

## 5.2 Adults and Alcohol

Alcohol use is very common in our society. Drinking alcohol has immediate effects that can increase the risk of many harmful health conditions.<sup>1</sup>

Excessive alcohol use, either in the form of heavy drinking (drinking more than two drinks per day on average for men or more than one drink per day on average for women), or binge drinking (drinking 5 or more drinks during a single occasion for men or 4 or more drinks during a single occasion for women), can lead to increased risk of health problems such as injuries, violence, liver diseases, or cancer.<sup>2</sup>

According to national surveys, over half of the adult US population drank alcohol in the past 30 days. Approximately 5% of the total population drank heavily while 15% of the population binge drank. National surveys previously defined binge drinking as more than 4 drinks for both men and women. Every year there are approximately 79,000 deaths attributable to excessive alcohol use in the United States. In fact, excessive alcohol use is the 3rd leading lifestyle-related cause of death for people in the United States each year. Additionally, excessive alcohol use is responsible for 2.3 million years of potential life lost (YPLL) annually, or an average of about 30 years of potential life lost for each death.<sup>3</sup> In Kalamazoo County in 2010, 23 deaths were alcohol-induced.<sup>4</sup>

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<sup>1</sup> Alcohol and Public Health, 2012, Centers for Disease Control, accessed at <http://www.cdc.gov/alcohol/index.htm>

<sup>2</sup> Alcohol and Public Health, 2012, Centers for Disease Control, accessed at <http://www.cdc.gov/alcohol/index.htm>

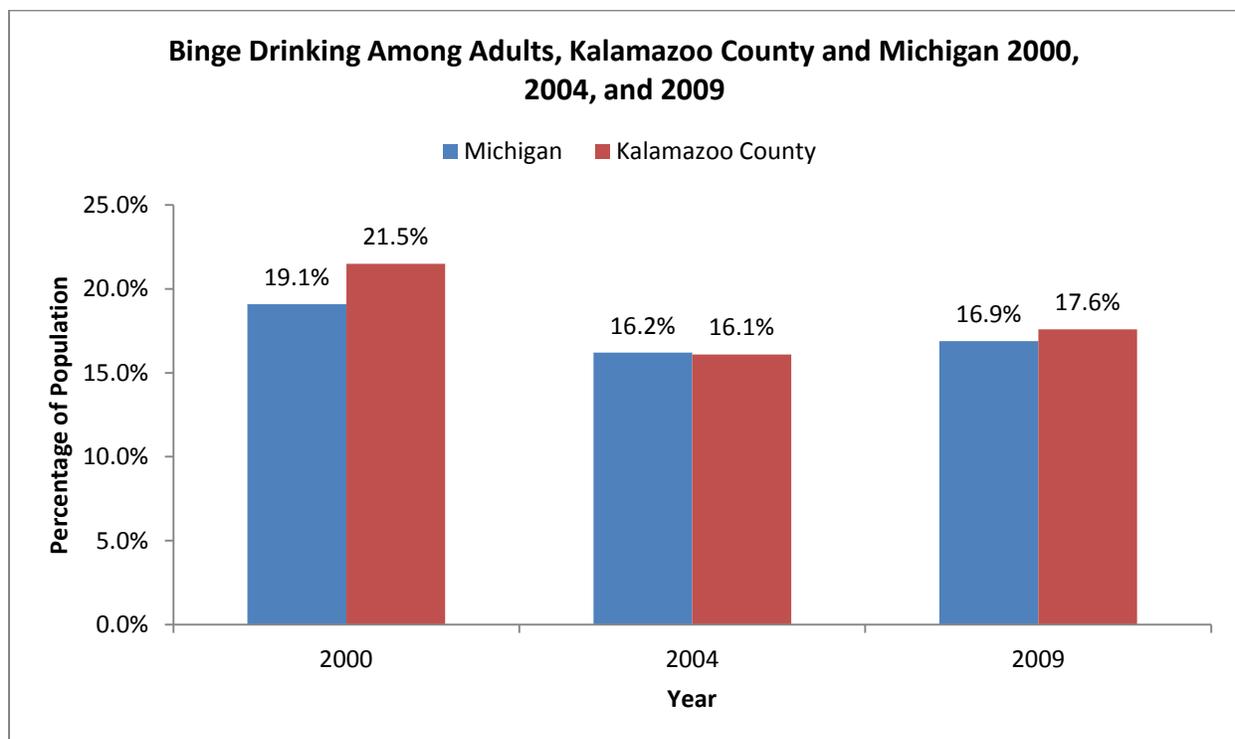
<sup>3</sup> Alcohol and Public Health, 2012, Centers for Disease Control, accessed at <http://www.cdc.gov/alcohol/index.htm>

<sup>4</sup> Michigan Department of Community Health, Division for Vital Records and Health Data Development, Resident Death File.

## 5.2.1 Alcohol Consumption and Drunk Driving

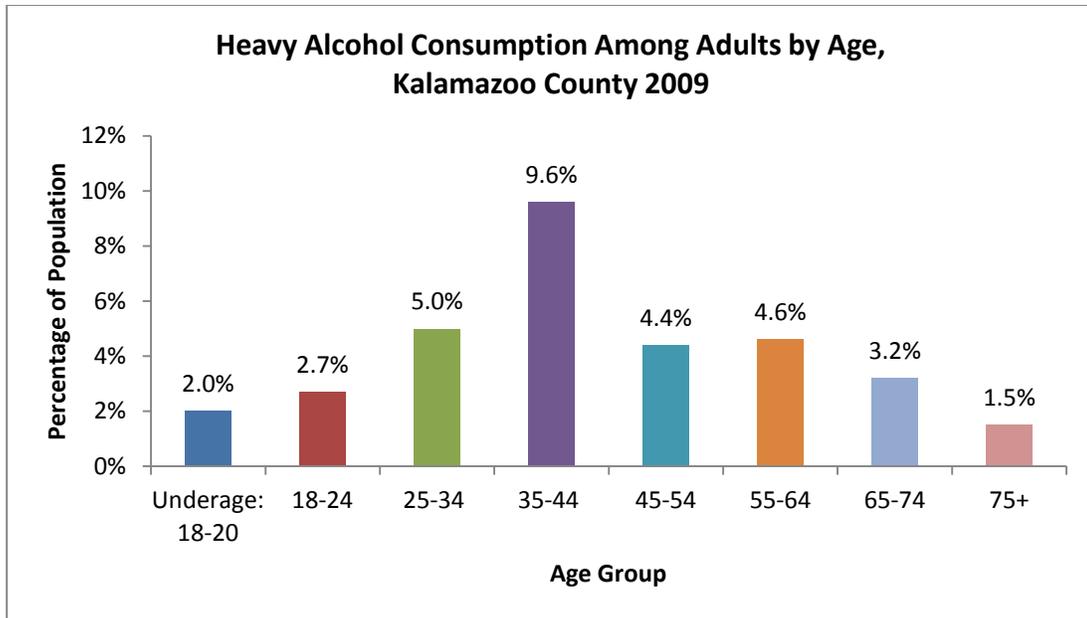
Statistics about alcohol consumption and drunk driving for Kalamazoo County come from behaviors self-reported in the Behavioral Risk Factor Survey. Heavy drinking is defined as having consumed in the previous month, on average, more than two alcoholic beverages per day for men or more than one alcoholic beverage per day for women. Binge drinking is defined as having consumed five or more alcoholic drinks on at least once occasion in the previous month. In Kalamazoo County in 2009, 4.8% of adults reported heavy drinking and 17.6% reported binge drinking. Respondents were also asked if they had driven when they'd perhaps had too much to drink at least once in the past month: 1.9% of adults reported drunk driving.

