

# **Problem Gambling and Substance Use Among Missouri Youth: A Call for Prevention**

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Substance Abuse, August 13-15, 2008*

# Disclosures

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Center for Mental Health Services Research #5P30  
MH068579

## Earlier Version:

National Council on Problem Gambling – 2007  
(poster)



# Background

- The National Research Council reports that **52%-89% of youth have gambled** in the past year.
- Estimates of problem gambling (PG) and pathological gambling disorder (PGD) vary due to methodological differences, but are **about three times the adult rate**.
- **Youth are vulnerable for PG/PGD ...Due to their:**  
*developmental stage* → ineffective decision-making  
*increased risk* of co-occurring substance use and mood disorders

# Aims

To provide epidemiologic data on:  
gambling, problem gambling  
(PG) and pathological gambling  
disorder (PGD) collected for the  
first time among a household  
sample of Missouri youth



To describe prevalence rates in the  
context of: within-state variation,  
socio-demographics, and co-  
occurring substance use and  
depression



# KC-MO-GAM STUDY

Missouri Listed  
Phone Numbers  
(N=1,636,472)

# age-eligible  
households (14-25)  
(n=109,469)

Random selection  
(n=4000)  
CATI & RDD  
Methodology

Eligibility Screen:  
ages 14-25 (Using next  
birthday method)  
Informed Consent

## Final Disposition

NOT ATTEMPTED (n=1407)

INCOMPLETE (n=2242)

Refused (n=149)

Parental refusal (n=68)

Minor child refusal (n=35)

Incomplete (n=288)

Age Ineligible household (n=856)

Quota full (n=84)

Eligibility Undetermined (n=501)

Other (n=261)

COMPLETED INTERVIEWS  
(n=351)

## Assessments

DSM-IV  
Gambling  
Behavior &  
Disorder-  
(C-GAM<sup>©</sup>)

Substance Use  
(CAS & GAM-  
DA) & Problems  
(CRAAFT)

Distress (CES-D)

Demographics  
SES measure

Locator



# Statistical Methods

**Prevalence:** Estimate of presence of behavior or disorder (either lifetime or current timeframe)

**Conditional Prevalence:** Prevalence estimate conditional upon a predetermined behavior or characteristic (e.g. among gamblers only)



# Statistical Methods

**Study Design Weighting:** Accounts for # of different telephone lines in household

**Statistical Post-stratification Weighting:**  
accounts for the under-representation of 18-25 year old in sample

## Socio-demographics (n=351)

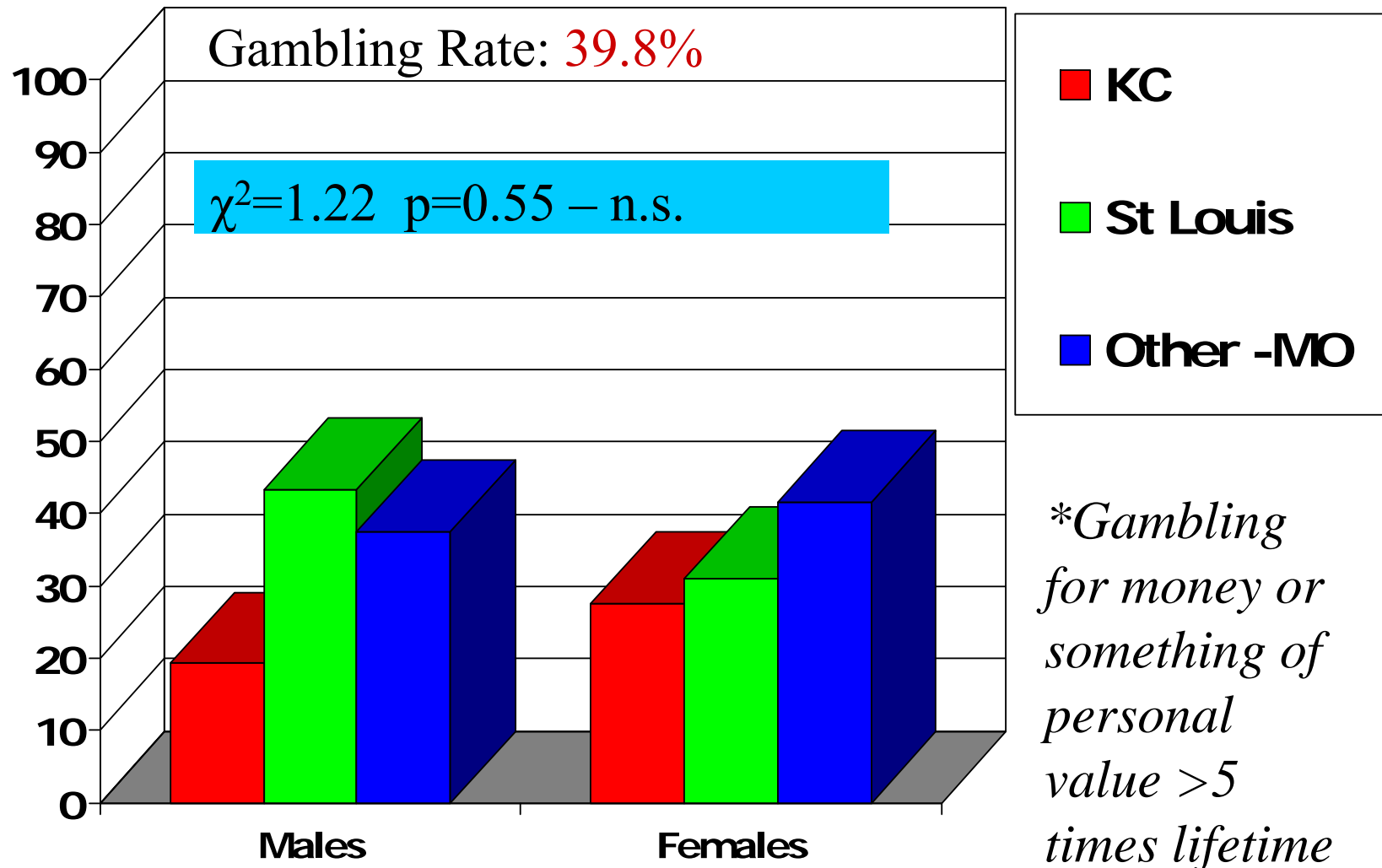
<b>Mean Age</b> (SD); Range=14-25; Median=17	Mean=19.17 (SE=0.31)
<b>Female Gender</b>	48.3%
<b><u>Race/Ethnicity</u></b>	%
Caucasian	81.6%
African American	13.5%
Other	4.9%
<b>Living with parents/guardians</b>	81.3%
<b>College or Higher Education</b>	36.9%
<b><u>Poverty/Asset Indicators</u></b>	
Public assistance	8.8%
Food stamps	12.2%
Free lunch program	14.1%
Home ownership (parents)	90.1%

*\* % are result of post-stratification w*



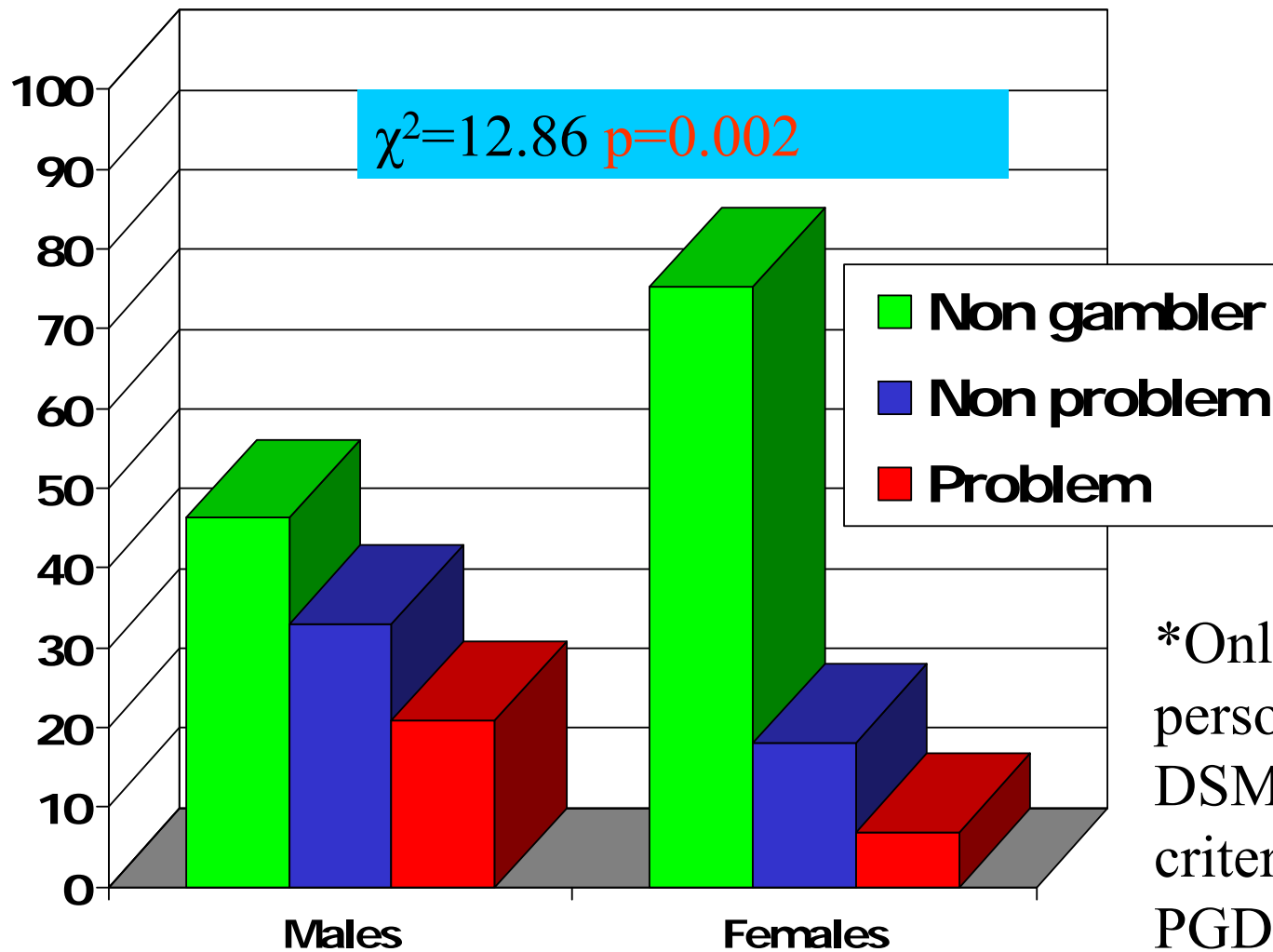
# Lifetime Prevalence: Gambling\* by Region

## Males vs. Females



# Lifetime Prevalence: Gambling Status

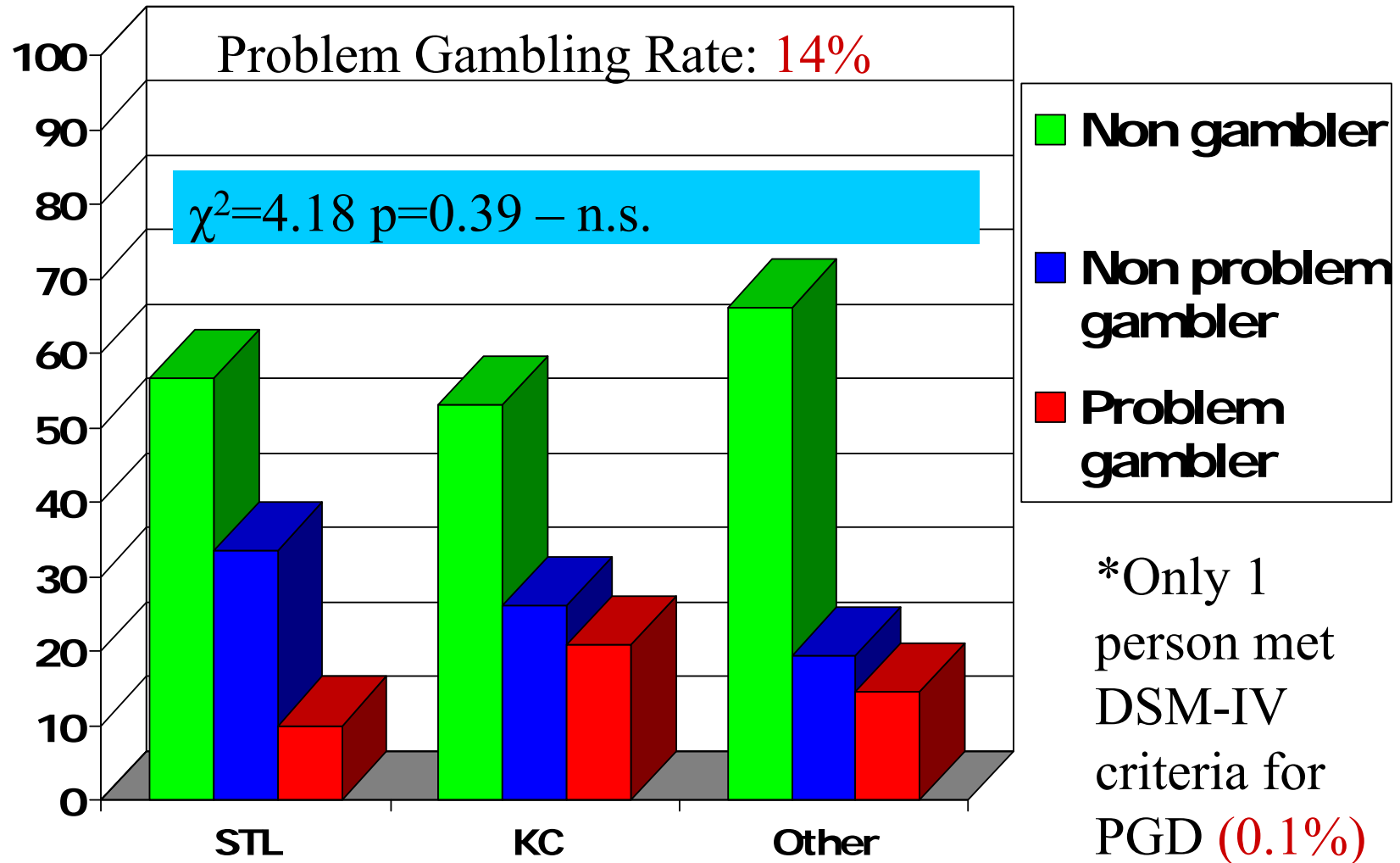
## Males vs. Females



\*Only 1 person met DSM-IV criteria for PGD (0.1%)

