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Comparing Hazardous Drinkers to Dependent Drinkers: Results from the Greater Milwaukee Survey

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Background

Problem drinking is highly prevalent in the State of Wisconsin. For example, in the most recently published National Survey On Drug Use and Health, Wisconsin's past month binge drinking rate of 31% was exceeded only by North Dakota (Office of Applied Studies, 2005). Wisconsin's exceptionally high rate of problem drinking provides a unique opportunity to explore the possibility for key differences between those who display *hazardous* drinking behavior, and those who typify *dependent* drinking. Conventional wisdom among those working in alcoholism treatment and prevention suggests that dependent drinkers are simply those who have increased their alcohol consumption behavior beyond that typified by hazardous drinkers. In other words, the path to dependent drinking is sequential, where formerly hazardous drinkers increase their abusive behavior and 'graduate' to dependent drinking levels. This assumption maintains that there are essentially no differences between hazardous and dependent drinkers and that hazardous drinking is the gateway to dependent drinking. The research presented here explores this hypothesis by comparing hazardous and dependent drinkers along key demographic variables. Should there be differences between these two groups, effective prevention programs should target those most likely to become dependent drinkers, which is associated with greater risk factors than the less severe, albeit serious, risks associated with hazardous drinking. The present study, based on a representative survey of Milwaukee area residents, provides such important comparative epidemiological data that could serve as critical input for Wisconsin health service policy makers.

Methods

Sample. The study sample was comprised of adults age 18 and older who responded to the 2005 Greater Milwaukee Survey (GMS), a semi-annual household survey conducted by the Institute for Survey & Policy Research at the University of Wisconsin-Milwaukee. Based on random digit dialing, 2,614 households were contacted with one adult from each household selected randomly based on the adult who had the most recent birthday. A total of 937 adults participated in the survey for a response rate of 35.8%.

Measures. The alcohol use measure included in the GMS was the 3-item Alcohol Use Disorders Identification Test-Consumption or AUDIT-C, which assesses both frequency and quantity of drinking (see Figure 1; scale range 0-12). The AUDIT-C is comprised of the first three questions of the AUDIT, a 10-item alcohol screening instrument developed and validated by the World Health Organization (Saunders et al., 1993). The AUDIT-C has been validated as a method to detect hazardous drinking among the general population with a cut-point of 4 or greater yielding the best combined sensitivity and specificity (92.6% and 92.0%, respectively) (Dawson et al., 2005). Based on the AUDIT-C, respondents in our sample were classified into one of three drinking groups – abstainers (AUDIT-C score of 0), non-hazardous drinkers (AUDIT-C score of < 4), hazardous drinkers (AUDIT-C score of 4 or 5), and dependent drinkers (AUDIT-C score of 6 or greater).

Data Analysis. We estimated the overall prevalence of hazardous and dependent drinking (see Figure 1). In addition, we explored whether or not prevalence varied according to selected demographic characteristics. Subgroup comparisons employed crosstabular analysis and chi-square tests of significance. In addition, follow up analyses for subgroup comparisons were conducted using logistic regression. All analyses employed sample weights that were constructed to adjust for survey methodology and non-response. SPSS version 13.0 software was used to conduct all analyses (McGraw Hill; 2006).

Prevalence. Of the 925 respondents who provided drinking data, 235 of these were classified as 'risky drinkers', indicated by scores of 4 or greater on the AUDIT-C scale. Figure 1 shows the distribution of drinking status across the entire sample. Figure 2 provides prevalence estimates of risky drinking across key demographic variables. An observation made immediately obvious by Figure 2 is the high prevalence of dependent drinking among young, white males with lower education attainment and who live within Milwaukee county.

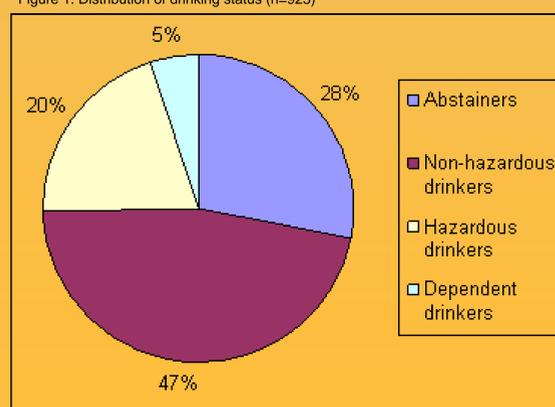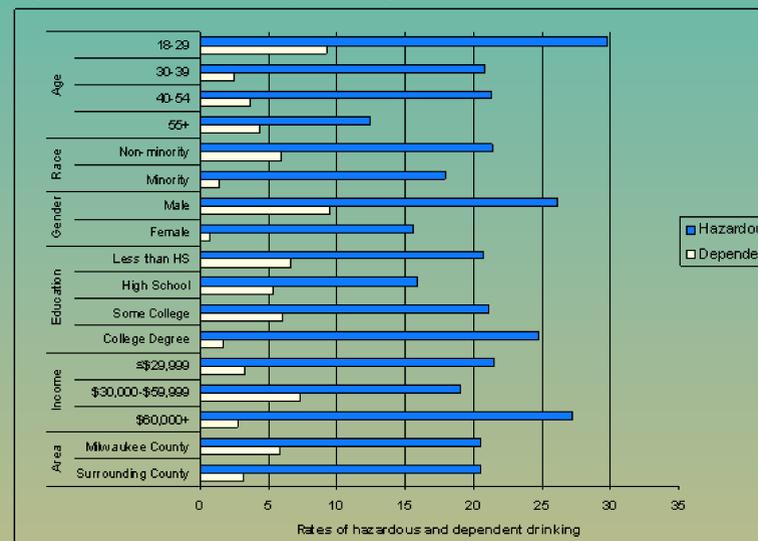Figure 1. Distribution of drinking status (n=925)