The total percentage of adults reporting binge drinking decreased in Kalamazoo County from 2000 to 2004. In 2000, an estimated 21.5% of adults binge drank in the previous month compared to 16.1% in 2004; the proportion of binge drinkers was similar between 2004 and 2009. The proportion of people who participated in binge drinking was approximately the same in Kalamazoo County and Michigan in 2000, 2004 and in 2009.



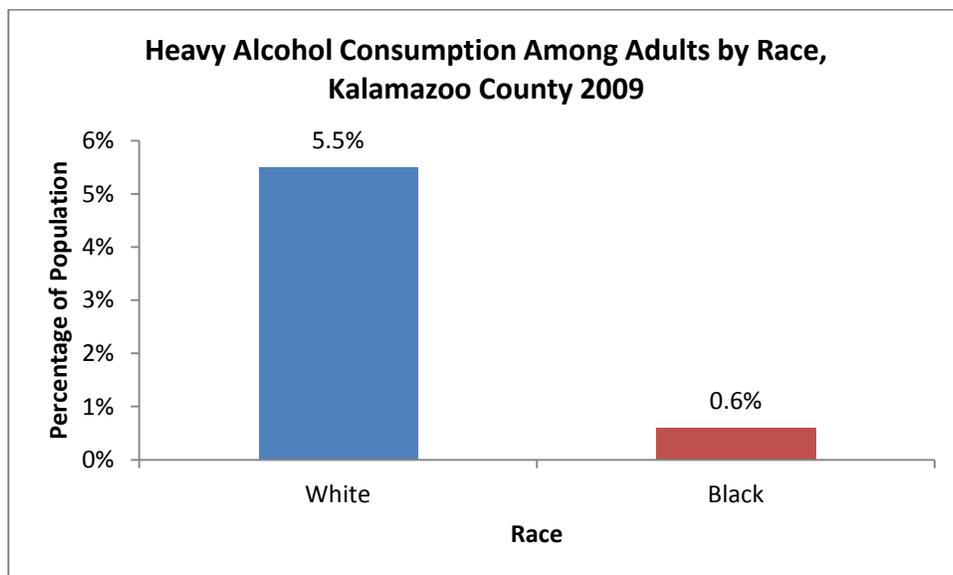
Source: Kalamazoo County and Michigan 2000, 2004, and 2009 Behavioral Risk Factor Survey

The prevalence of heavy drinking was similar across most age groups except for adults aged 35-44 years, who were the most likely to be heavy drinkers. Among underage drinkers between the ages of 18 and 20 (only adults could respond to the survey), the prevalence of heavy drinking was lower than among other age groups.



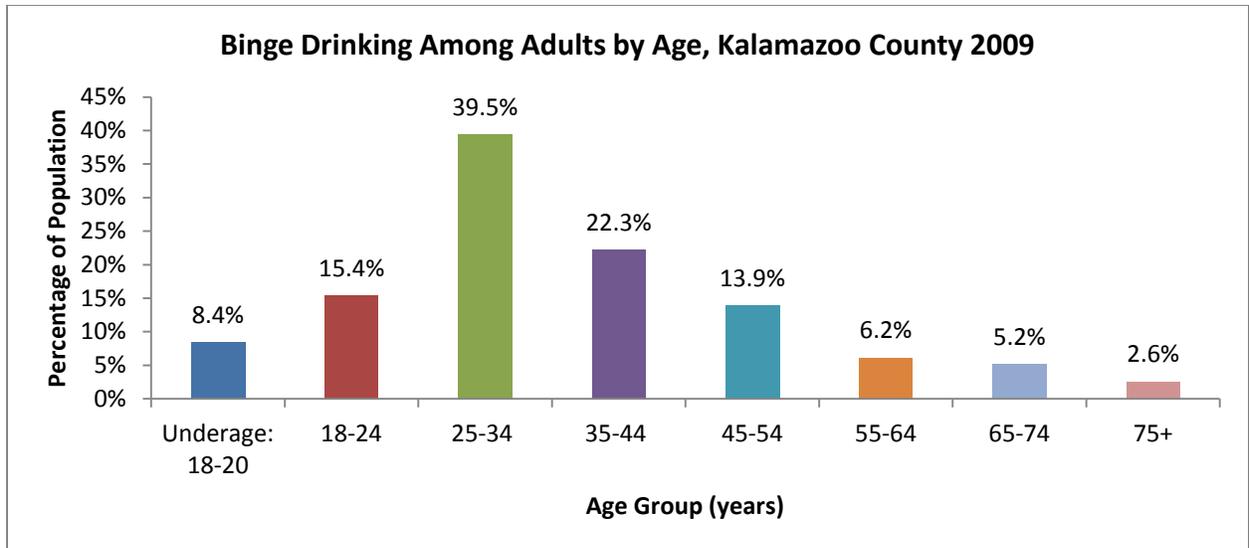
Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

The proportion of the population who were heavy drinkers was similar among females and males, across educational levels, and across income level. Among the white population, a higher percentage of adults were heavy drinkers (5.5%) than among the black population (0.6%).

