student Research Collaborator, Rosemary A. Jadack, PhD, RN, Professor
Department Of Nursing, College Of Nursing And Health Sciences
University Of Wisconsin-Eau Claire



Introduction

- Prevention of health risk behaviors such as smoking, alcohol/drug use, and unprotected sexual activity is considered a key national health promotion objective.
- Individual interventions have not always resulted in an impressive, sustained decline in risk behaviors
- Research efforts need to be directed at examining individual risk behaviors in relation to social context.
- Much remains unknown about the similarity in patterns of risk behaviors among members of social networks.

Social Networks

- Social Network analysis examines an individual's risk behavior within a broader social context.
- This conceptual focus examines the size of social networks, sources of support provided by network members (**multiplexity**), and the degree of connectedness between members (**density**).

Purpose

The purpose of this study is to explore the risk behaviors and social network characteristics of people accessing a rural public health department, focusing on the relationship between respondents' self-reported behaviors and that of their network members.

Research Questions

- What are the self-reported risk behaviors (tobacco use, drug/alcohol use, sexual risk behaviors, intimate partner violence) of people presenting for care at a Western Wisconsin Public Health Clinic?
- What are the personal network characteristics (size, density, multiplexity) of people presenting for care at a Western Wisconsin Public Health Clinic?
- What is the relationship between patterns of risk behaviors and personal network characteristics?

Procedure

- Clients were recruited from the Dunn County Health Department in Menomonie, WI. This clinic serves a diverse population, including both university and predominantly rural communities in Western Wisconsin.
- Clients agreeing to participate received an information letter and signed informed consent.
- After their clinic assessment, participants were individually interviewed in a room designated for the study.
- Participants were paid \$5.00 for their participation.