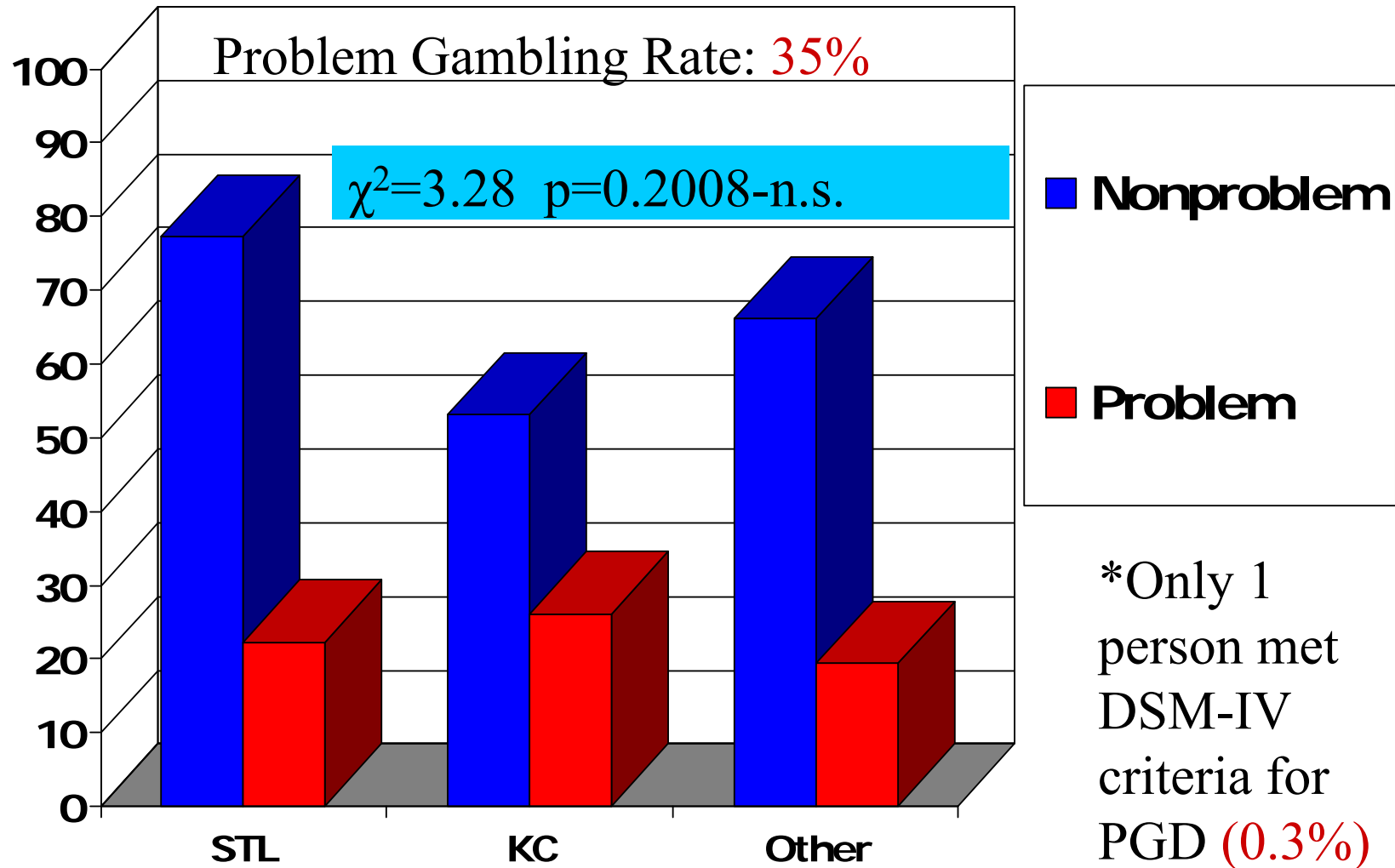
# Lifetime Prevalence: Gambling Status\*

Missouri Region (n=351)



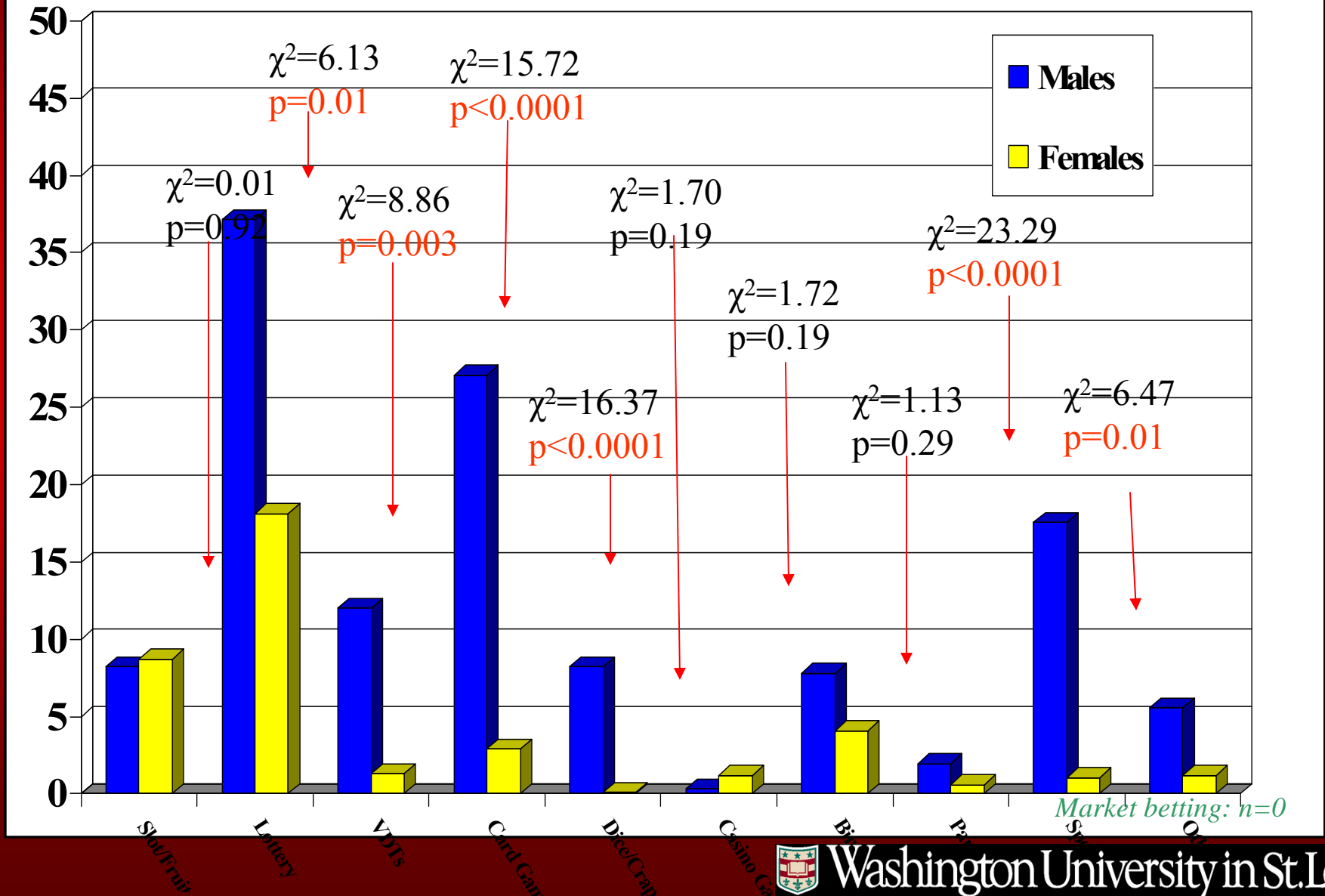
## Conditional Prevalence: Gambling Status\*

Missouri Region (among gamblers only: n=133)



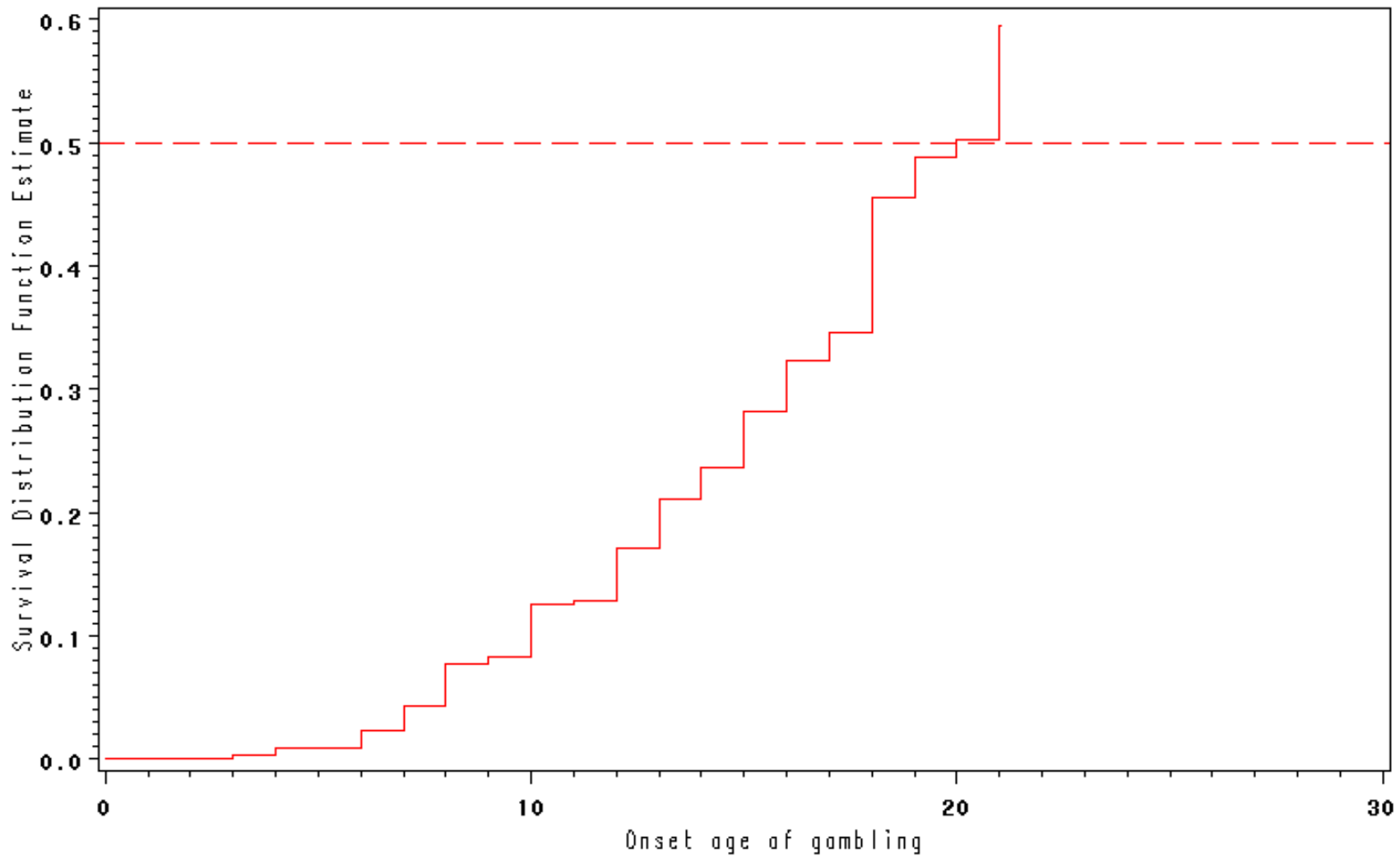
# Lifetime Prevalence: Gambling Activities