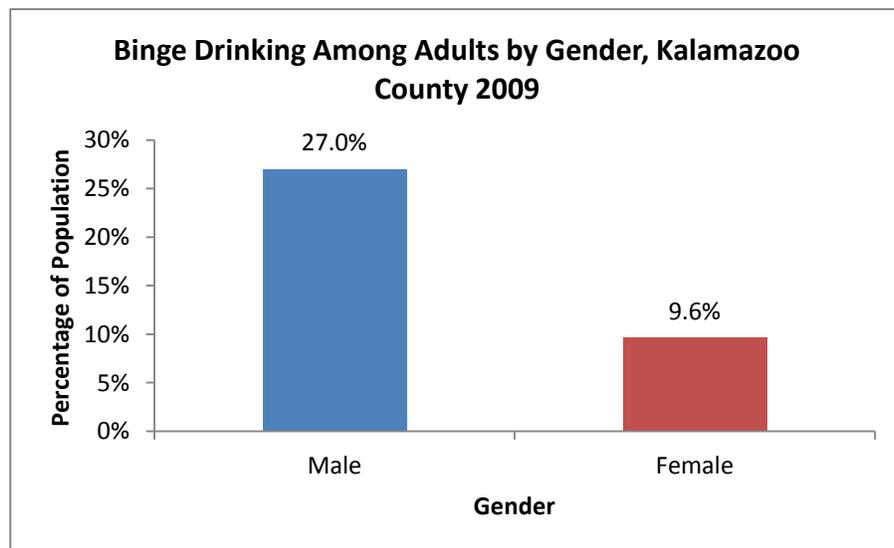


Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

The proportion of adults who binge drank in the previous month varied by age (more commonly reported among younger adults, with the 25-34 age group having the highest proportion of binge drinking) and sex (27.0% of males binge drank in the past month compared to 9.6% of females). There was no clear pattern between binge drinking and race, income, or education.

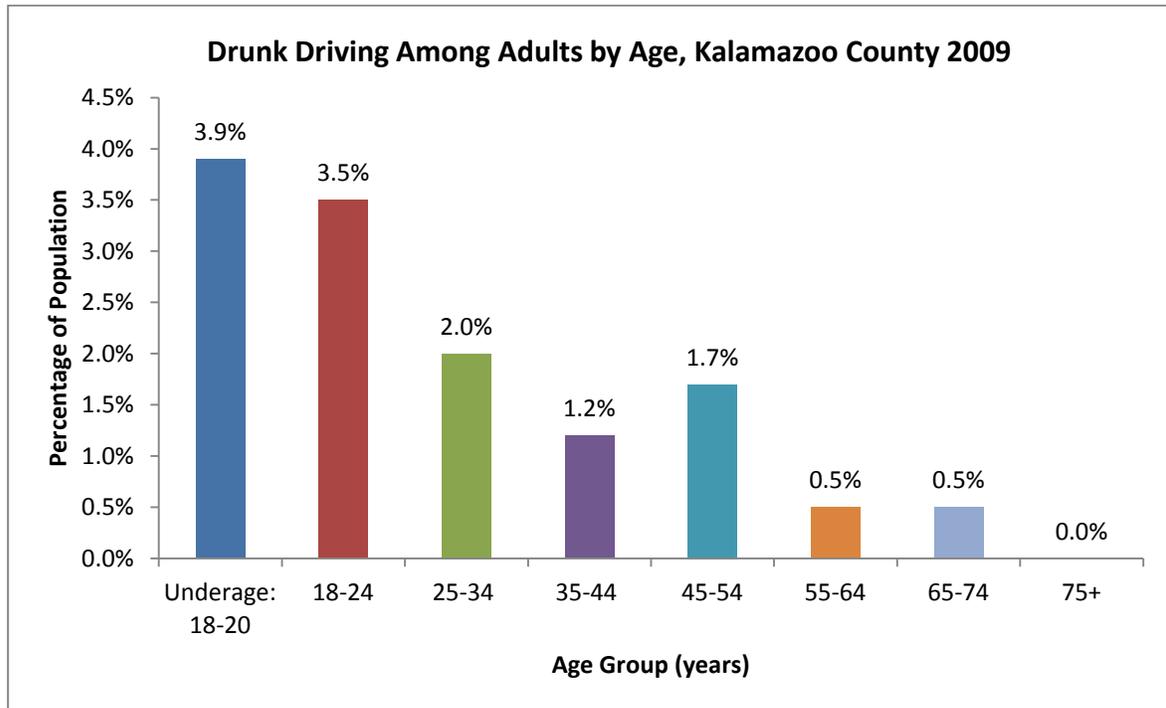


Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

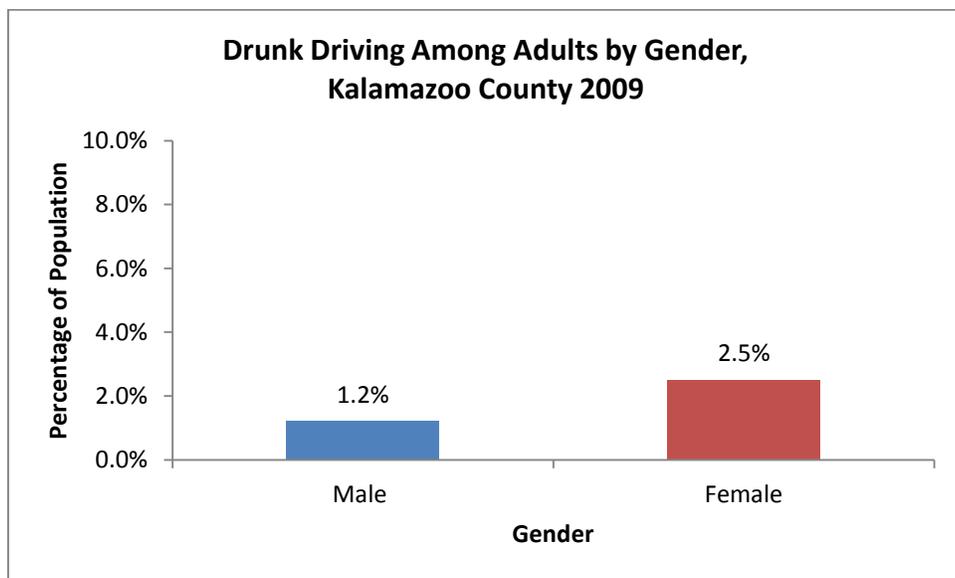


Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

Among adults in Kalamazoo County in 2009, 1.9% percent reported that they had driven drunk in the previous month. The prevalence of drunk driving varied little by education, income, race, and location of residence. Females were more than twice as likely to report having driven drunk than males. Drunk driving prevalence decreased with age, with the underage adult population being the most likely to drive drunk.