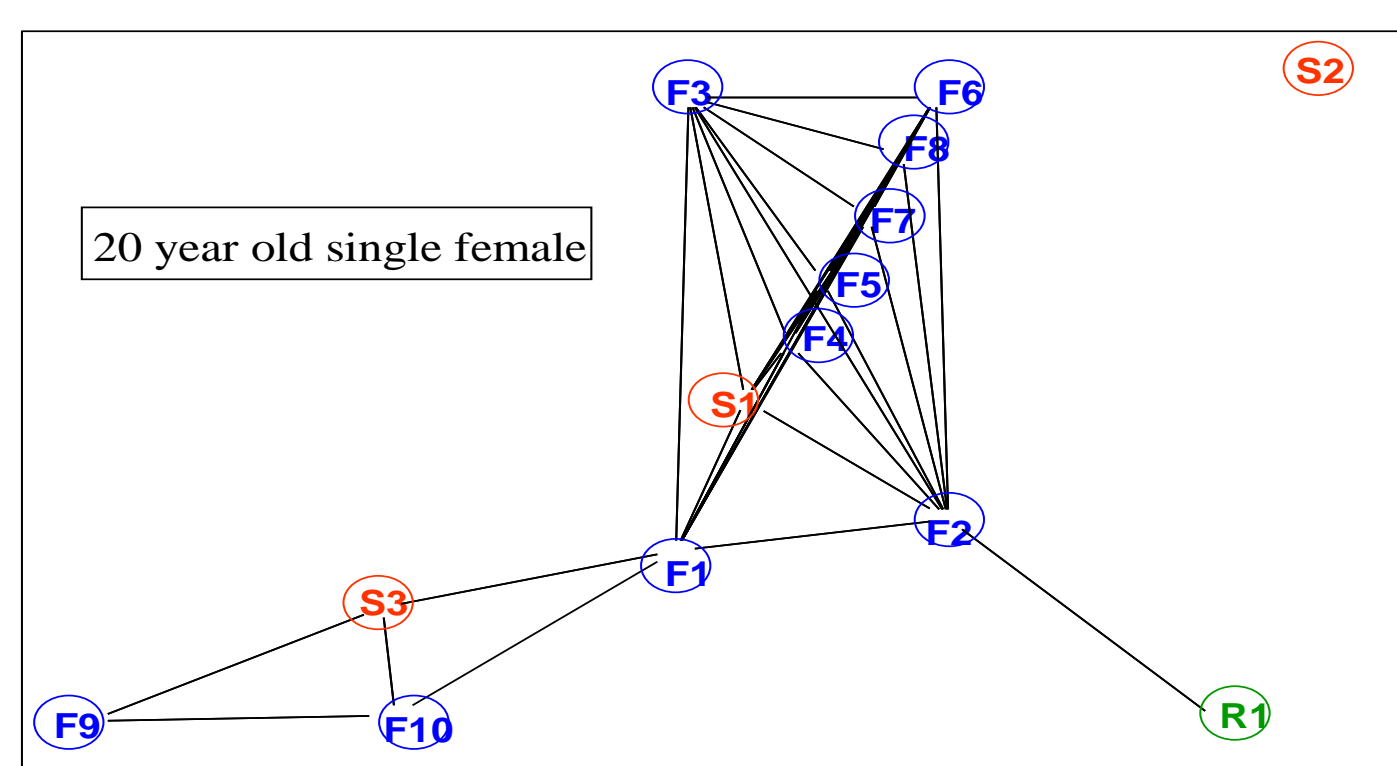
Risk Behavior Assessment

- Individual risk assessment was conducted using the 2006 Behavioral Risk Factor Surveillance System Questionnaire
 - Core sections of tobacco use and smoking
 - Optional modules of sexual risk behavior, intimate partner violence, and alcohol consumption/drug use

Social Network Assessment

- Respondents were asked about the people who were in their social networks
- For each member of the network, respondents were asked to describe:
 - the extent to which network members know each other
 - the types of social support that each network member provides