## Males vs. Females

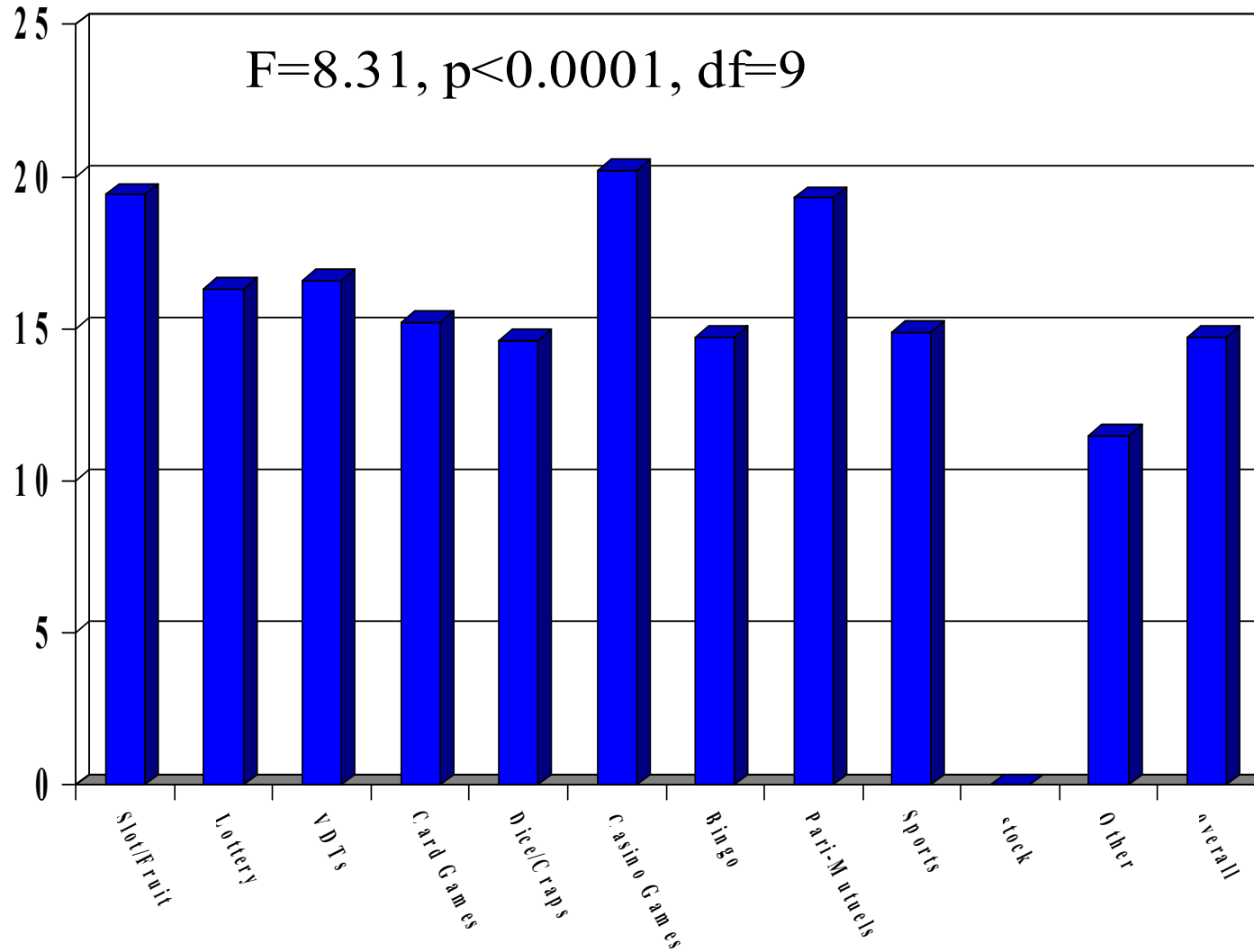


# Proportion of Missouri Youth Who Gamble by Age of Onset

Kaplan-Meier curve

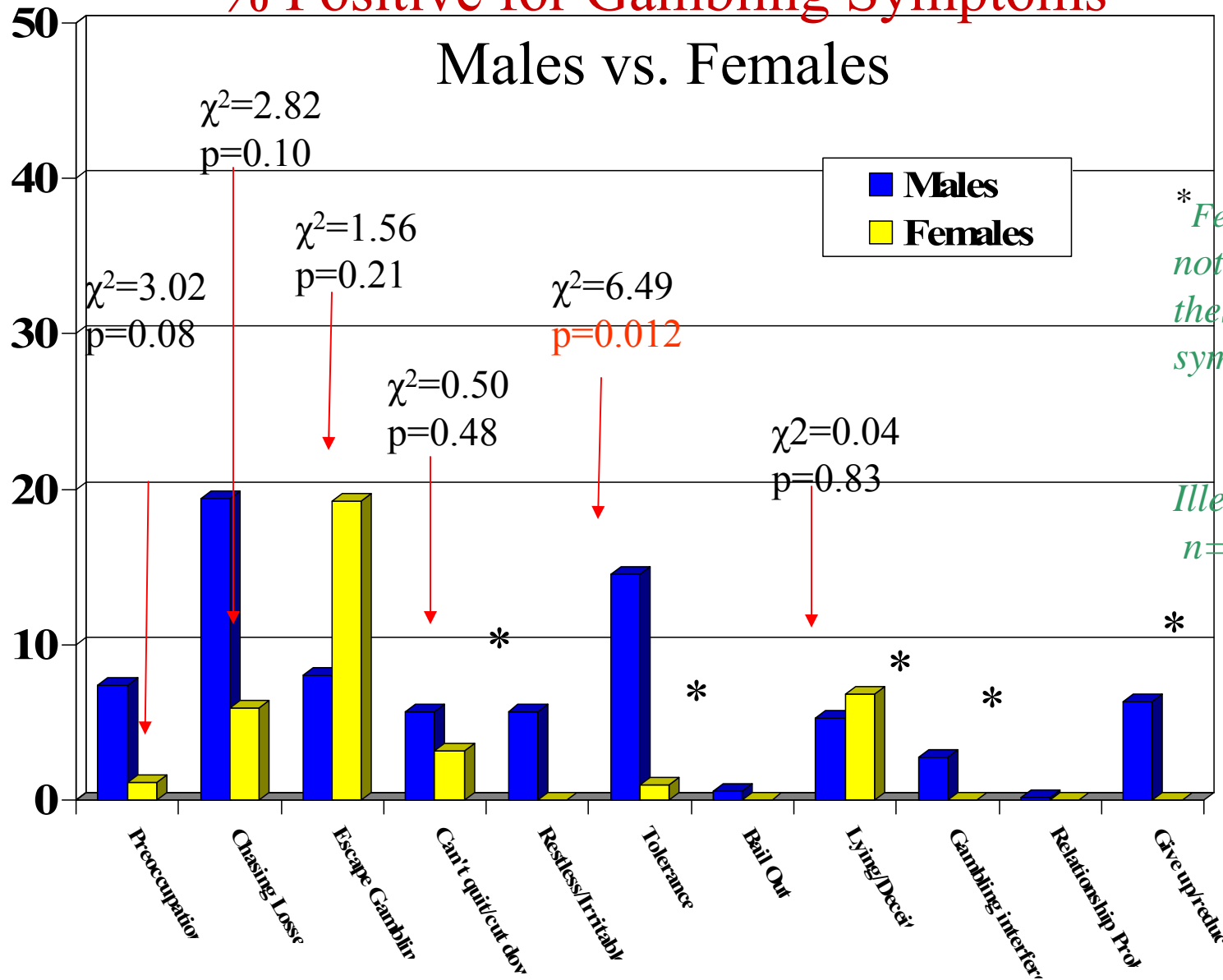


## Age of onset gambling by gambling type



# % Positive for Gambling Symptoms

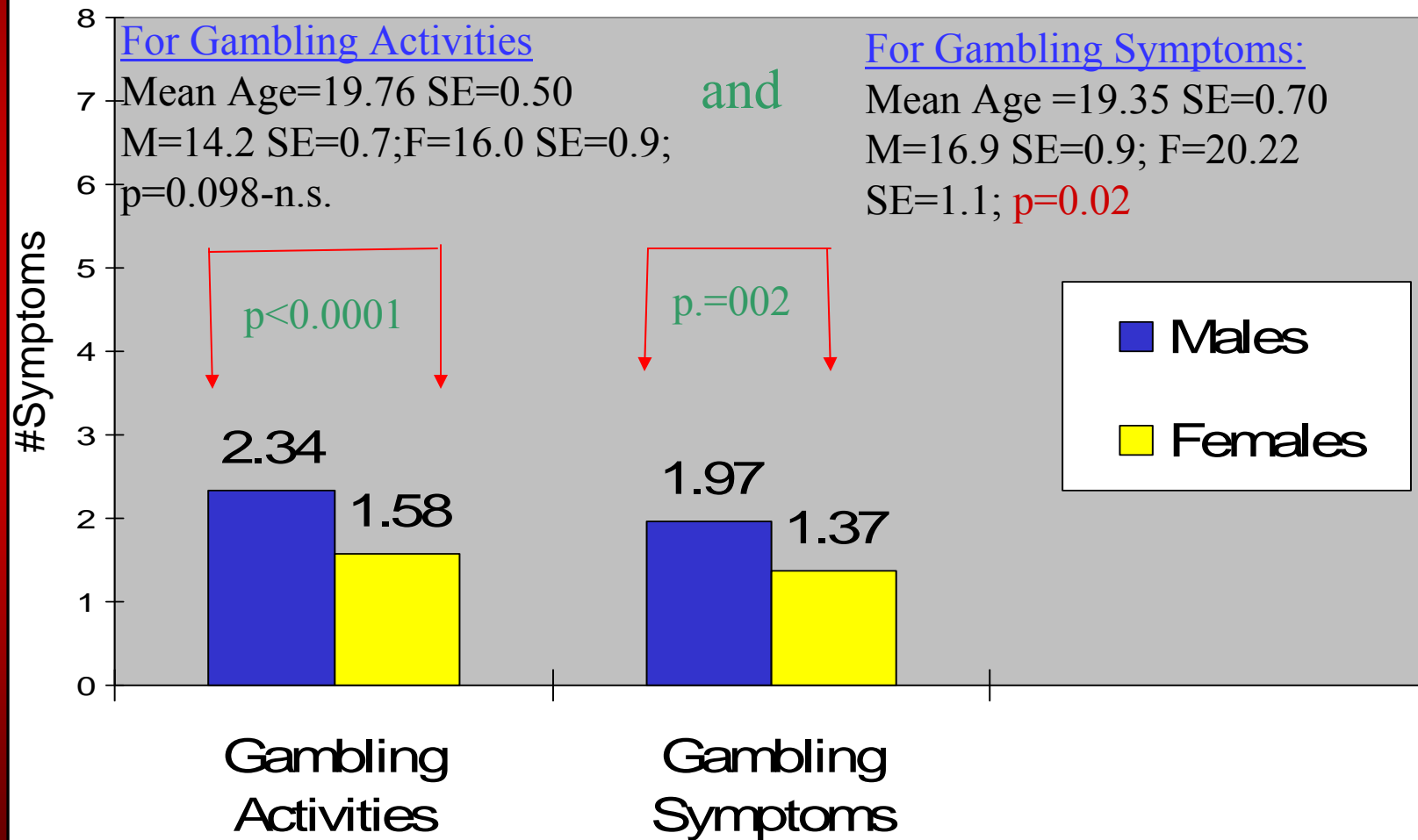
## Males vs. Females



*\* Females did not endorse these symptoms*

*Illegal acts: n=0*

# Mean Age of Onset & Mean # of Gambling Activities & Gambling Symptoms Males vs. Females



## Gambling, Substance Use, Clinical Distress

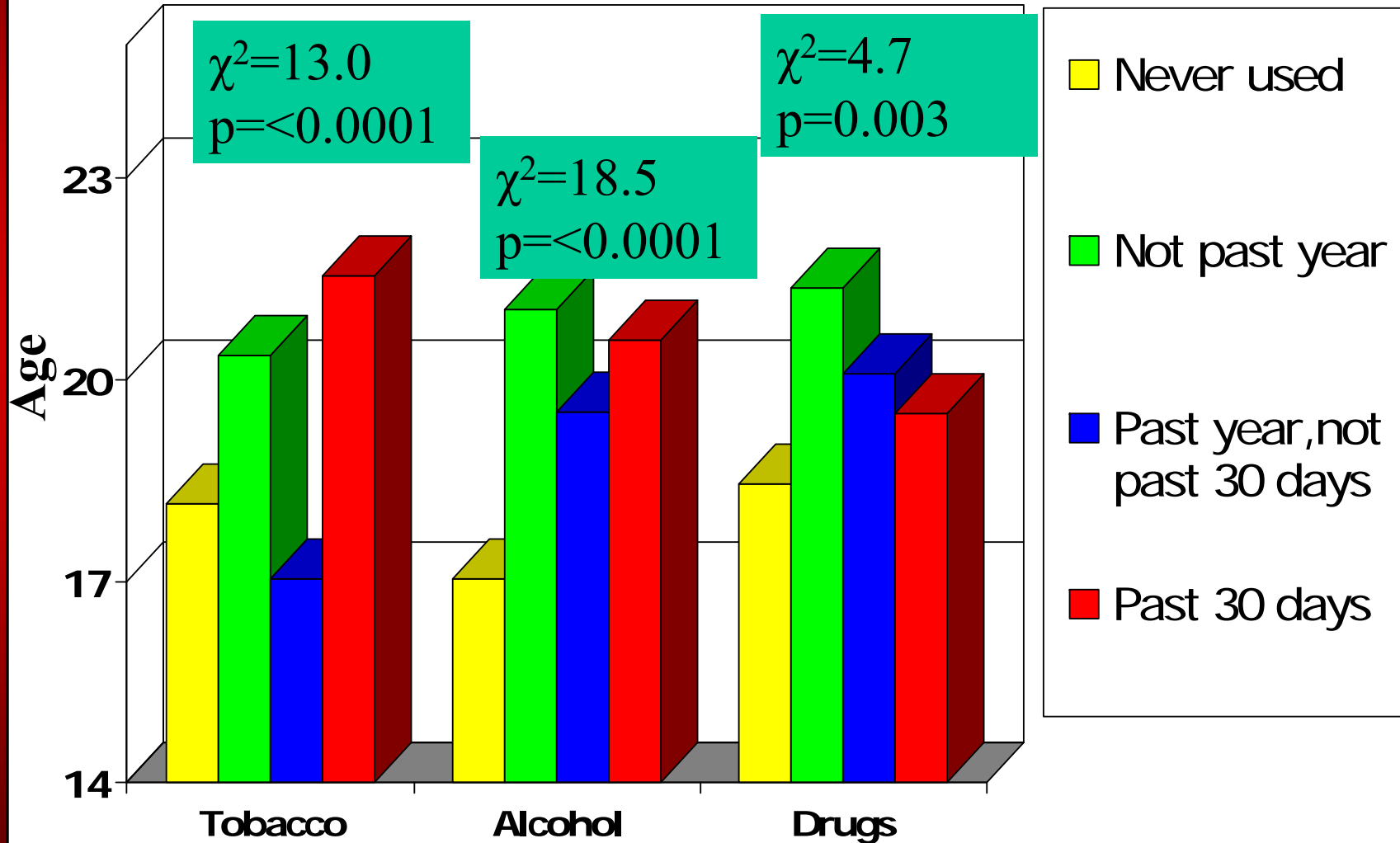
	by Demographics		Region		Race (white/non)	
	Age (n=350)		Region (n=351)		Race (white/non) (n=351)	
	F	p	X <sup>2</sup>	p	X <sup>2</sup>	p
<b>Ever gambled</b>	2.4	0.12	1.6	0.44	0.7	0.40
<b>Gambling status</b>	1.3	0.27	4.2	0.38	0.8	0.67
<b>Tobacco Use</b>	13.0	<0.0001	4.3	0.64	9.5	0.0095**
<b>Alcohol Use</b>	18.5	<0.0001	13.3	0.04	13.6	<0.0001
<b>Drug Use</b>	4.7	0.003	16.3	0.01	17.7	0.004
<b>Depression</b>	0.8	0.37*	0.7	0.70	1.1	0.29