Source: Kalamazoo County 2009 Behavioral Risk Factor Survey



Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

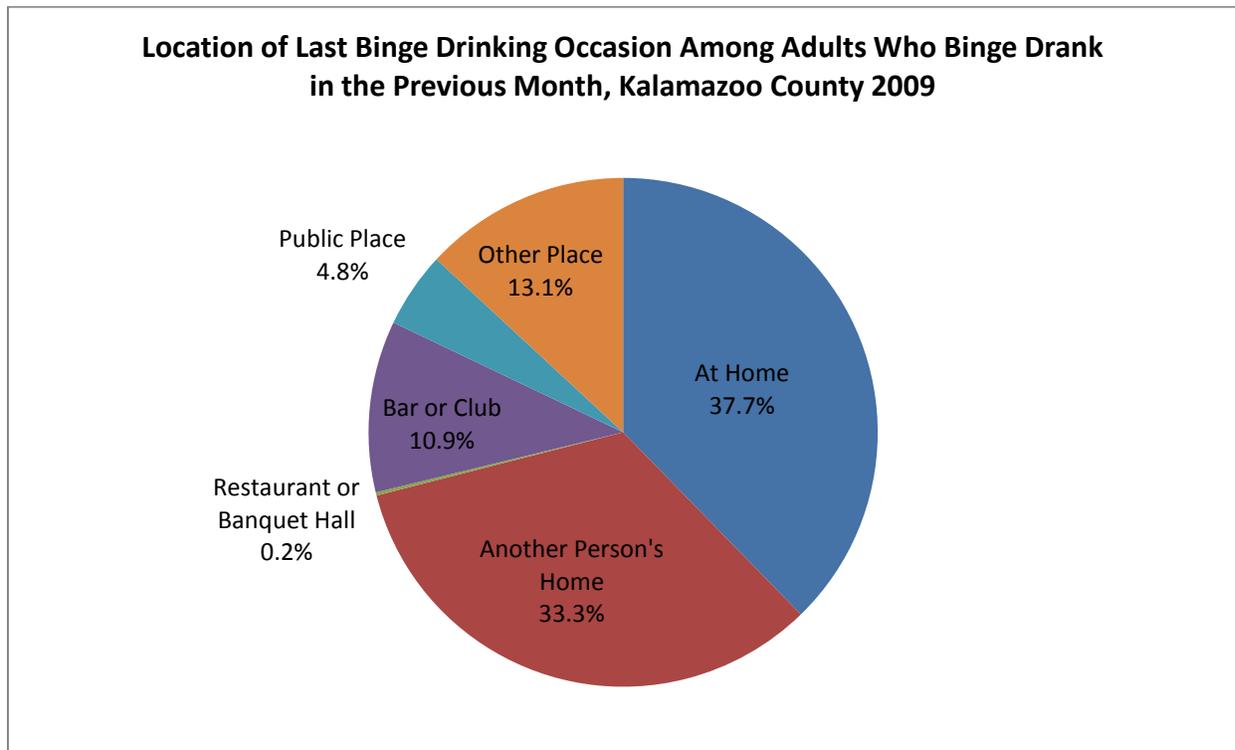
### Alcohol Consumption and Drunk Driving in the Past 30 Days, Kalamazoo County 2009

Demographic Characteristics	Heavy Drinking <sup>a</sup>		Binge Drinking <sup>b</sup>		Drunk Driving <sup>c</sup>	
	%	95% C.I.	%	95% C.I.	%	95% C.I.
<b>Total</b>	4.8	(3.1 - 7.3)	17.6	(12.9 - 23.5)	1.9	(0.7 - 5.0)
<b>Age</b>						
<i>Underage: 18-20 years</i>	2.0	(0.2 - 15.0)	8.4	(2.4 - 25.4)	3.9	(0.5 - 22.9)
18-24 years	2.7	(0.6 - 11.5)	15.4	(6.0 - 34.1)	3.5	(0.5 - 18.8)
25-34 years	5.0	(1.5 - 15.7)	39.5	(24.8 - 56.4)	2.0	(0.5 - 8.7)
35-44 years	9.6	(5.0 - 17.7)	22.3	(14.8 - 32.1)	1.2	(0.3 - 4.6)
45-54 years	4.4	(2.1 - 9.2)	13.9	(8.4 - 22.2)	1.7	(0.4 - 6.6)
55-64 years	4.6	(1.8 - 11.4)	6.2	(2.9 - 12.9)	0.5	(0.1 - 3.7)
65-74 years	3.2	(1.4 - 7.5)	5.2	(2.5 - 10.6)	0.5	(0.1 - 3.7)
75 years +	1.5	(0.3 - 6.3)	2.6	(0.8 - 7.9)	0.0	(0.0 - 0.0)
<b>Gender</b>						
Male	5.2	(2.8 - 9.3)	27.0	(18.4 - 37.8)	1.2	(0.4 - 3.4)
Female	4.4	(2.4 - 8.1)	9.6	(5.8 - 15.4)	2.5	(0.7 - 8.9)
<b>Race</b>						
White non-Hispanic	5.5	(3.5 - 8.5)	16.8	(12.2 - 22.8)	0.9	(0.4 - 2.2)
Black non-Hispanic	0.6	(0.2 - 1.6)	15.4	(3.2 - 50.1)	0.3	(0.1 - 1.1)
<b>Education</b>						
Less than HS	0.2	(0.0 - 1.1)	18.6	(4.4 - 53.2)	1.7	(0.3 - 9.0)
HS Graduate	7.9	(4.2 - 14.4)	23.9	(14.8 - 36.4)	1.6	(0.4 - 5.8)
Some college	4.9	(2.2 - 10.6)	15.1	(8.9 - 24.5)	3.2	(0.7 - 13.0)
College graduate	3.9	(1.9 - 7.8)	14.7	(9.5 - 22.0)	0.4	(0.1 - 2.9)
<b>Income</b>						
Less than \$20,000	4.0	(1.3 - 12.0)	16.8	(6.2 - 38.3)	1.9	(0.4 - 7.7)
\$20-34,999	5.0	(1.6 - 14.1)	13.6	(6.1 - 27.6)	0.1	(0.0 - 0.4)
\$35-49,999	7.1	(2.2 - 20.6)	37.0	(19.1 - 59.3)	3.8	(0.8 - 15.4)
\$50-74,999	4.8	(1.6 - 13.0)	21.2	(12.0 - 34.7)	0.4	(0.1 - 3.1)
\$75,000+	3.7	(1.7 - 7.6)	17.0	(9.3 - 28.9)	3.4	(0.6 - 16.8)
<b>City/Out-County</b>						
City of Kalamazoo	2.9	(1.1 - 7.2)	24.5	(14.3 - 38.6)	2.0	(0.8 - 4.8)
Rest of County	4.9	(2.8 - 8.4)	15.1	(9.6 - 22.8)	2.2	(0.6 - 8.0)
<b>Within City of Kalamazoo</b>						
White in City	3.7	(1.2 - 10.9)	27.2	(15.3 - 43.6)	1.5	(0.5 - 4.8)
Black in City	0.8	(0.3 - 2.2)	20.6	(4.4 - 59.2)	0.4	(0.1 - 1.4)
<p><sup>a</sup> The proportion of respondents who reported consuming in the previous month, on average, more than two alcoholic beverages per day for men or more than one alcoholic beverage per day for women.</p> <p><sup>b</sup> The proportion of respondents who reported consuming five or more drinks per occasion (for men) or four or more drinks per occasion (for women) at least once in the previous month.</p> <p><sup>c</sup> The proportion of respondents who reported that they drove at least once when they might have had too much to drink.</p>						

Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

### 5.2.2 Binge Drinking

Among Kalamazoo County adults reporting binge drinking in the previous month during 2009, most did their drinking at home or at another person's home. Among adults aged 18 to 20 years (under legal drinking age), 59.0% of them reported that their last binge occasion during the past month took place at another person's home.