 - the extent to which network members engage in risk behaviors (tobacco use, alcohol/drug use, sexual risk behavior, and intimate partner violence)

Example of a Social Network



Demographic Characteristics

Mean Age	Mean=25.89 SD=9.62	Mean Years of Education	Mean=12.8 SD=2.32
Gender		Income	
Male	16.4%	≤\$5000	13.2%
Female	83.6%	\$5000-10,000	7.5%
Marital Status		\$10,001-20,000	11.3%
Single	62.3%	\$20,001-30,000	13.2%
Married	26.2%	\$30,001-40,000	5.7%
Cohabiting	6.6%	≥\$40,001-50,000	18.9%
Div/widowed	4.9%	≥\$50,000	30.3%

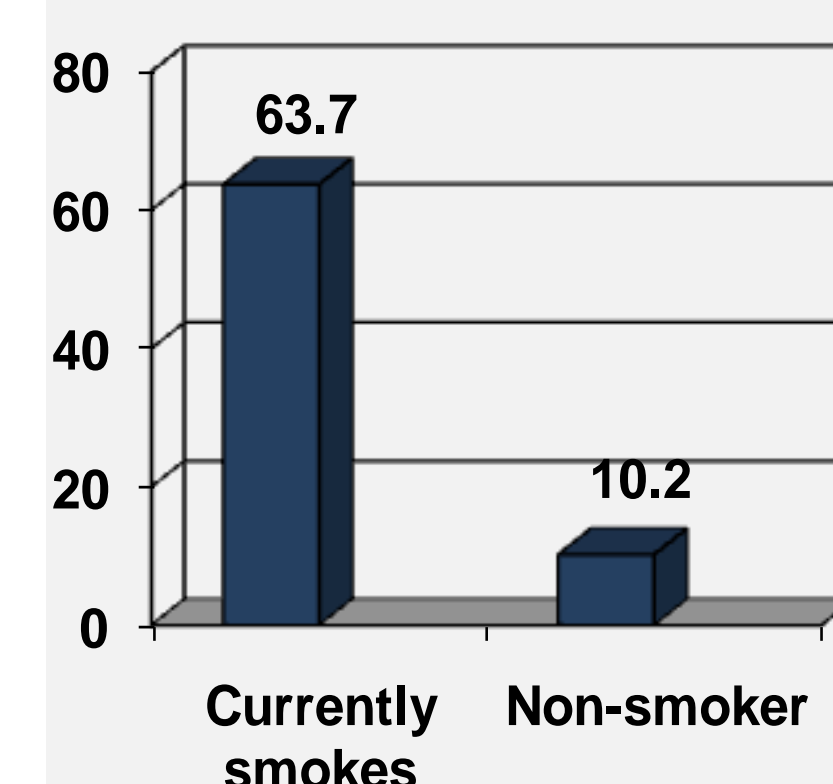
To date, 61 respondents have been interviewed. The sample is predominantly Caucasian (96%) and heterosexual (96%).