\*Clinical Distress by age (n=318); \*\* Past 30 days combined with past year due to empty cell

## Gambling, Substance Use, Clinical Distress by Poverty Indicators

	Public Assistance (n=325)		Food Stamps (n=342)		Free Lunch (n=345)		Home Ownership (n=348)	
	X <sup>2</sup>	p	X <sup>2</sup>	p	X <sup>2</sup>	p	X <sup>2</sup>	p
<b>Ever gambled</b>	0.1	0.71	0.33	0.56	1.8	0.18	0.8	0.37
<b>Gambling status</b>	0.1	0.93	0.56	0.76	2.1	0.35	2.4	0.30
<b>Tobacco Use</b>	1.3	0.25	3.16	0.08	2.4	0.49	0.6	0.90
<b>Alcohol Use</b>	15.6	0.0017	8.45	0.04	2.7	0.45	0.9	0.83
<b>Drug Use</b>	0.9	0.83	1.86	0.60	25.4	<0.0001	0.7	0.88
<b>Depression</b>	3.3	0.07	3.23	0.07	3.2	0.08	0.5	0.49

# Substance Use Frequency By Mean Age





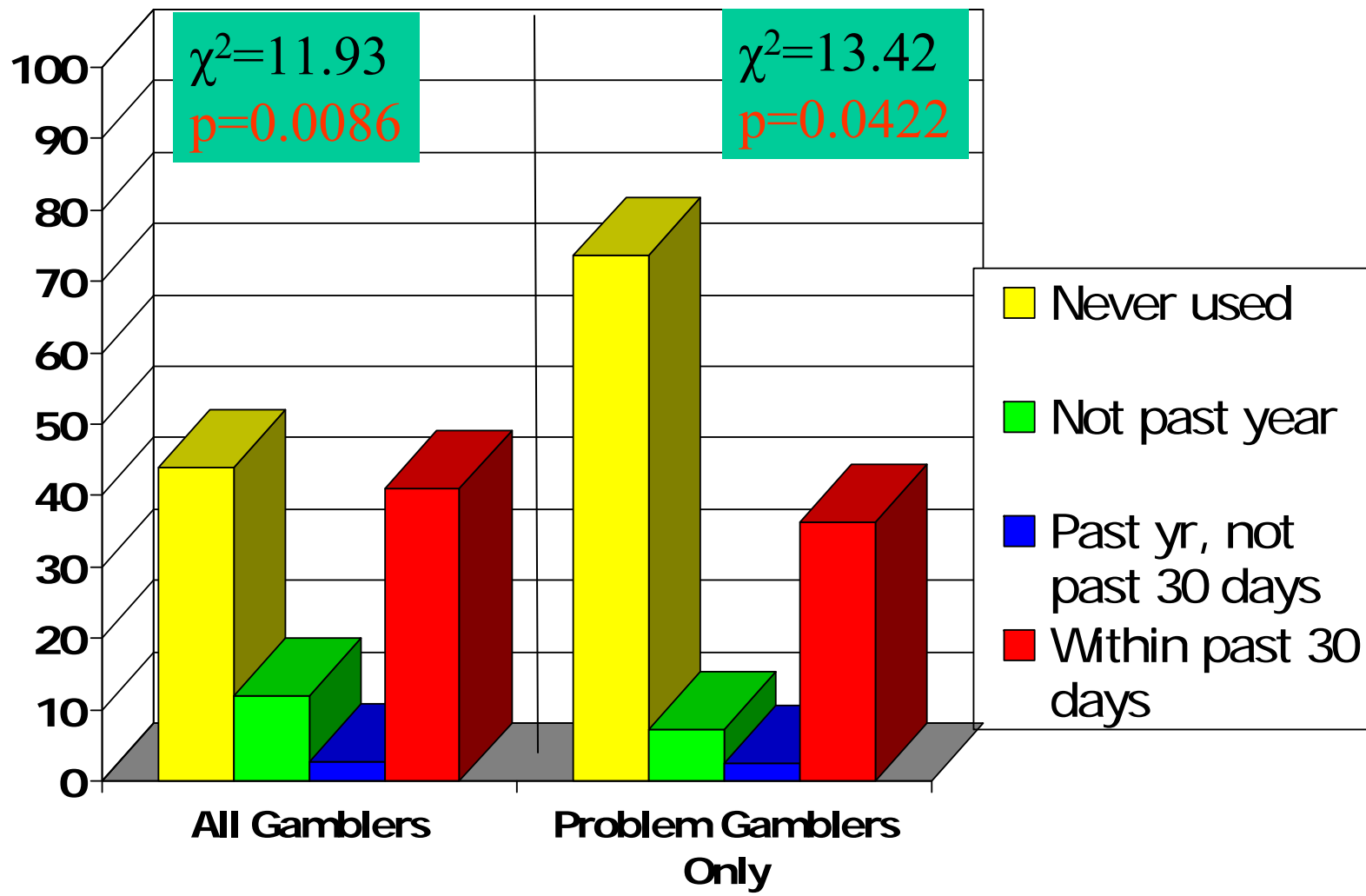
It's drug addiction.

[www.drugabuse.gov](http://www.drugabuse.gov)