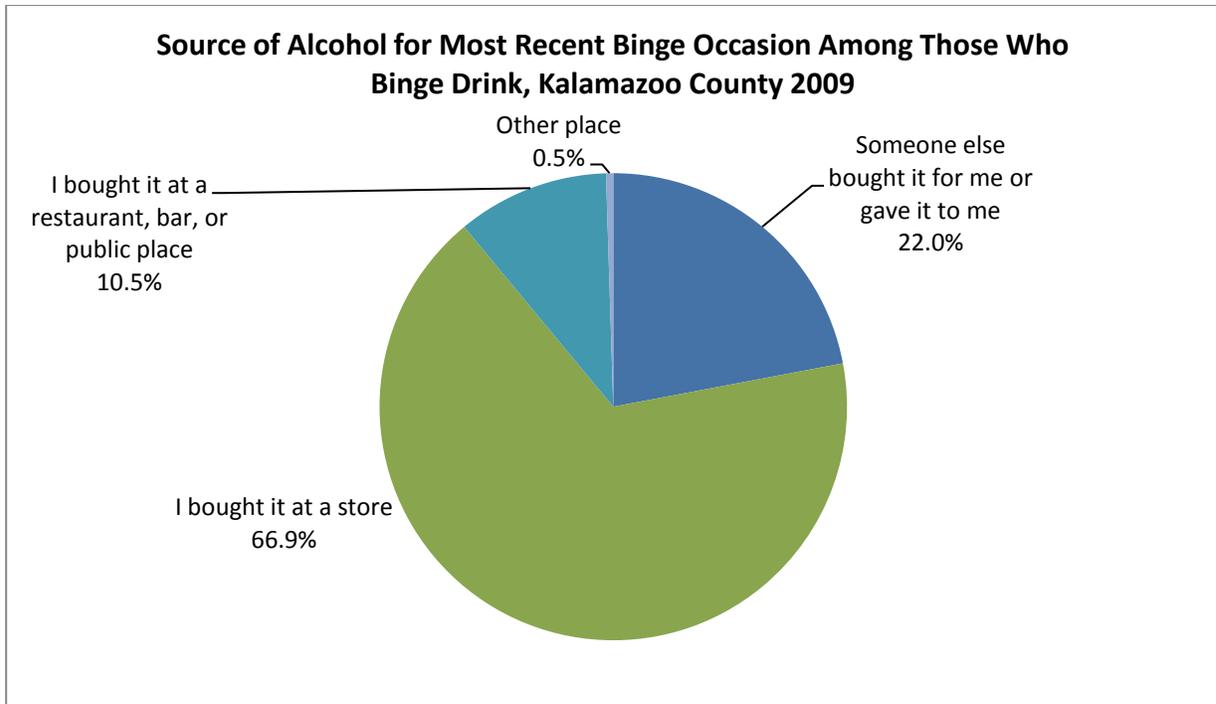
Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

**Location for Most Recent Binge Occasion (in Previous Month)  
Among Those Who Binge Drank, Kalamazoo County 2009**

Demographic Characteristic	At Home <sup>a</sup>		Another Person's Home		Restaurant or Banquet Hall		Bar or Club		Public Place <sup>b</sup>		Other Place	
	%	95% C.I.	%	95% C.I.	%	95% C.I.	%	95% C.I.	%	95% C.I.	%	95% C.I.
<b>Total</b>	37.7	(22.3 - 56.1)	33.3	(18.7 - 51.9)	0.2	(0.0 - 1.5)	10.9	(5.0 - 22.3)	4.8	(0.7 - 25.1)	13.1	(3.3 - 39.9)
<b>Age</b>												
<i>Underage: 18-20 years</i>	0.0	(0.0 - 0.0)	59.0	(7.3 - 96.4)	0.0	(0.0 - 0.0)	0.0	(0.0 - 0.0)	41.0	(3.6 - 92.7)	0.0	(0.0 - 0.0)
18-34 years	30.0	(10.0 - 62.5)	37.4	(15.1 - 66.7)	0.0	(0.0 - 0.0)	0.1	(0.0 - 1.0)	8.3	(1.1 - 41.7)	24.1	(6.1 - 60.8)
35-54 years	47.0	(28.8 - 65.9)	31.3	(15.8 - 52.7)	0.0	(0.0 - 0.0)	21.4	(9.4 - 41.7)	0.3	(0.0 - 2.1)	0.0	(0.0 - 0.3)
55 years +	46.6	(17.7 - 77.9)	5.5	(0.7 - 31.9)	4.0	(0.5 - 25.3)	41.7	(12.0 - 78.9)	2.3	(0.3 - 15.6)	0.0	(0.0 - 0.0)
<b>Gender</b>												
Male	36.6	(18.4 - 59.8)	27.4	(12.4 - 50.1)	0.0	(0.0 - 0.0)	11.8	(4.7 - 26.7)	6.2	(0.9 - 33.2)	18.0	(4.6 - 49.9)
Female	40.7	(18.4 - 67.6)	49.1	(23.3 - 75.5)	0.8	(0.1 - 5.6)	8.5	(1.8 - 31.7)	0.8	(0.2 - 3.7)	0.1	(0.0 - 0.4)
<b>Race</b>												
White non-Hispanic	46.5	(29.1 - 64.8)	34.2	(19.2 - 53.3)	0.3	(0.0 - 1.9)	13.8	(6.3 - 27.4)	0.3	(0.1 - 1.2)	5.0	(1.2 - 18.3)
Black non-Hispanic	9.2	(1.1 - 48.0)	3.3	(0.4 - 21.6)	0.0	(0.0 - 0.0)	0.9	(0.1 - 8.0)	0.0	(0.0 - 0.3)	86.6	(43.1 - 98.2)
<b>Education</b>												
HS graduate or less	43.2	(18.8 - 71.5)	21.6	(6.6 - 51.8)	0.4	(0.1 - 3.0)	7.9	(2.4 - 22.7)	9.0	(1.3 - 42.6)	17.9	(2.7 - 62.8)
Some college or more	31.9	(16.9 - 52.0)	45.7	(25.9 - 66.9)	0.0	(0.0 - 0.0)	14.1	(5.1 - 33.4)	0.2	(0.0 - 1.7)	8.1	(2.0 - 27.6)
<b>Income</b>												
Less than \$35,000	18.0	(6.1 - 42.9)	17.0	(4.3 - 48.1)	0.0	(0.0 - 0.0)	5.1	(1.1 - 20.4)	17.0	(2.3 - 63.9)	42.8	(11.1 - 81.7)
\$35,000+	46.3	(25.8 - 68.1)	39.8	(20.6 - 62.8)	0.0	(0.0 - 0.0)	10.9	(3.8 - 27.1)	0.4	(0.1 - 1.5)	2.7	(0.4 - 16.9)
<b>City/Out-County</b>												
City of Kalamazoo	27.3	(7.8 - 62.4)	27.8	(8.6 - 61.3)	0.0	(0.0 - 0.0)	4.8	(1.4 - 15.7)	11.6	(1.7 - 50.5)	28.5	(6.3 - 70.3)
Rest of County	44.7	(26.2 - 64.9)	36.9	(19.5 - 58.6)	0.3	(0.0 - 2.5)	14.9	(6.1 - 32.1)	0.2	(0.0 - 1.4)	2.9	(0.4 - 18.1)
<b>Within City of Kalamazoo</b>												
White in City	33.3	(9.0 - 71.6)	36.6	(11.5 - 72.1)	0.0	(0.0 - 0.0)	6.4	(1.7 - 21.1)	16.1	(2.3 - 60.4)	7.6	(1.0 - 40.2)
Black in City	9.4	(1.1 - 49.3)	1.8	(0.2 - 13.7)	0.0	(0.0 - 0.0)	0.9	(0.1 - 8.3)	0.0	(0.0 - 0.3)	87.9	(45.1 - 98.5)
<sup>a</sup> Own house, apartment, condominium, or dorm room												
<sup>b</sup> Such as a park, concert or sporting event												

Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

Two thirds (66.9%) of adults who binge drank in the previous month bought their alcohol at a store. Among those adults who were under legal drinking age (18 to 20 years), almost all (95.2%) reported that someone else bought the alcohol for them or gave it to them.



Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

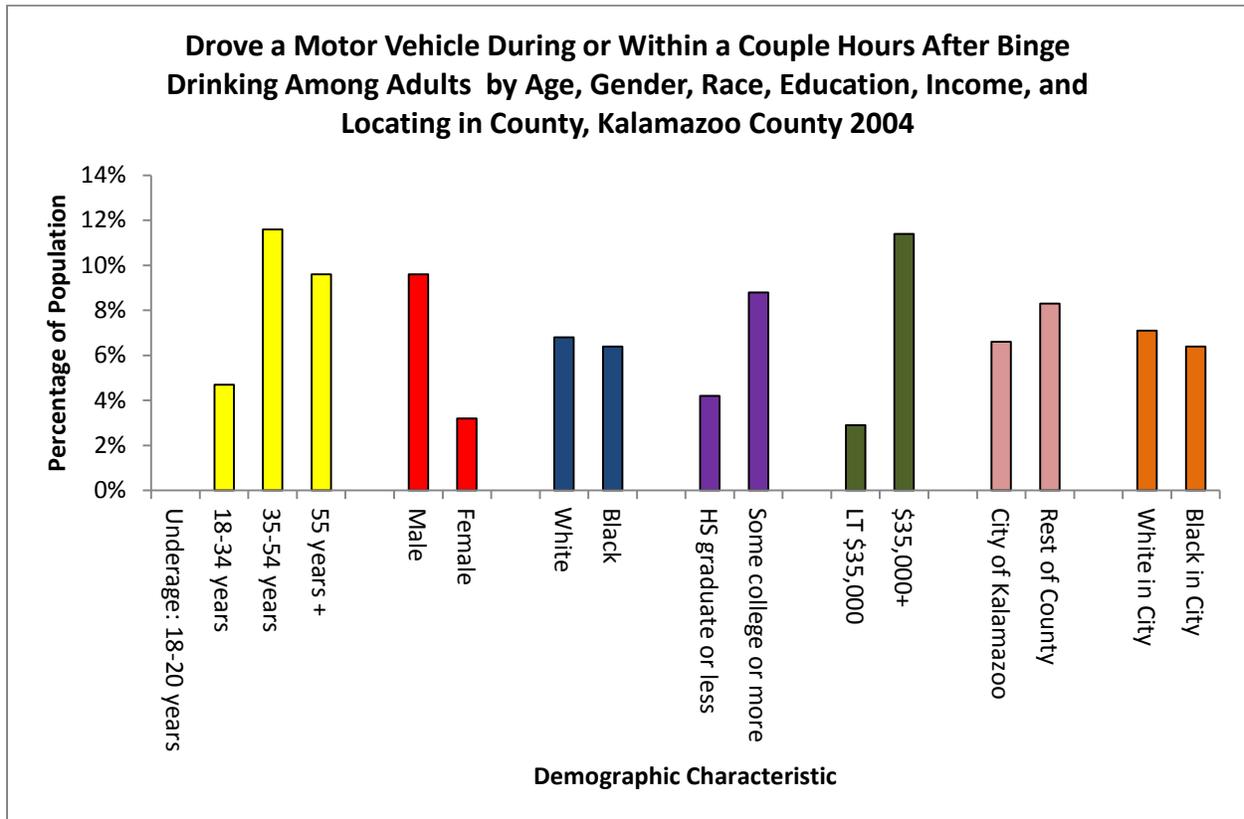
**Source of Alcohol for Most Recent Binge Occasion (in Previous Month),  
Among Those Who Binge Drank, Kalamazoo County 2009**