Social Network Characteristics

Mean number of persons in total	4.9 (1.6)	Mean # of members providing each support type:	
Mean Density*	.91 (.18)	Intimate	3.4 (1.5)
		Social	3.4 (1.9)
		Material	3.6 (1.8)
Mean Multiplexity*	3.2 (.86)	Physical	3.3 (1.9)
		Health	2.1 (1.6)

*Density is defined as the actual number of network ties among individuals in a social network divided by the possible number of ties. Multiplexity is the average number of support functions provided by network members.

Smoking and Social Networks



Overall, 29.7% of the sample reported smoking currently. Of the smokers, 66.7% have tried to quit in the last year and failed. Moreover, the strong majority of those who smoke have a significantly greater proportion of network members who smoke, $p < .001$.

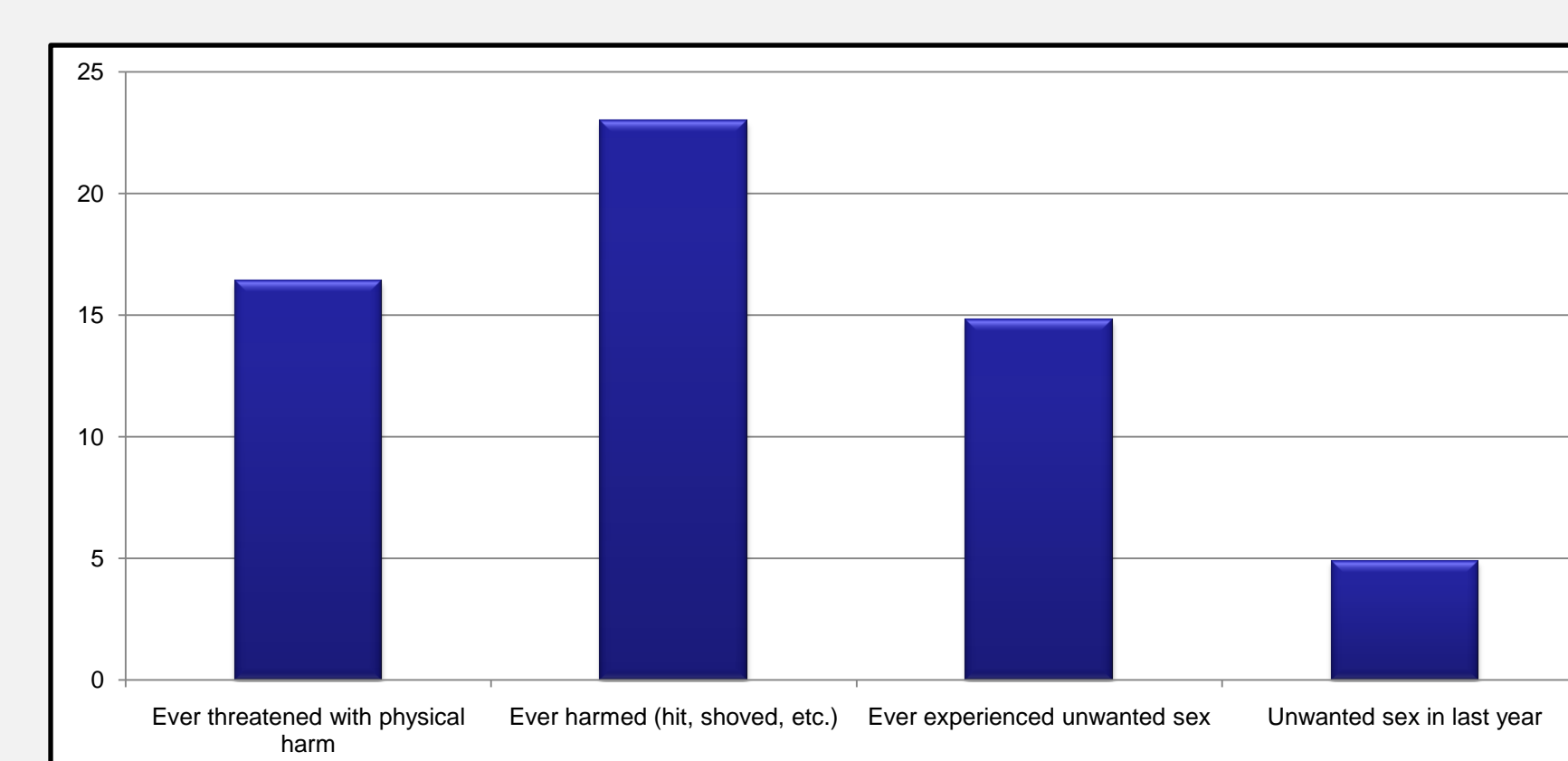
Drinking and Social Networks

	Density	Multiplexity*	# in network
Has drank in the past month	.90 (.18)	3.4 (.76)	4.8 (1.6)
Has not drank in the past month	.93 (.16)	2.9 (.94)	5.1 (1.7)

* $p < .05$

Of those who drank in the past month, 87% have binged at least once (4 or more drinks at one episode). There was a significant relationship between drinking behaviors and multiplexity, showing that network members who drink in the past month actually report greater multiple sources of social support. Respondents who drank had significantly more network members who drink, $t(60) = 5.06$; $p = .01$.

Intimate Partner Violence



A surprising number of persons reported history of physical and sexual violence. Of the sample, 23% reported having been physically harmed by an intimate partner.