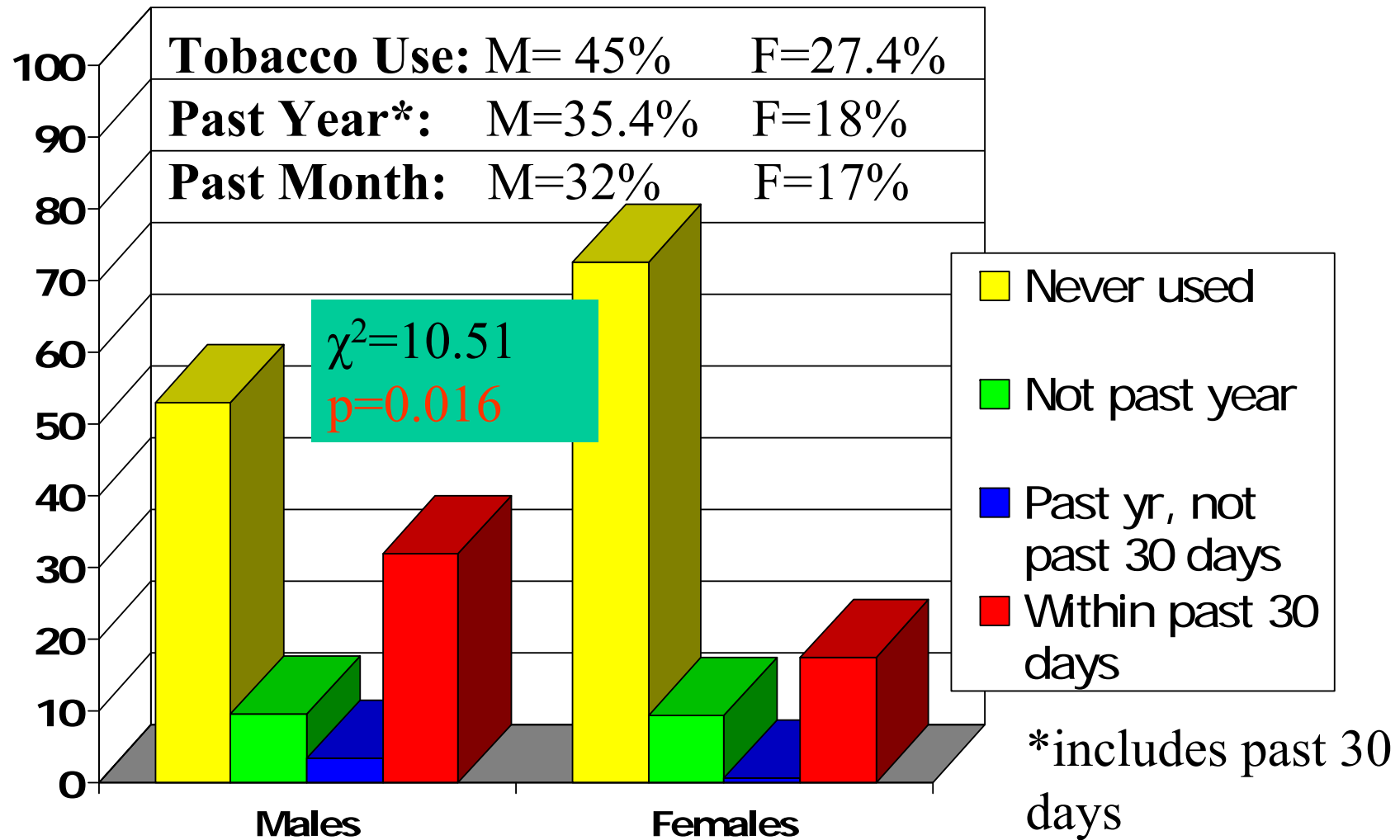
Washington University in St. Louis

# Lifetime Gambling & Gambling Status By Tobacco Use Frequency

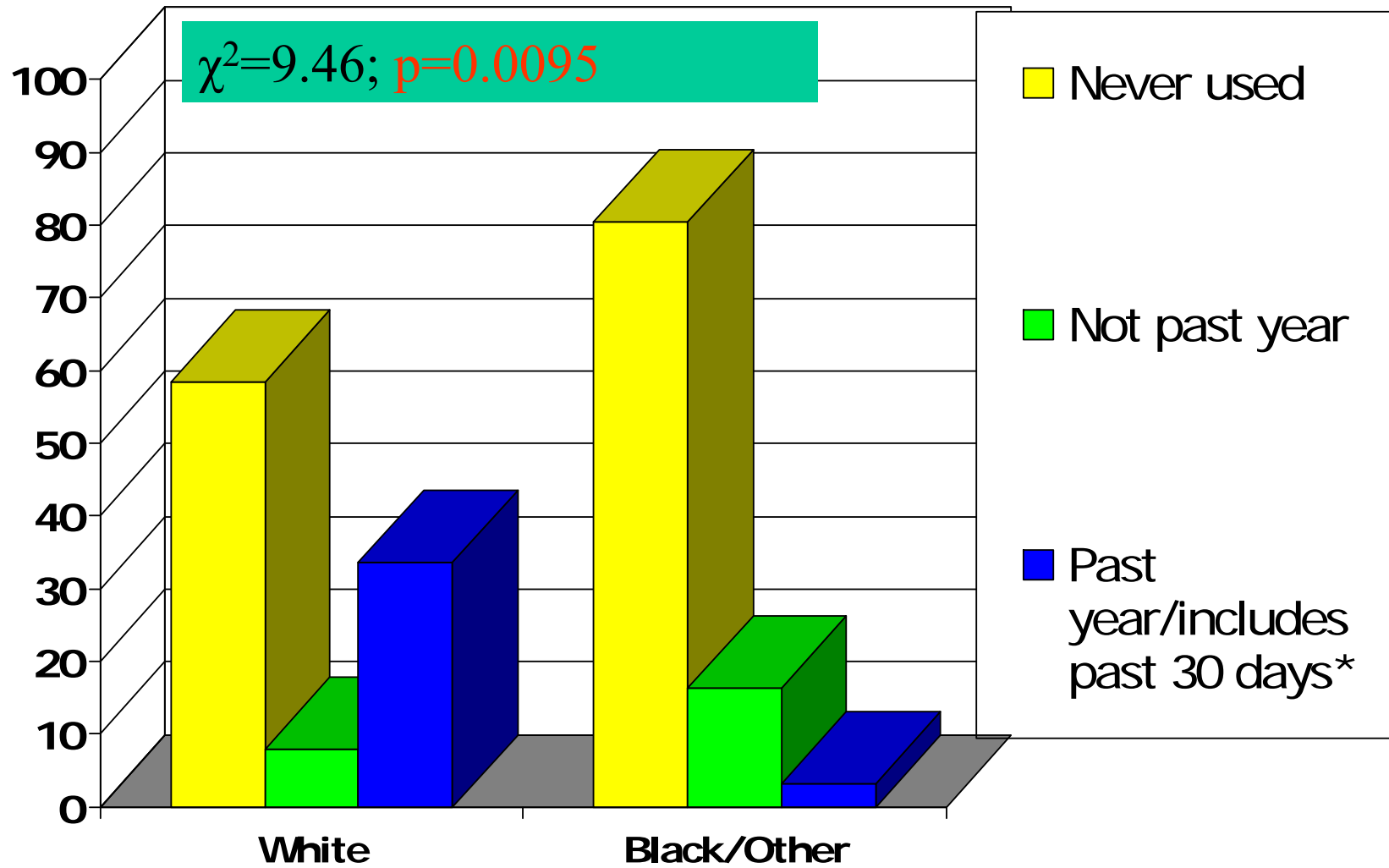


# Lifetime & Current Tobacco Use Frequency

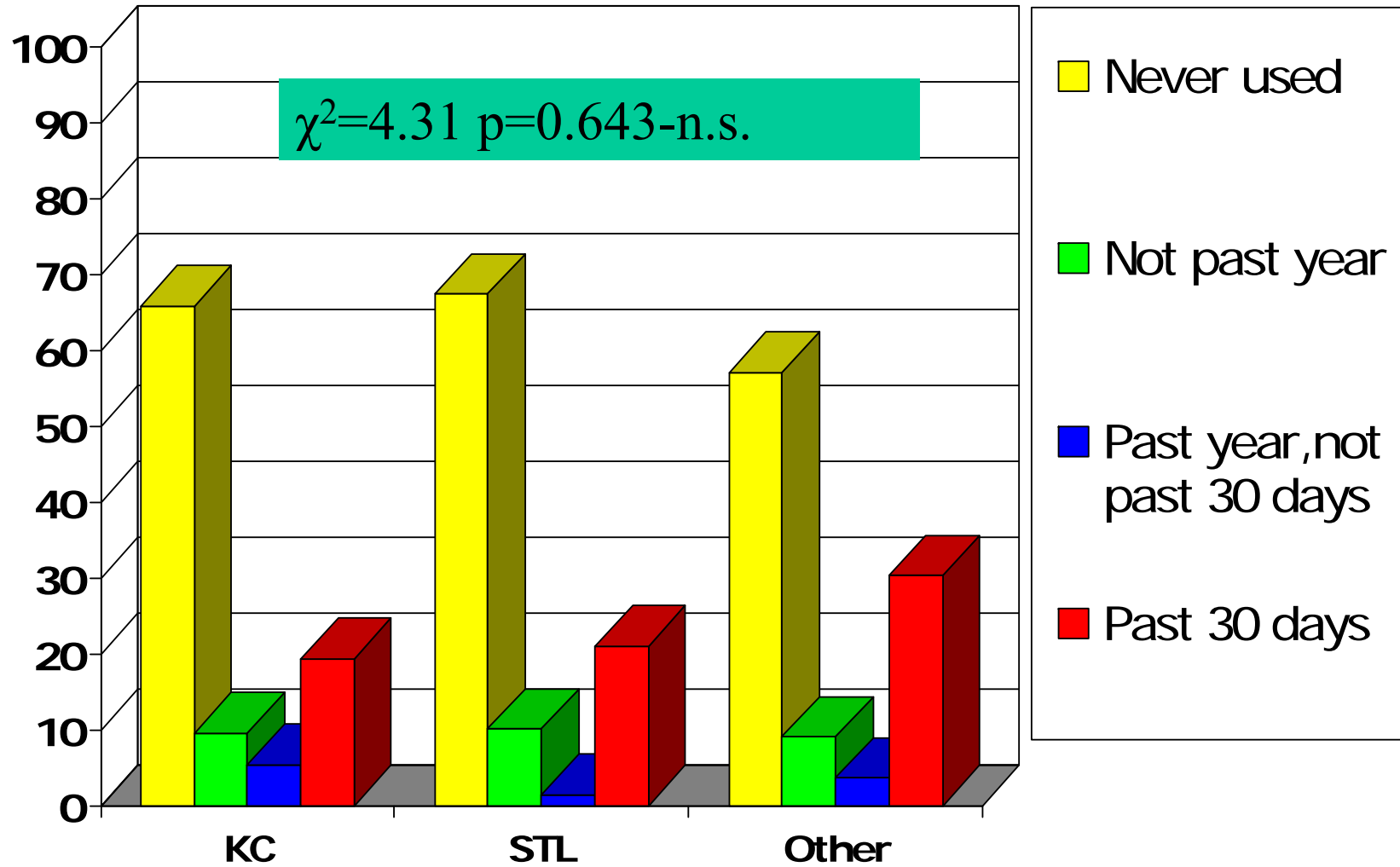
## Males vs. Females



# Tobacco Use Frequency By Race



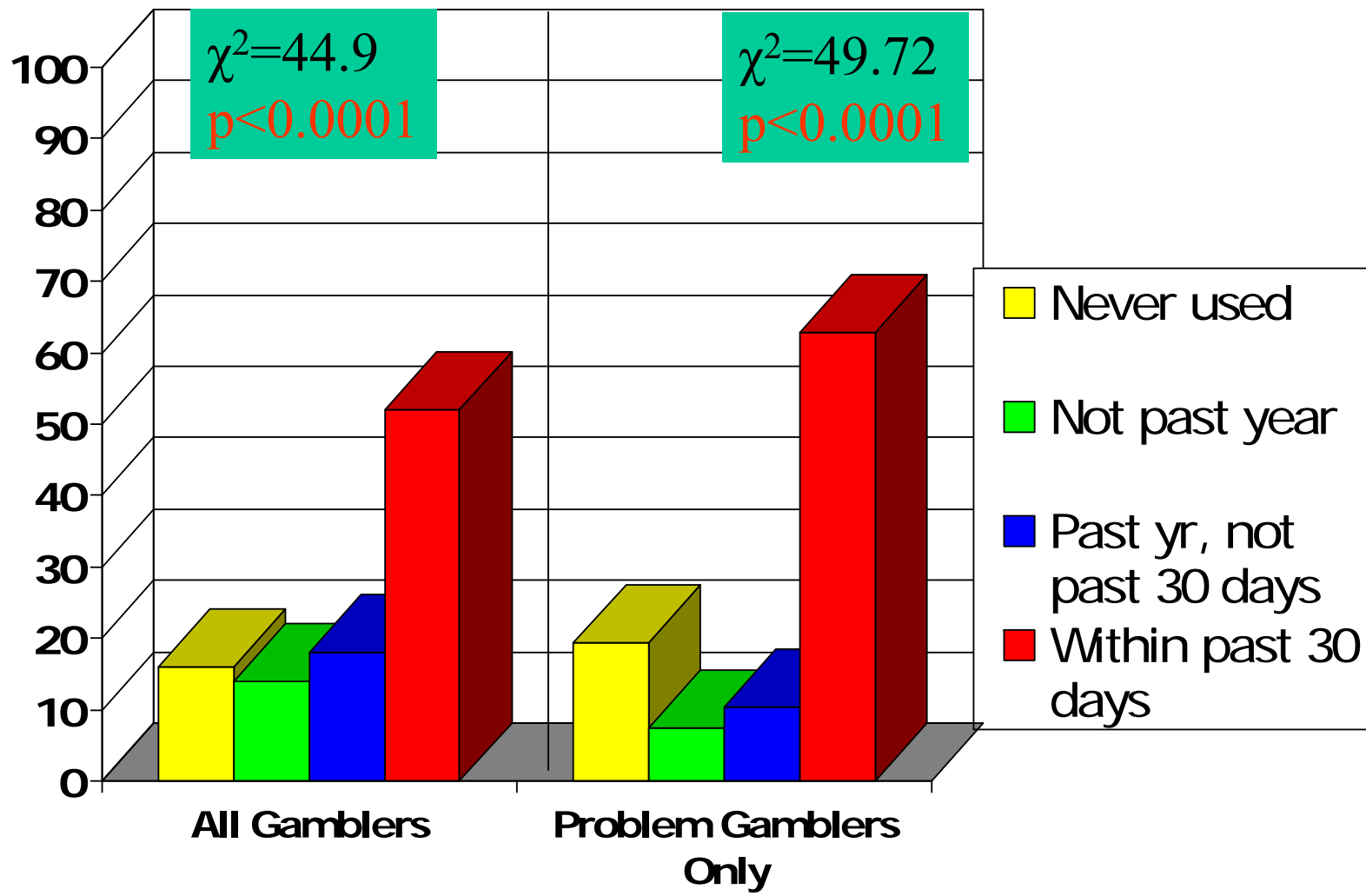
# Tobacco Use Frequency Missouri Region



# Alcohol

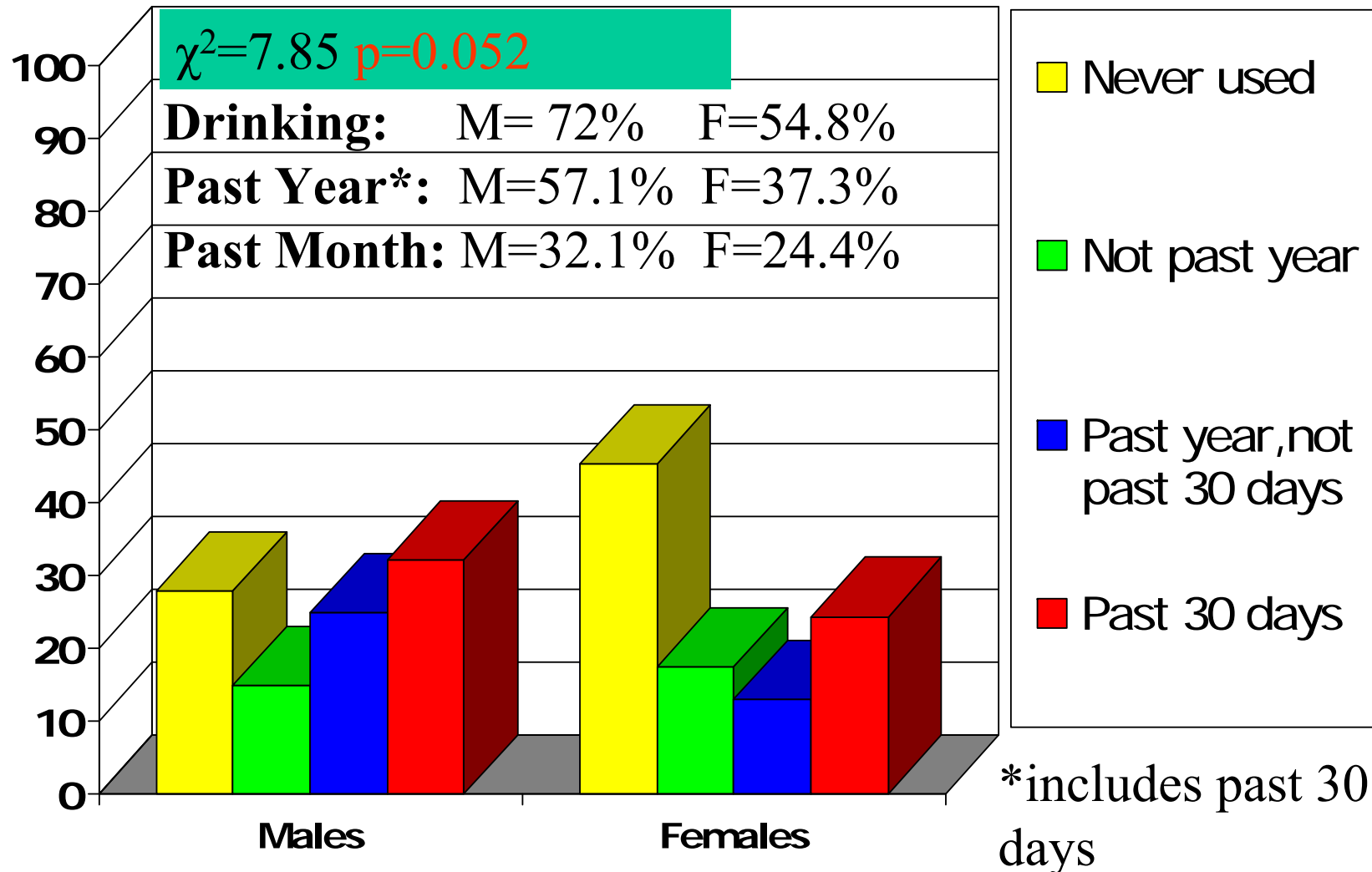


# Lifetime Gambling & Gambling Status By Alcohol Use Frequency

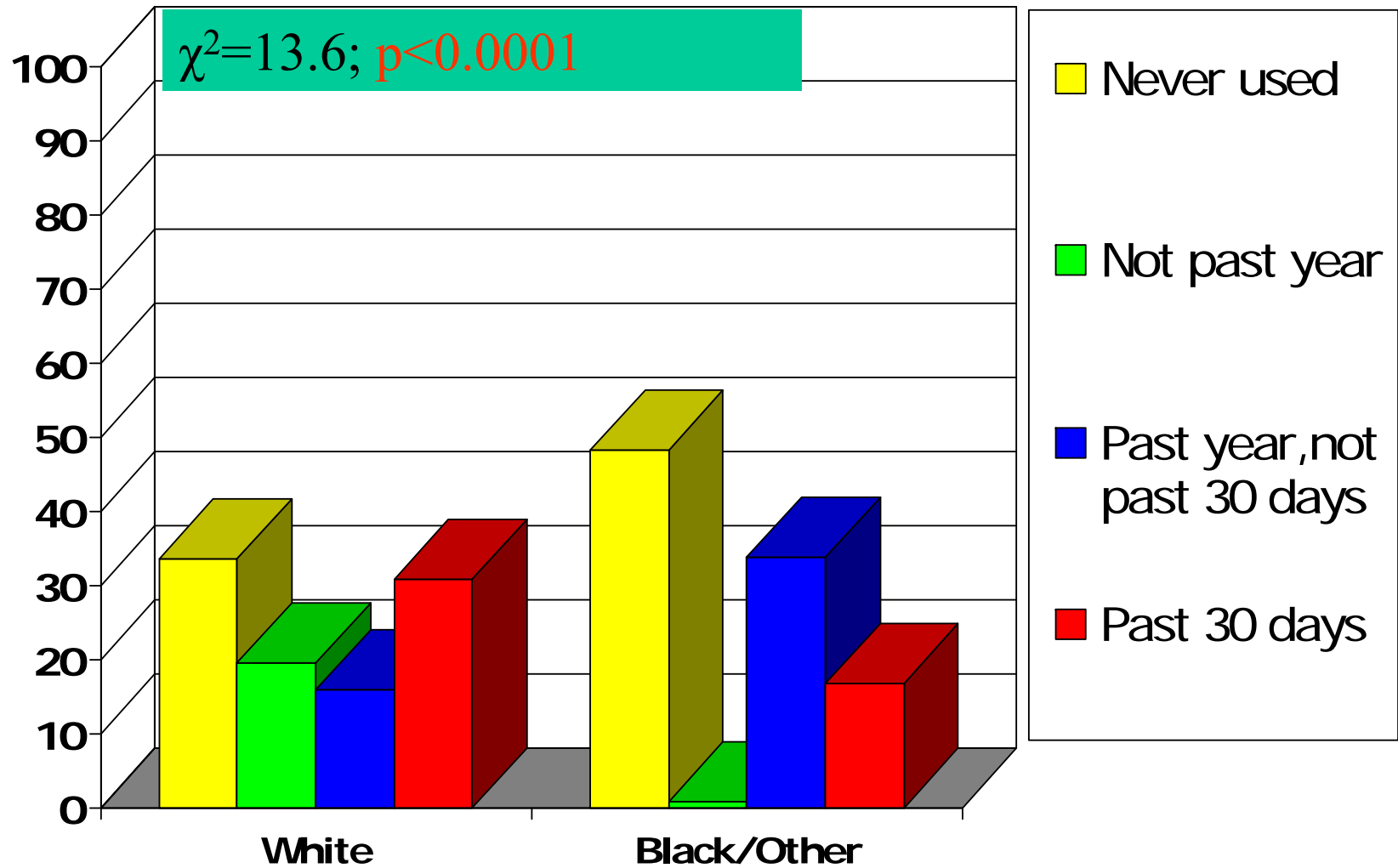


# Lifetime & Current Alcohol Use Frequency

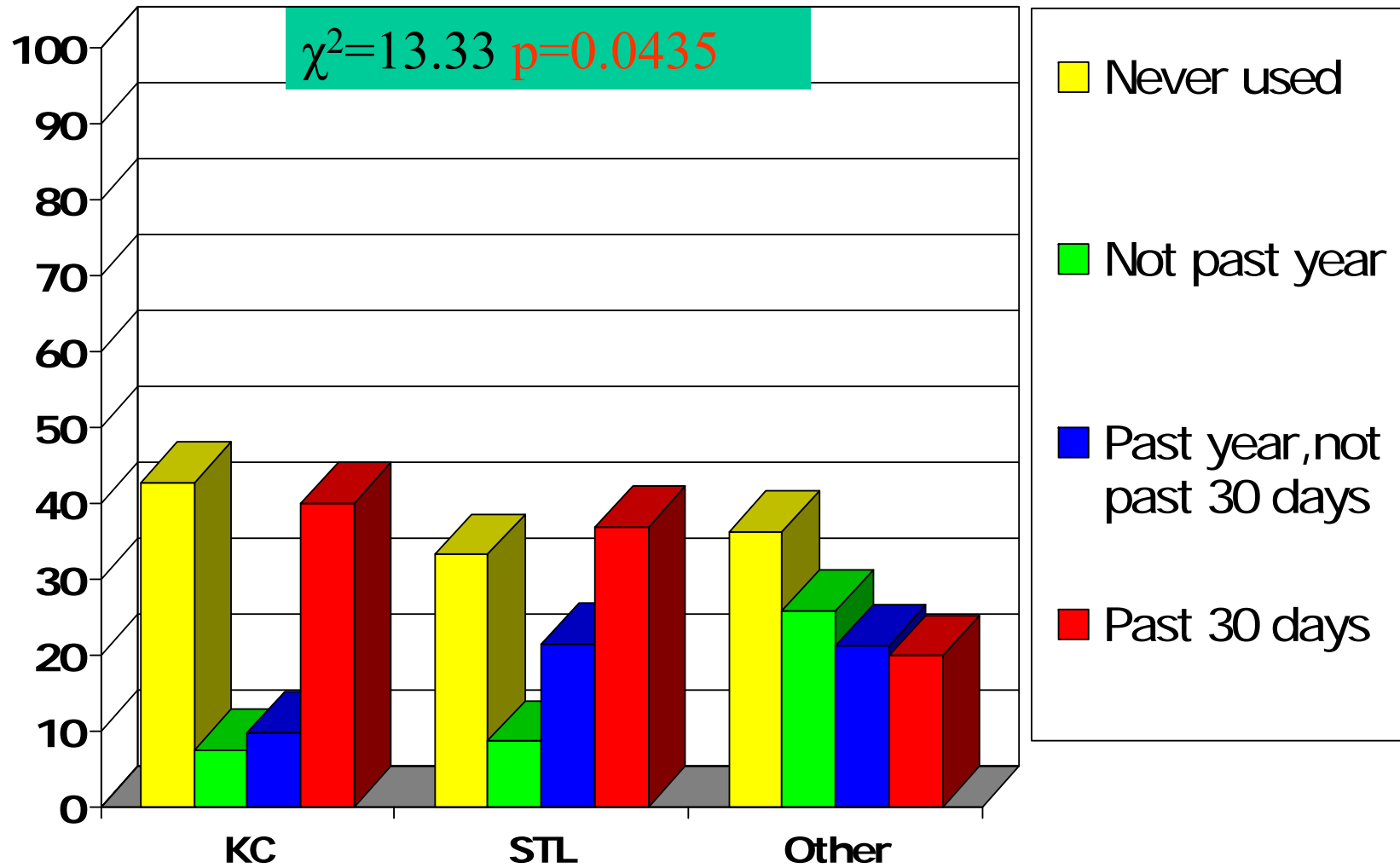
## Males vs. Females



# Alcohol Use Frequency By Race

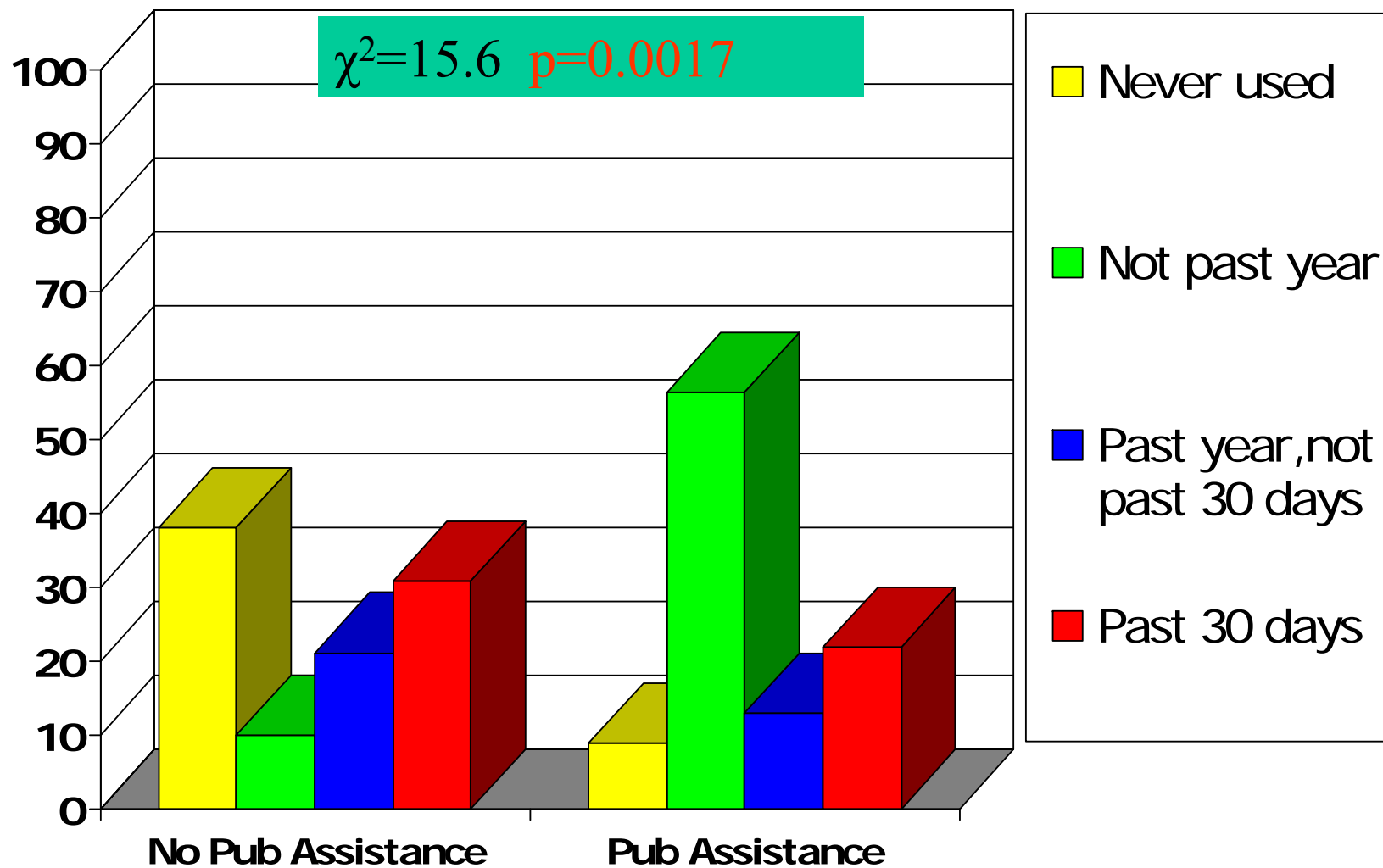