- 28% Abstainers
- 47% Non-hazardous drinkers
- 20% Hazardous drinkers
- 5% Dependent drinkers

Figure 2. Prevalence of hazardous and dependent drinking (n=925)

Rates of hazardous and dependent drinking

Results

Bivariate analyses. Given our focus on comparing only risky drinkers, we excluded respondents who scored as either abstainers or non-hazardous drinkers. After omitting these respondents, we achieved a study sample of 235 respondents. Of these respondents, 190 (80.8%) were hazardous drinkers and 45 (19.2%) were dependent drinkers (see Table 1). Limiting our focus to these respondents, the bivariate analyses shown in Table 1 suggest that hazardous drinkers and dependent drinkers may differ in several key variables:

- Non-minority (white) respondents had higher rates of dependent drinking compared to minority respondents
- Men had higher rates of dependent drinking compared to women
- Those reporting incomes between $30,000 and $60,000 had high rates of dependent drinking compared to lower and upper income respondents
- Respondents with college degrees had lower rates of dependent drinking compared with all other education levels

Table 1. Prevalence and comparison of hazardous and dependent drinkers[a]

Variable	Hazardous Drinkers N	Hazardous Drinkers %	Dependent Drinkers N	Dependent Drinkers %
Age (N=233)				
18-29	61	76.3	19	23.8
30-39	34	89.5	4	10.5
40-54	58	85.3	10	14.7
55+	34	73.9	12	26.1
Race (N=234)*				
Non-minority	151	78.2	42	21.8
Minority	36	92.3	3	7.7
Gender (N=235)***				
Male	113	73.4	41	26.6
Female	77	95.1	4	4.9
Education (N=235)*				
Less than High School	31	75.6	10	24.4
High School	41	74.5	14	25.5
Some college	59	77.6	17	22.4
College Degree	58	93.5	4	6.5
Household Income (N=214)**				
≤ $29,999	53	86.9	8	13.1
$30,000—$59,999	49	72.1	19	27.9
$60,000+	77	90.6	8	9.4
Marital Status (N=235)				
Married	99	83.9	19	16.1
Not Married	90	77.6	26	22.4
Children in Household (N=235)				
Yes	77	84.6	14	15.4
No	113	78.5	31	21.5
Place of Residence (N=235)				
Milwaukee County	119	77.8	34	22.2
Surrounding County	70	86.4	11	13.6
Total within drinking category	190	80.8	45	19.2

*p < .05   **p < .01   ***p < .001
[a] Estimates based on weighted data; percentages may not add to 100% due to rounding

Multivariate analyses. Using most of the variables shown in Table 1, we used logistic regression to estimate the relative odds of dependent versus hazardous drinking status (odds ratios and confidence intervals for variables that reached significance at p < .05 or better are shown in Figure 3). When controlling for all other variables, we found that dependent drinkers differed from hazardous drinkers with respect to several key variables:

- Non-minority respondents had about seven times the odds of being dependent drinkers compared to minority respondents
- Men had about five times the odds of being dependent drinkers compared to women
- High school graduates had about seven times the odds of being dependent drinkers compared to those with college degrees
- Those living within Milwaukee County had about four times the odds of being dependent drinkers compared to those living in surrounding counties apart of the Metropolitan Milwaukee area.

Figure 3. Logistic regression odds ratios predicting dependent drinking versus hazardous drinking*

| Non-minority (Minority) | Male (Female) | High School Graduate (College +) | Milwaukee County (Surrounding County) |
| 7.3 | 5.5 | 7.5 | 3.9 |
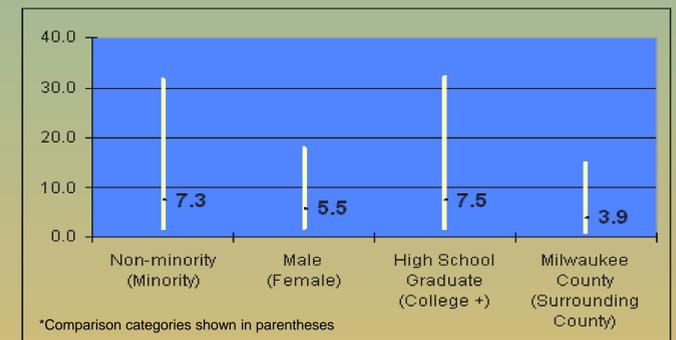
*Comparison categories shown in parentheses

Discussion

These findings should serve as both an alarm and a compass for those interested in alcohol treatment and prevention in the Milwaukee area. This study yields several key findings that should motivate stronger efforts to examine the risky drinking behavior engaged by one-quarter of the population in Metropolitan Milwaukee:

- The overall rate of risky drinking (hazardous or dependent drinking) in the Milwaukee area is 25%
- According to our data, there are key demographic differences in risk for dependent versus hazardous drinking, with lower educated white men who live in Milwaukee County at significant risk for dependent drinking

Several limitations should be considered:

- Gender differences in drinking behavior may be over-estimated since identical criteria for binge drinking were used for men and women
- This study was conducted in just one area of the country
- We did not control for psychosocial variables, such as psychiatric symptomatology that may contribute to drinking behavior

Conclusion. The evidence presented here confirms that drinking is a serious problem in the Milwaukee area. It appears that hazardous drinkers and dependent drinkers are two different groups. Further research is needed to explore the extent to which hazardous drinking is a precursor to dependent drinking and to identify variables and processes that may affect transitions to dependency.

REFERENCES
Available upon request.

CONTACT INFORMATION

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