Demographic Characteristics	Someone else bought it for me or gave it to me		I bought it at a store <sup>a</sup>		I bought it at a restaurant, bar, or public place		Other place	
	%	95% C.I.	%	95% C.I.	%	95% C.I.	%	95% C.I.
<b>Total</b>	22.0	(9.7 - 42.7)	66.9	(48.1 - 81.6)	10.5	(4.7 - 21.8)	0.5	(0.1 - 3.7)
<b>Age</b>								
<i>Underage: 18-20 years</i>	95.2	(62.7 - 99.6)	0.0	(0.0 - 0.0)	0.0	(0.0 - 0.0)	4.8	(0.4 - 37.3)
18-34 years	37.3	(14.7 - 67.3)	61.7	(32.0 - 84.7)	0.0	(0.0 - 0.0)	1.0	(0.1 - 7.2)
35-54 years	3.8	(1.1 - 12.1)	76.4	(56.6 - 89.0)	19.8	(8.2 - 40.4)	0.0	(0.0 - 0.0)
55 years +	4.6	(0.7 - 24.1)	47.1	(17.9 - 78.5)	47.9	(17.1 - 80.4)	0.3	(0.0 - 2.5)
<b>Gender</b>								
Male	18.8	(6.2 - 44.7)	70.3	(47.1 - 86.3)	10.9	(4.1 - 25.8)	0.0	(0.0 - 0.2)
Female	30.7	(9.0 - 66.5)	58.0	(28.6 - 82.6)	9.4	(2.3 - 31.5)	2.0	(0.3 - 13.4)
<b>Race</b>								
White non-Hispanic	13.7	(4.2 - 36.6)	72.3	(53.0 - 85.7)	13.3	(6.0 - 26.9)	0.7	(0.1 - 4.8)
Black non-Hispanic	3.5	(0.5 - 22.7)	96.2	(76.5 - 99.5)	0.3	(0.0 - 2.6)	0.0	(0.0 - 0.0)
<b>Education</b>								
HS graduate or less	22.0	(5.9 - 56.1)	69.8	(39.6 - 89.1)	8.2	(2.6 - 22.9)	0.0	(0.0 - 0.2)
Some college or more	22.0	(7.8 - 48.6)	63.9	(41.0 - 81.8)	13.0	(4.4 - 32.7)	1.1	(0.1 - 7.6)
<b>Income</b>								
Less than \$35,000	18.8	(3.0 - 63.1)	76.3	(36.3 - 94.8)	4.9	(1.0 - 20.3)	0.1	(0.0 - 0.5)
\$35,000+	26.0	(10.1 - 52.2)	63.2	(39.8 - 81.7)	10.1	(3.4 - 26.5)	0.8	(0.1 - 5.8)
<b>City/Out-County</b>								
City of Kalamazoo	20.0	(5.6 - 51.2)	75.6	(45.6 - 91.9)	3.1	(0.7 - 12.7)	1.4	(0.2 - 9.6)
Rest of County	23.4	(7.8 - 52.3)	61.2	(38.6 - 79.8)	15.5	(6.5 - 32.5)	0.0	(0.0 - 0.0)
<b>Within City of Kalamazoo</b>								
White in City	24.7	(6.3 - 61.3)	69.3	(35.2 - 90.4)	4.1	(0.9 - 17.3)	1.8	(0.2 - 13.2)
Black in City	2.0	(0.2 - 15.2)	97.7	(84.0 - 99.7)	0.3	(0.0 - 2.7)	0.0	(0.0 - 0.0)

<sup>a</sup> Liquor store, convenience store or grocery store

Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

As reported in 2004, among Kalamazoo County adults who reported having a binge drinking occasion in the past month 7.4% also reported that on the most recent binge occasion they drove a motor vehicle during or within a couple of hours after binge drinking. Driving after binge drinking was most common among males, adults with some college education or more, adults earning \$35,000 or more annually, and adults aged 35-54 years.



Source: Kalamazoo County 2004 Behavioral Risk Factor Survey

**Drunk Driving At Most Recent Binge Occasion (in Previous Month)  
Among Those Who Binge Drank, Kalamazoo County 2004\*\***

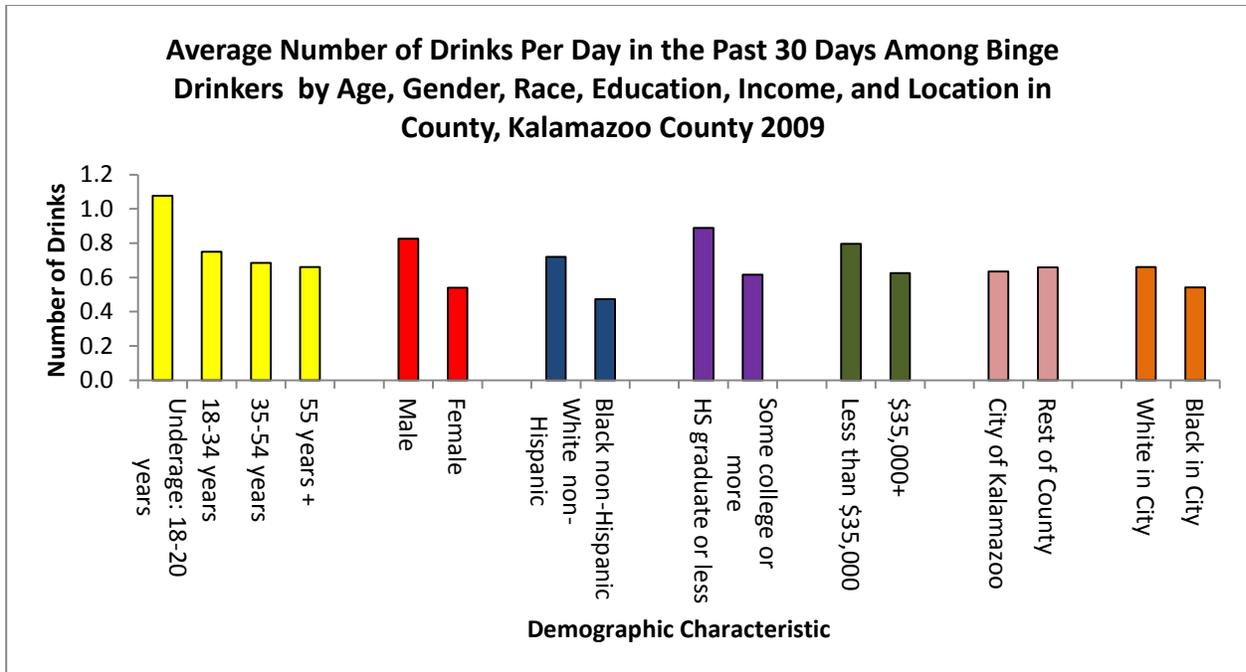
Demographic Characteristics	Drove a Motor Vehicle <sup>a</sup> During or Within a Couple of Hours After Binge	
	%	95% C.I.
<b>Total</b>	7.4	(3.4 - 11.4)
<b>Age</b>		
<i>Underage: 18-20 years</i>	0.0	(0.0 - 0.0)
18-34 years	4.7	(0.3 - 9.2)
35-54 years	11.6	(3.1 - 20.1)
55 years +	9.6	*
<b>Gender</b>		
Male	9.6	(3.9 - 15.3)
Female	3.2	*
<b>Race</b>		
White	6.8	(2.6 - 11.0)
Black	6.4	*
<b>Education</b>		
HS graduate or less	4.2	*
Some college or more	8.8	(3.5 - 14.1)
<b>Income</b>		
LT \$35,000	2.9	*
\$35,000+	11.4	(4.4 - 18.3)
<b>City/Out-County</b>		
City of Kalamazoo	6.6	(1.3 - 11.9)
Rest of County	8.3	(2.2 - 14.5)
<b>Within City of Kalamazoo</b>		
White in City	7.1	(0.5 - 13.7)
Black in City	6.4	*