# Alcohol Use Frequency Missouri Region



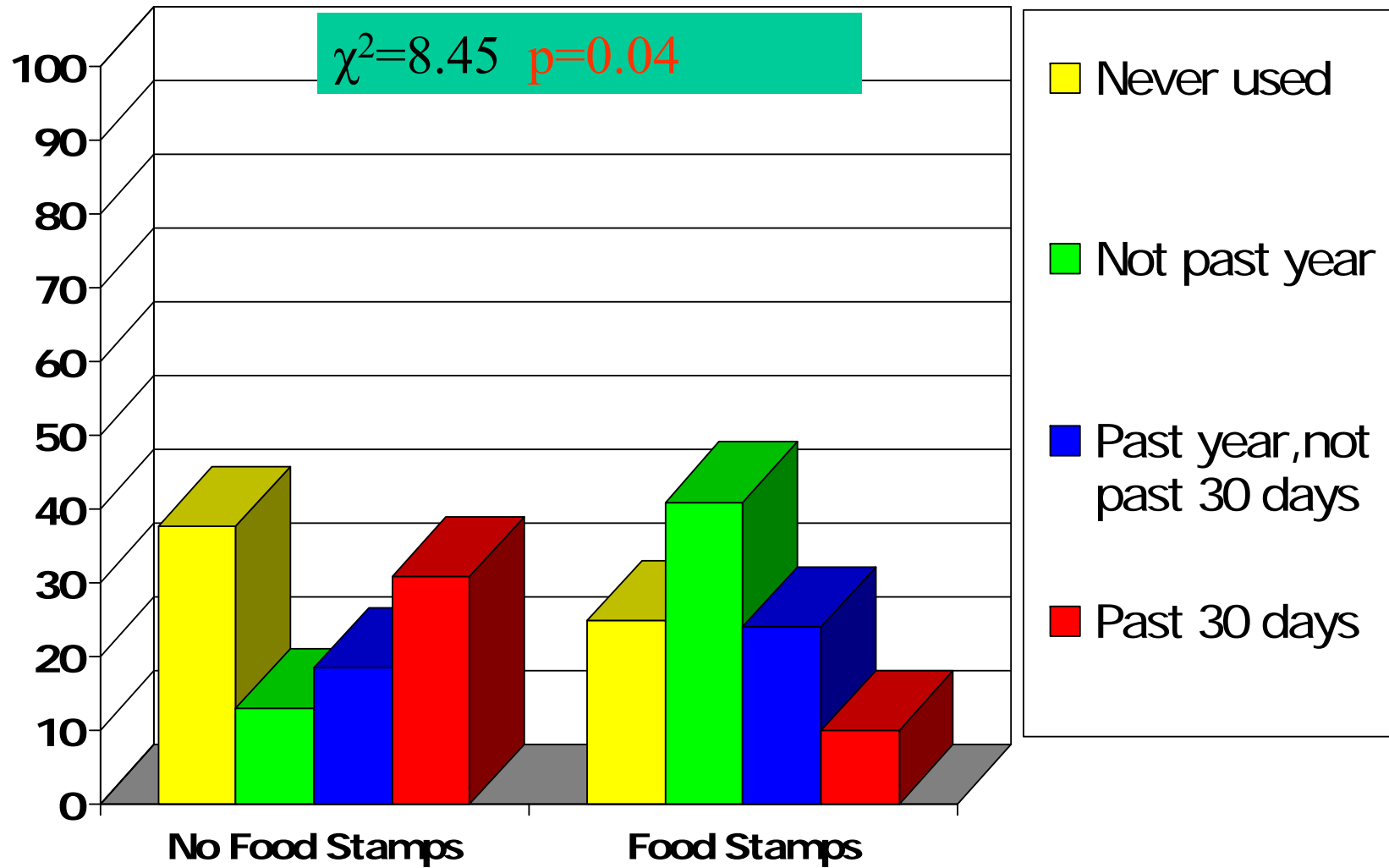
# Alcohol Use Frequency

## Receipt of Public Assistance



# Alcohol Use Frequency

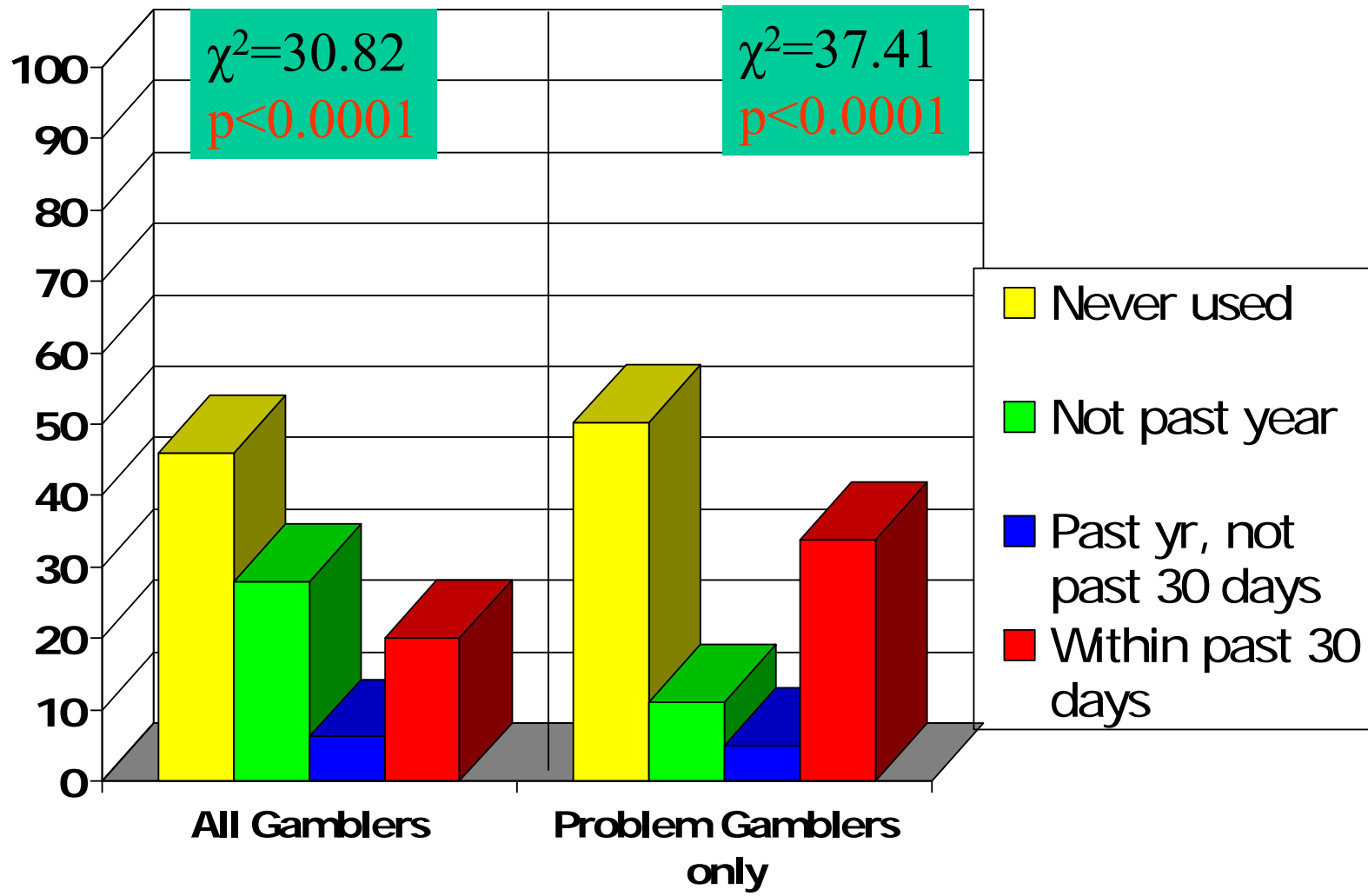
## Receipt of Food Stamps



# Ilicit Drugs

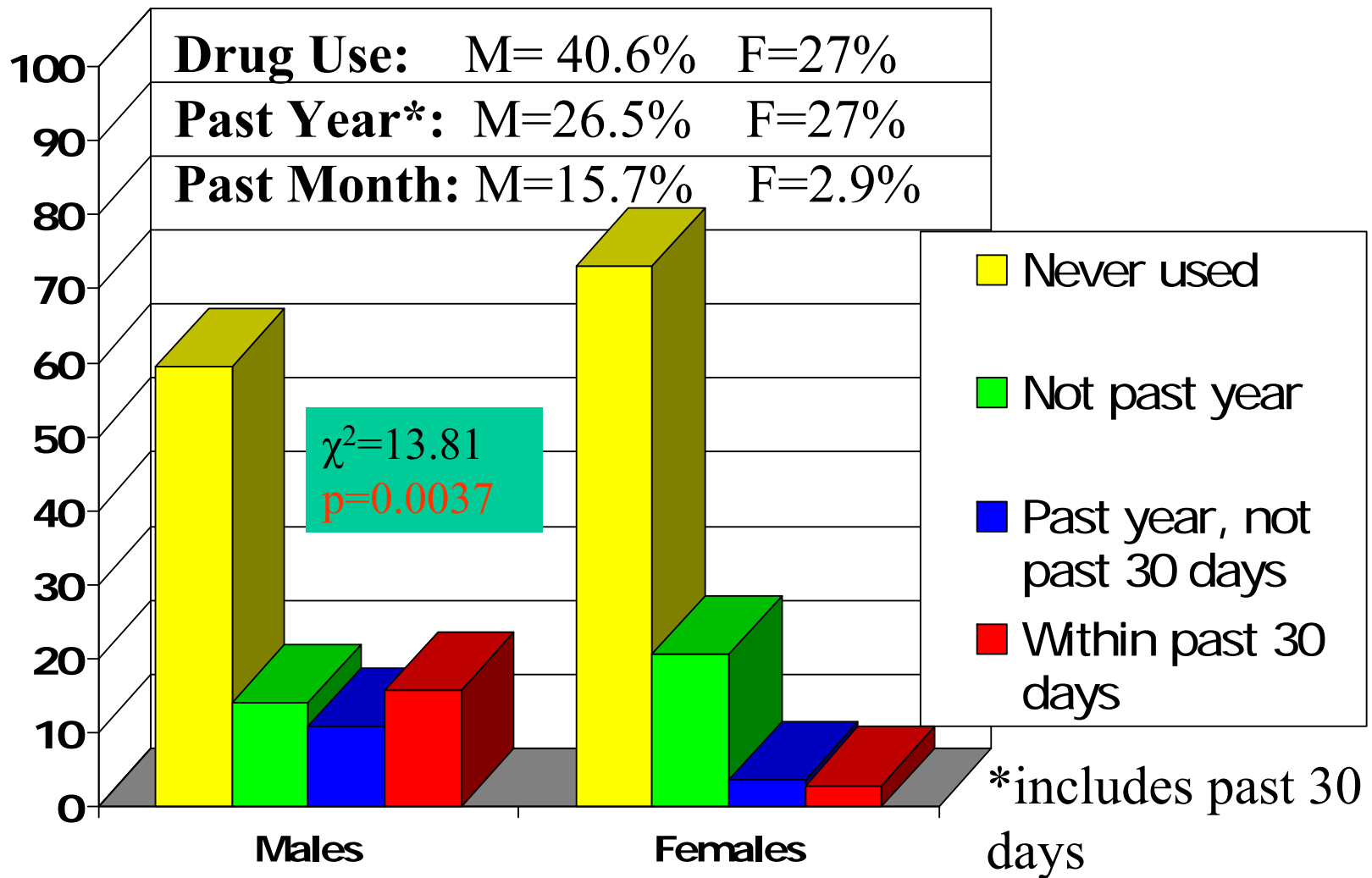


# Lifetime Gambling & Gambling Status By Drug Use Frequency

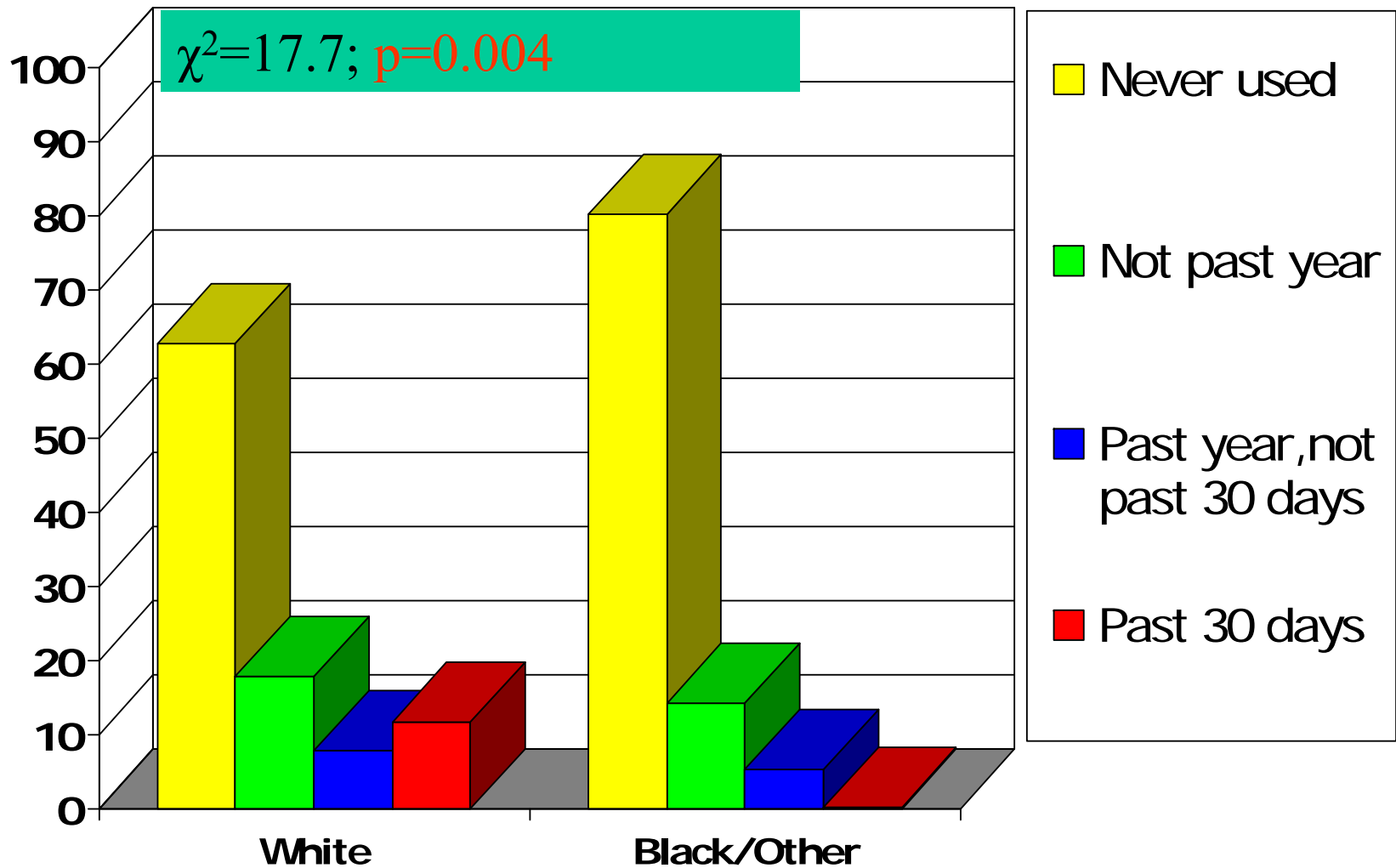


# Lifetime & Current Drug Use Frequency

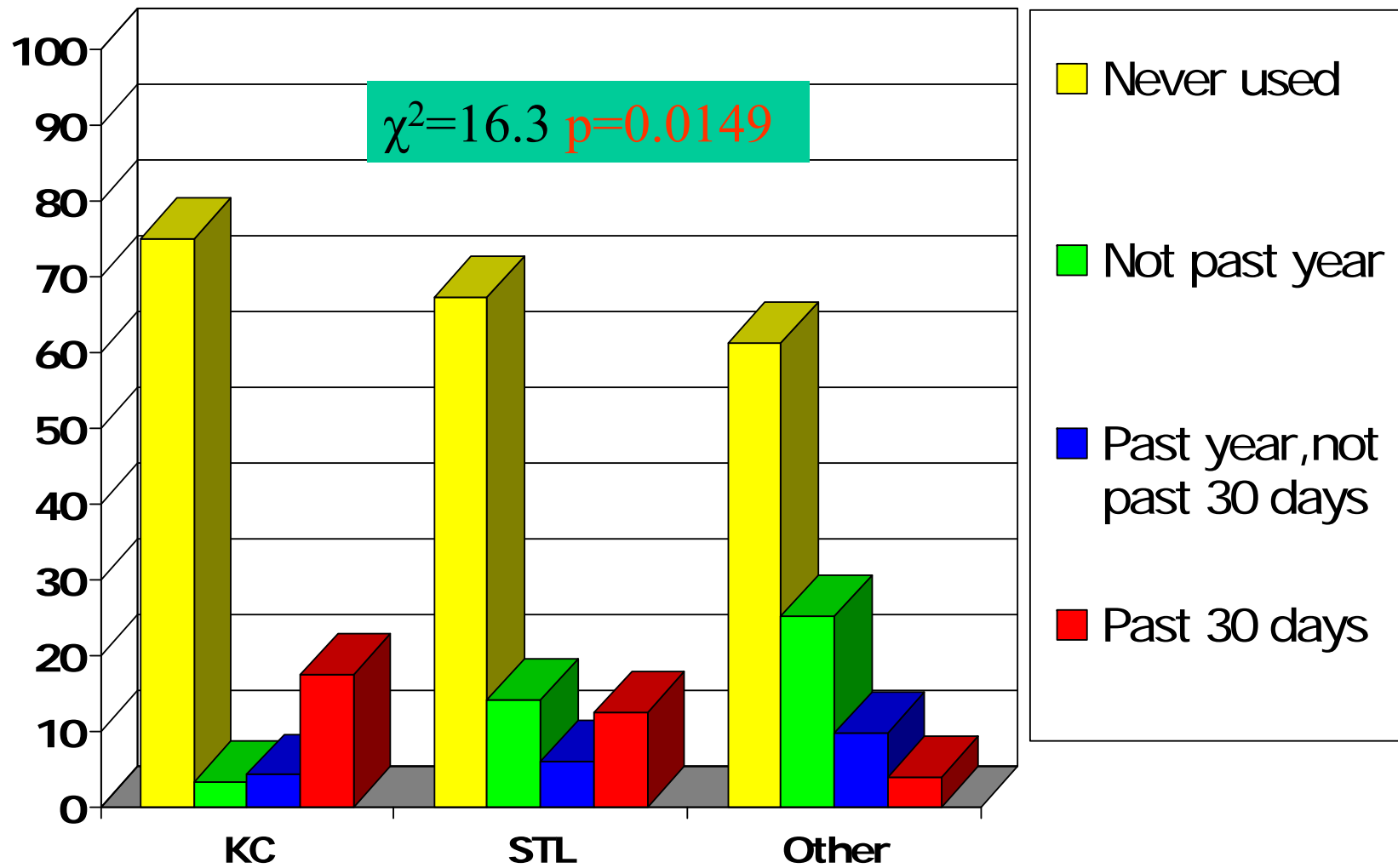
## Males vs. Females



# Drug Use Frequency By Race

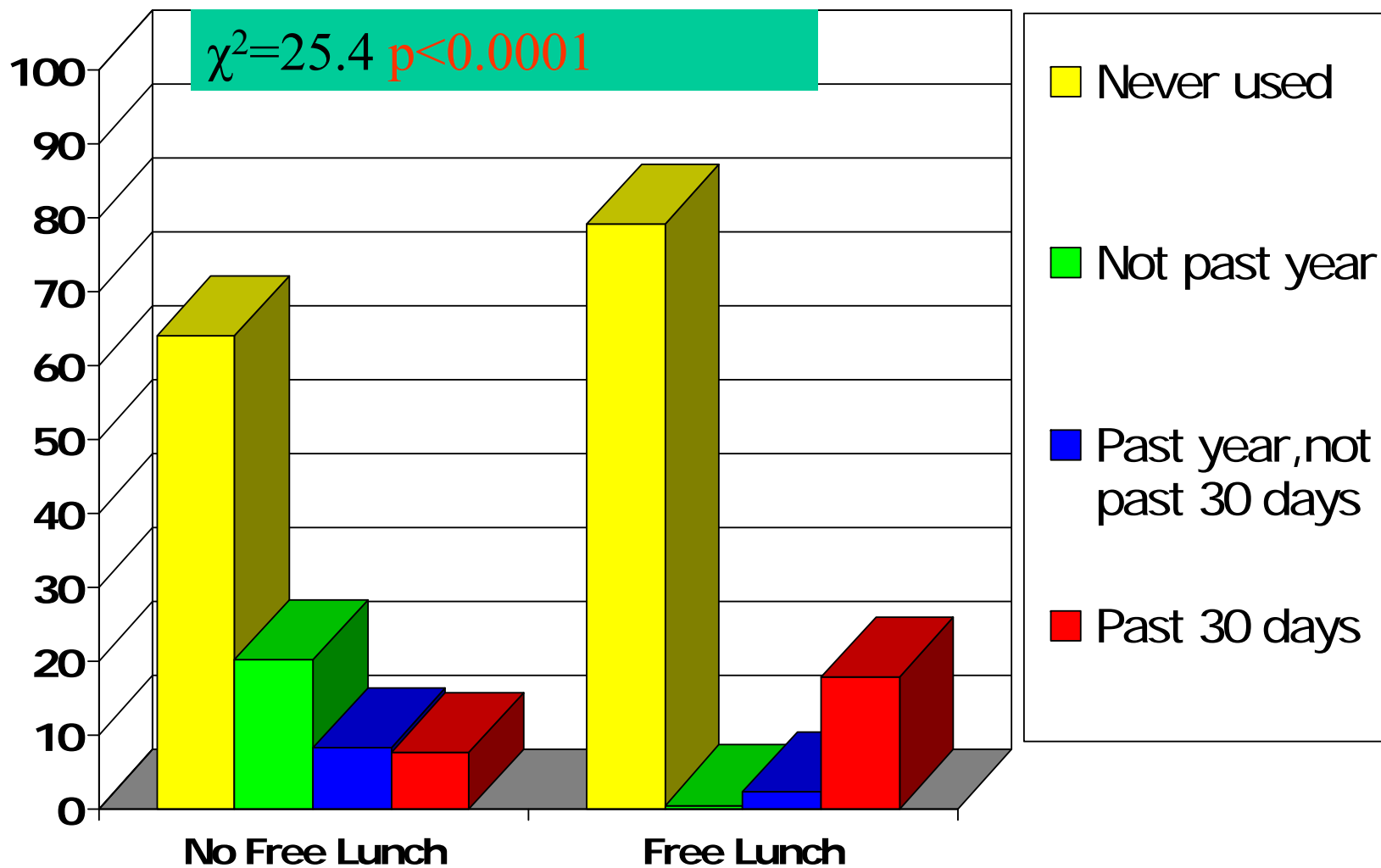


# Drug Use Frequency Missouri Region



# Drug Use Frequency

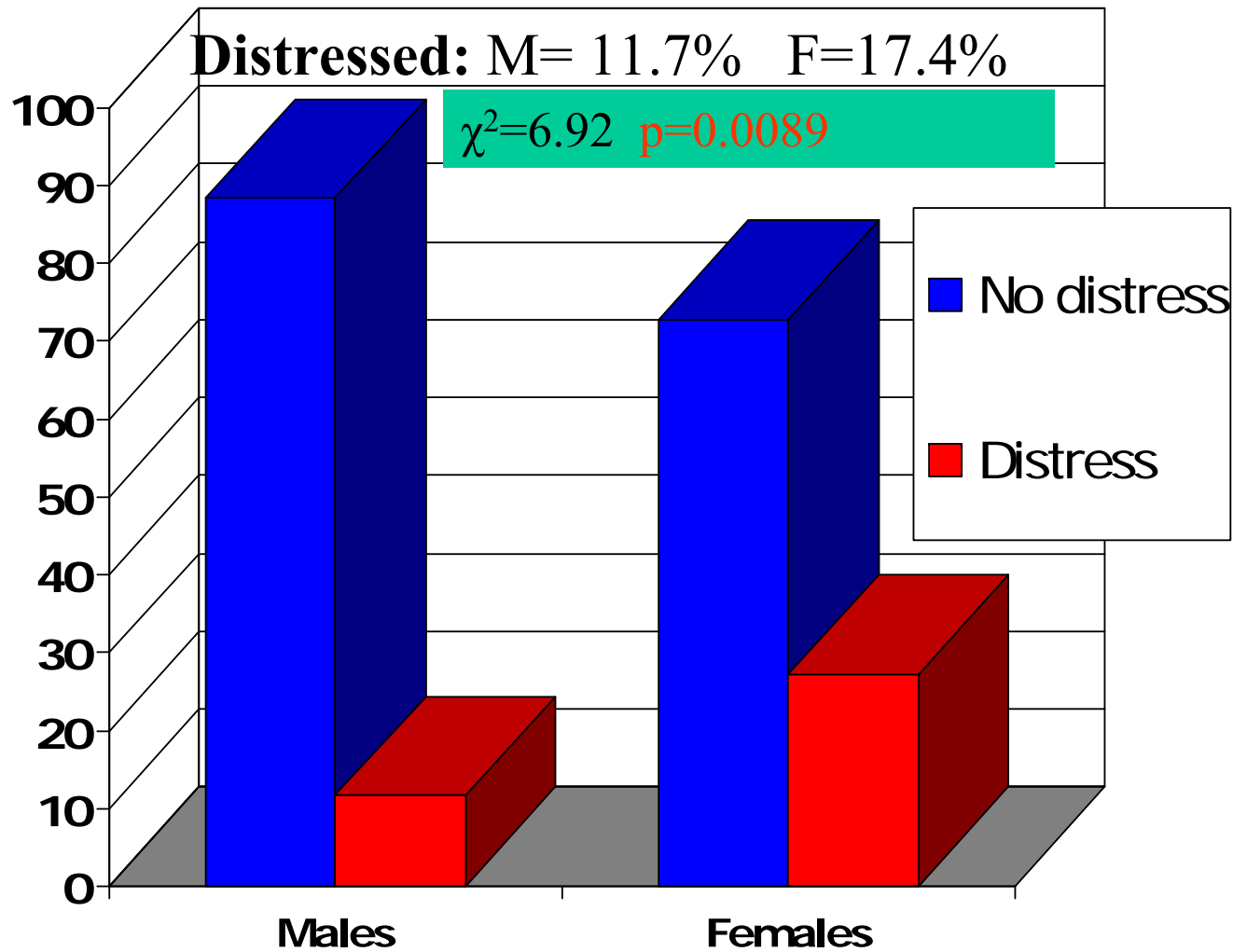
## Receipt of Free Lunch Program



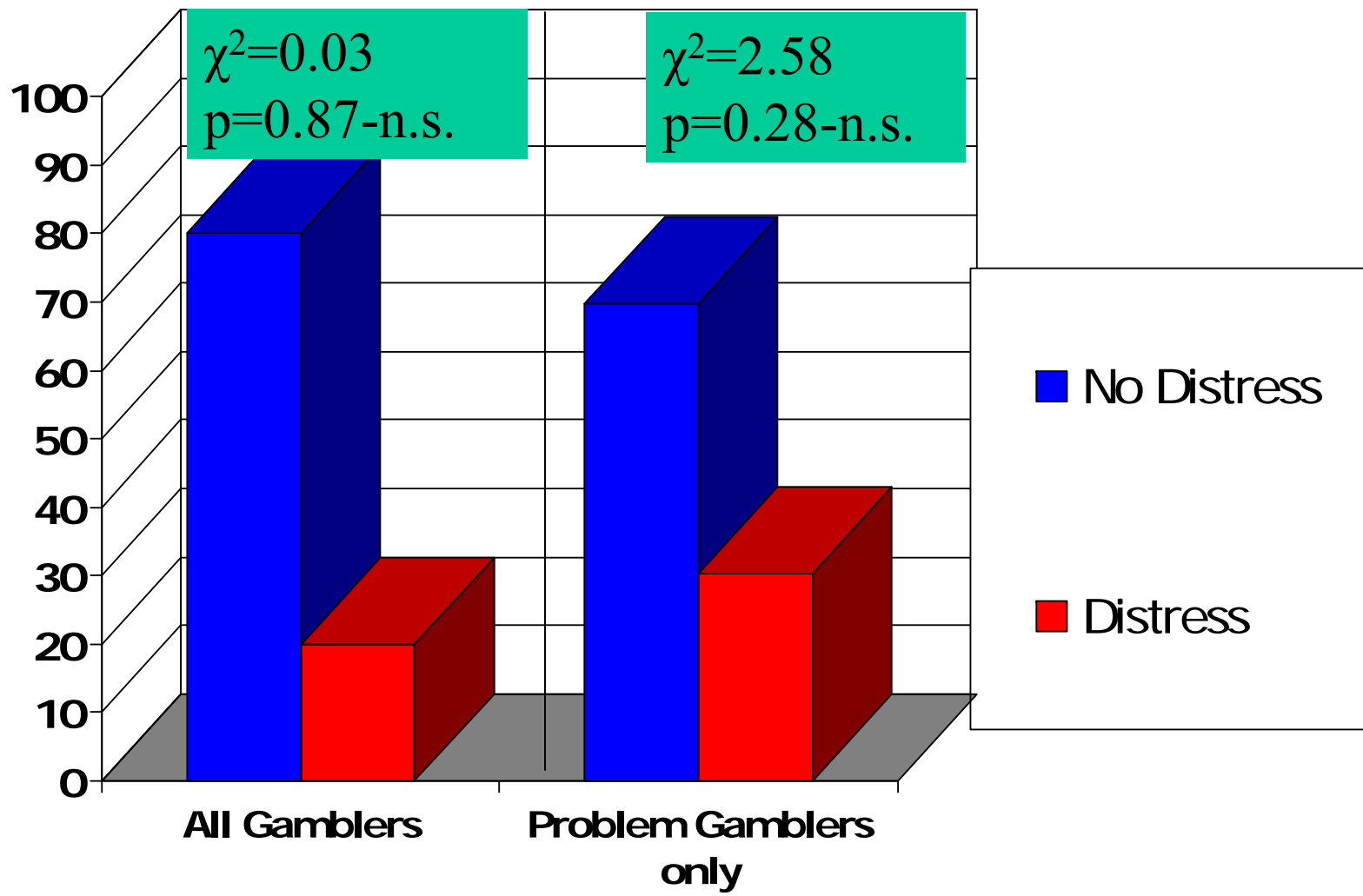