Intimate partner violence and social networks

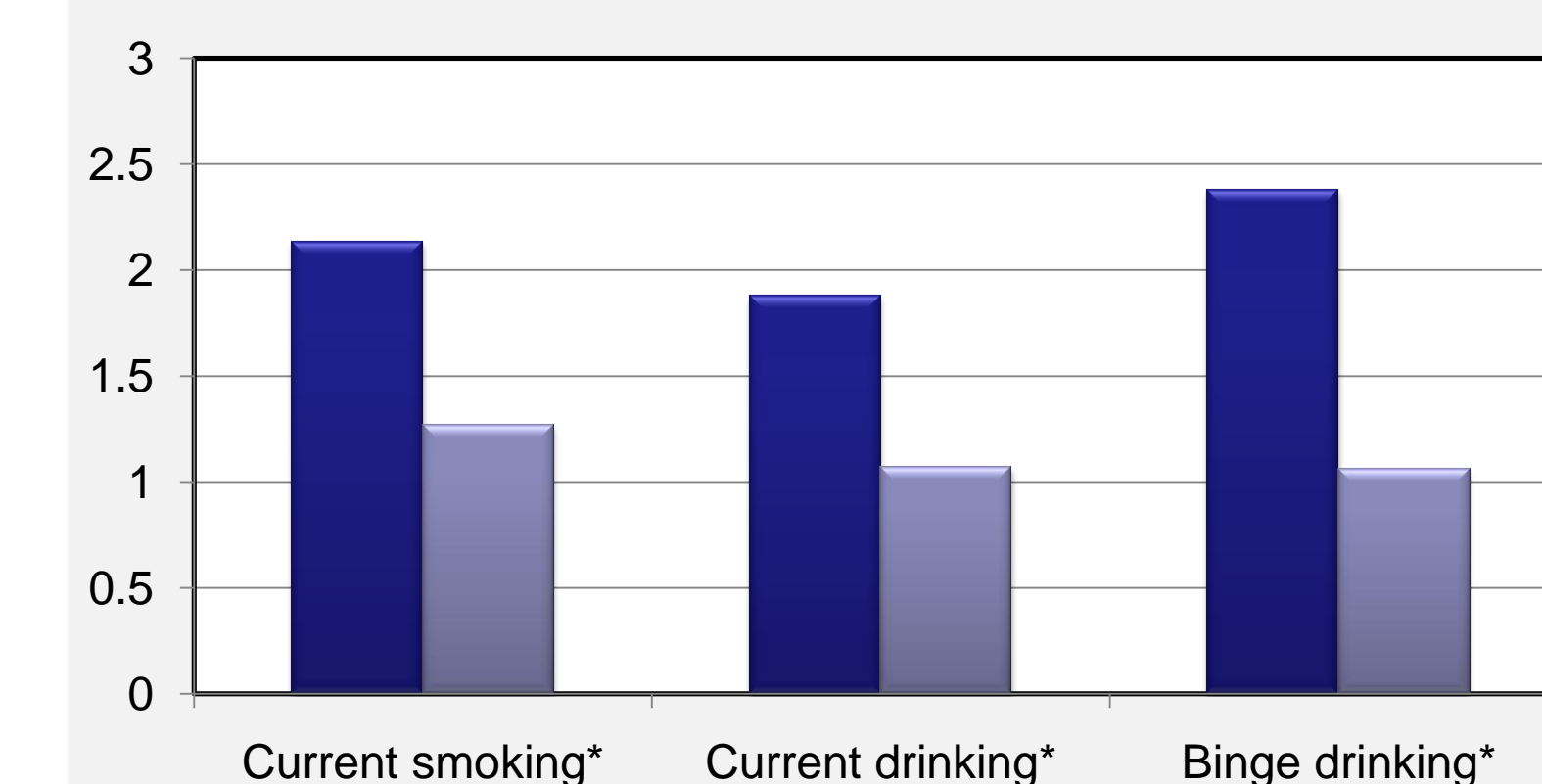
	Density	Multiplexity	# in network
Ever threatened with physical harm	Y .93 (.15)	2.7 (.84)*	4.5 (1.7)
	N .91 (.18)	3.3 (.84)	5.0 (1.6)
Ever physically harmed (hit, shoved, etc.)	Y .87 (.20)	2.7 (.72)*	4.7 (1.6)
	N .92 (.17)	3.4 (.85)	5.0 (1.6)
Ever experienced unwanted sex	Y .95 (.12)	2.9 (.93)	4.4 (1.7)
	N .91 (.18)	3.3 (.84)	1.9 (1.6)

Intimate violence experience was significantly related to multiplexity. Those who have experienced physical threats and physical abuse have social networks that provide significantly fewer sources of social support. * $p < .05$