<sup>a</sup> Car, truck or motorcycle

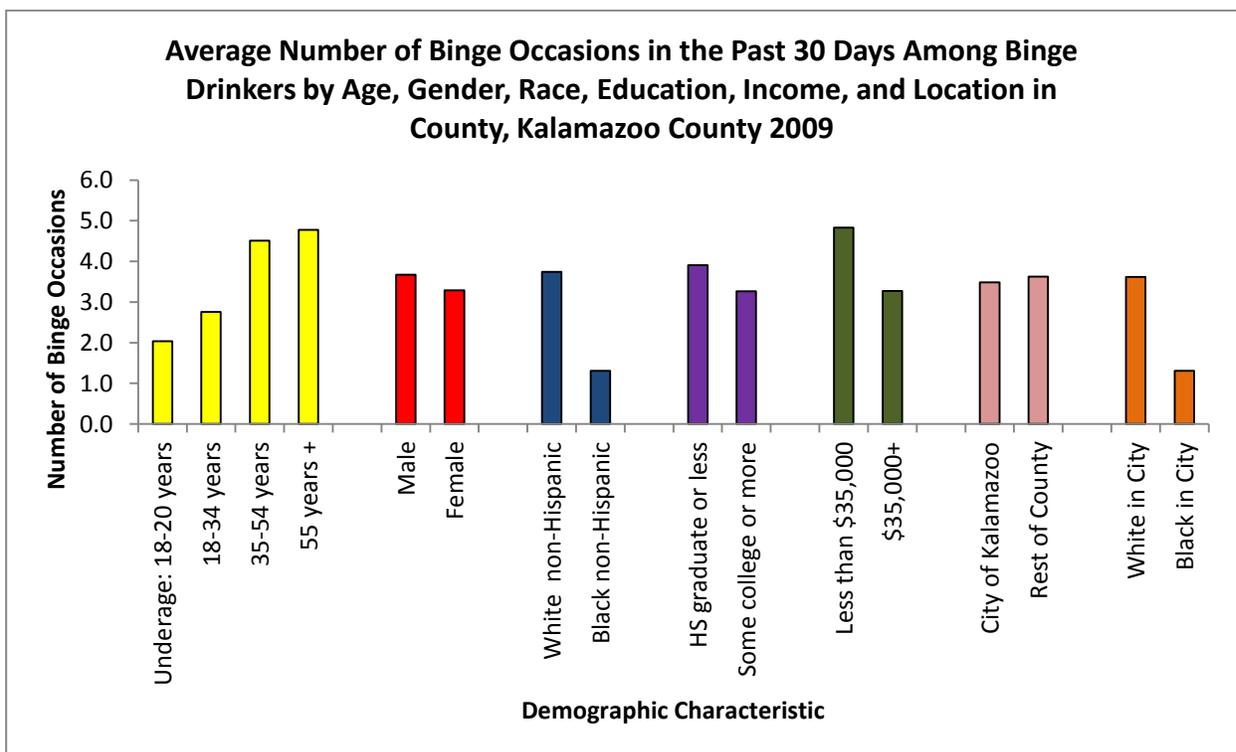
\*\*Indicator not asked in 2009 survey

Source: Kalamazoo County 2004 Behavioral Risk Factor Survey

Among binge drinkers, the average number of drinks per day in the past month was the highest among underage adults, males, white adults, adults with lower education and adults with a lower income. The average number of binge occasions in the past 30 days was highest among older adults, white adults, adults with lower education and adults with a lower income.



Source: Kalamazoo County 2009 Behavioral Risk Factor Survey



Source: Kalamazoo County 2009 Behavioral Risk Factor Survey

**Average Number of Drinks per Day and Binge Occasions in Past Month  
Among Binge Drinkers, Kalamazoo County 2009**

Demographic Characteristics	Average Number of Drinks Per Day in the Past 30 Days <sup>a</sup>		Average Number of Binge Occasions in the Past 30 Days Among Binge Drinkers <sup>b</sup>	
	#	95% C.I.	#	95% C.I.
<b>Total</b>	0.7	(0.6 - 0.8)	3.6	(2.4 - 4.7)
<b>Age</b>				
<i>Underage: 18-20 years</i>	1.1	(0.5 - 1.6)	2.0	(-1.2 - 5.3)
18-34 years	0.7	(0.5 - 1.0)	2.8	(1.6 - 4.0)
35-54 years	0.7	(0.5 - 0.9)	4.5	(2.4 - 6.6)
55 years +	0.7	(0.5 - 0.9)	4.8	(3.2 - 6.3)
<b>Gender</b>				
Male	0.8	(0.6 - 1.0)	3.7	(2.2 - 5.2)
Female	0.5	(0.4 - 0.7)	3.3	(1.8 - 4.8)
<b>Race</b>				
White non-Hispanic	0.7	(0.6 - 0.9)	3.7	(2.5 - 5.0)
Black non-Hispanic	0.5	(0.3 - 0.7)	1.3	(0.7 - 1.9)
<b>Education</b>				
HS graduate or less	0.9	(0.6 - 1.2)	3.9	(2.3 - 5.5)
Some college or more	0.6	(0.5 - 0.8)	3.3	(1.6 - 4.9)
<b>Income</b>				
Less than \$35,000	0.8	(0.4 - 1.2)	4.8	(2.0 - 7.6)
\$35,000+	0.6	(0.5 - 0.8)	3.3	(1.9 - 4.7)
<b>City/Out-County</b>				
City of Kalamazoo	0.6	(0.4 - 0.8)	3.5	(1.7 - 5.3)
Rest of County	0.7	(0.5 - 0.8)	3.6	(1.8 - 5.5)
<b>Within City of Kalamazoo</b>				
White in City	0.7	(0.4 - 0.9)	3.6	(1.8 - 5.5)
Black in City	0.5	(0.4 - 0.7)	1.3	(0.7 - 2.0)
<sup>a</sup> Among all adults (includes those who drank zero drinks in past 30 days)				
<sup>b</sup> Among those who binge drank in past 30 days, the mean number of times during which five or more alcoholic beverages (for men) or four or more (for women) were consumed during the past month.				

Source: Kalamazoo County 2009 Behavioral Risk Factor Survey