# Depression



# % Depressive Symptoms Males vs. Females



# Lifetime Gambling & Gambling Status By Depression



# Summary:

*Missouri's First Household Study of Youth 14-25 year olds  
(n=351)*

- *Nearly 40% youth have gambled >5X lifetime*
- *Mean Age of onset: 11.6 (personal skill games); Most games = age 15 ; Casino games: age 19-20*
- *By age 20, 50% of Missouri youth would have placed a bet or gambled >5X*



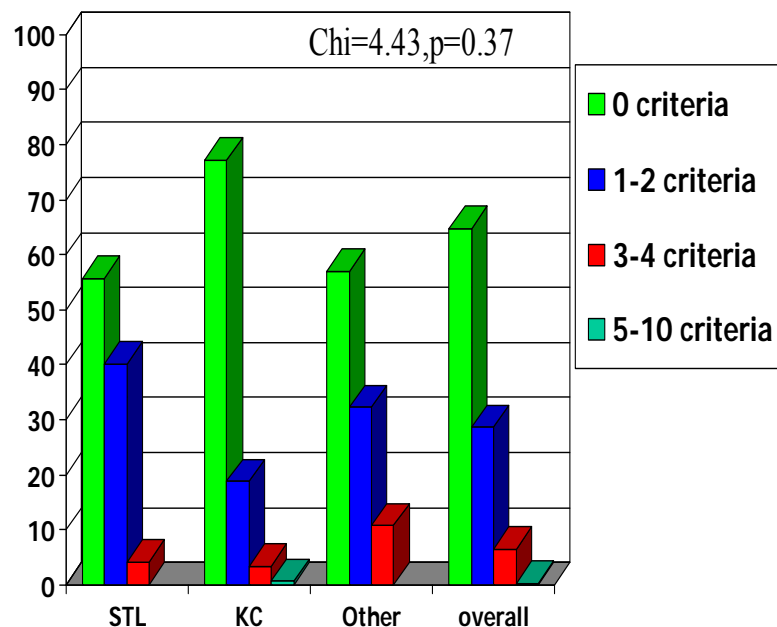
TOO YOUNG TO GAMBLE?  
DON'T BET ON IT.

# Summary:

## Disordered Gambling

Lifetime Prevalence: Gambling Status\*

Missouri Region (n=351) DSMIV



*At-risk = 28.6%*

*Problem = 6.4%*

*Disorder = 0.2%*

# Summary (cont'd):

## Males (vs. Females):

Gambled more, Greater variety of games,  
More gambling problems, Earlier onset of symptoms

*~ No regional, age, race, or poverty indicator  
differences in these rates ~*

## Youth gambling & Problem gambling related to frequency of:

Smoking, Drinking, Drug Use

*~ But not clinical distress ~*



# Implications

## Clinical:

- Gambling behavior may be an indicator of other risky behaviors (e.g. substance use)
- Early screening & prevention/intervention for gambling warranted especially among males



# Implications

## Research:

- Disentangling gambling & co-occurring substances
- Assessing protective factors for underage gambling
- Longitudinal study of these youths through period of risk

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KC-MO-GAM Study

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