Sexual risk and Social Networks

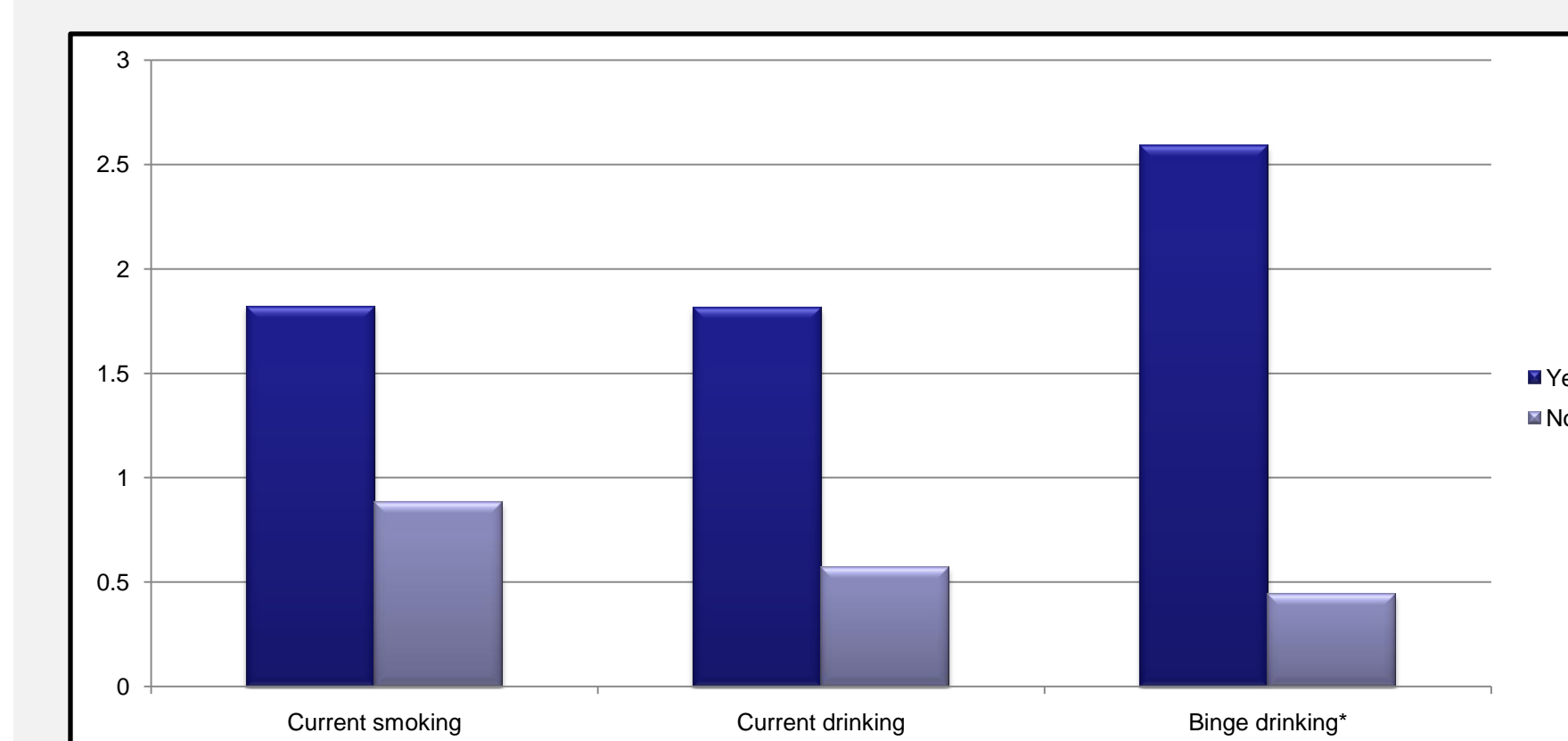
There was a significant negative correlation between number of partners and multiplexity, showing that those with more partners may have fewer network members that provide multiple sources of social support. Respondents with more partners had less dense networks.

Number of partners in past year



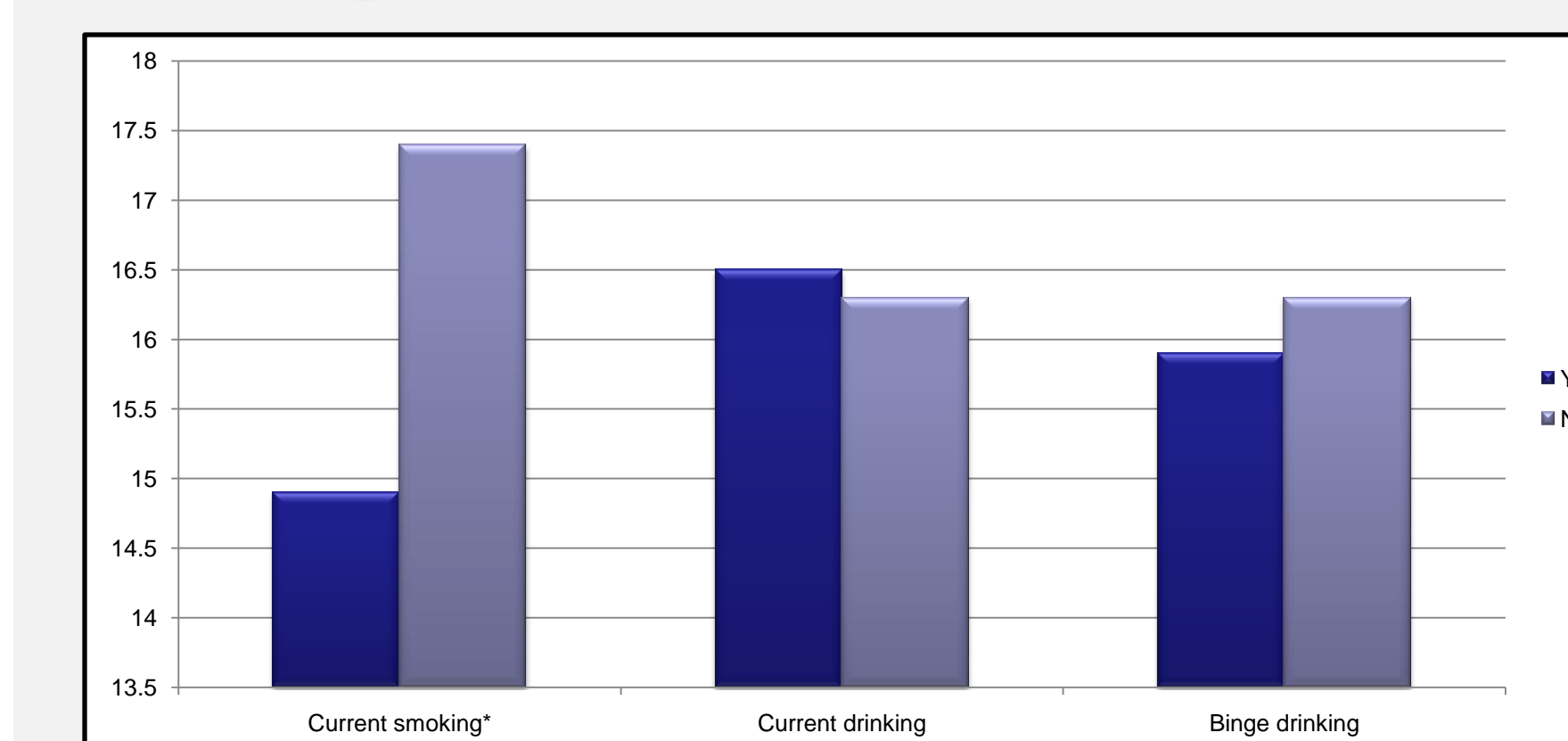
*Persons who currently smoke, drink, and binge drink reported significantly more sexual partners in past year

Number of NEW partners in past year



*Persons who currently reported binge drinking reported significantly more NEW sexual partners in past year

Age of first intercourse



*There was no relationship between current drinking behavior and age of first intercourse. However, respondents who currently smoke were significantly younger at first intercourse.

Discussion

- Social network analysis appears to be a useful method of examining risk-taking behaviors in young adults.
- Findings show patterns of risk behavior that indicates clusters of risk. For example, those who smoke are more likely to initiate sexual activity earlier, and have more partners.
- It is important for clinicians to examine the quality of relationships when providing health promotion with regard to risk behavior prevention. Persons who have members in their social networks who provide multiple sources of support engage in fewer risk behaviors.
- Clients who smoke report networks with significantly more network members who also smoke. The presence of smokers in an individual's social network may make the intention to quit and process of quitting much more difficult.
- Interventions must be tailored to consider the social environments in which clients live.

Acknowledgements

- This study is supported in by a grant earned from the Center of Excellence for Faculty/Student Research Collaboration, the University of Wisconsin – Eau Claire
- Special Thanks to the Menomonie, WI Health Department for their support, guidance, commitment, and cooperation

