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Associations between Young Adult Men's Patterns of Alcohol Use and Sexual Behavior: A Latent Profile Analysis of Two Independent Samples

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Abstract

Men's alcohol consumption and casual sexual behavior peak in early adulthood. Although there is a strong positive association between these behaviors, most studies have utilized a between-subjects approach rather than a person-centered approach to assess this relationship. A person-centered approach allows for an examination of subgroups of drinkers that may differ in their casual sexual behaviors. To address this gap, secondary data analyses were conducted with two independent samples totaling 906 men between the ages of 18 and 29 from the Midwestern United States. In both studies, participants reported their alcohol expectancies and consumption, sexual behaviors, and sexual attitudes. Multiple group latent profile similarity analyses were conducted using the alcohol-related variables. Four similar profiles emerged in both samples; thus, the data were combined. Casual sex-related variables were then examined in relation to the profiles. The two lighter drinking groups differed from one another in their alcohol consumption and sexual attitudes; however, they did not differ in their alcohol expectancies or number of sex partners. The two heavier drinking groups differed from one another in their liquid courage expectancies, alcohol consumption, one-time-only partners, and sexual attitudes; however, they did not differ from each other in their sex-drive expectancies or lifetime partners. Person-centered approaches can be used to develop more tailored interventions, particularly for those at greater risk for the negative health consequences of engaging in sexual behavior with multiple one-time-only partners.

Keywords

alcohol consumption; casual sex; drinking profiles; adult men; latent profile analysis

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1. Introduction

Men's alcohol consumption increases into the late teens and early adulthood and begins declining in their mid-to-late 20s.¹ On average, men in this age group drink approximately three drinks per occasion twice per week,¹ although there is great variability in the frequency and quantity consumed² as well as experienced negative consequences. Typically, men drink more than women and experience more alcohol-related problems,^{3,4} although gender differences are diminishing.⁵

By the age of 29, approximately 90% of heterosexual men have engaged in vaginal sex⁶ and report an average of four partners since age 18, with approximately half of those being with a casual partner.⁷ Although sex is normative and healthy, it can lead to negative health outcomes including sexually transmitted infections. These risks increase with each successive partner. As with alcohol, rates of casual sexual behavior are typically higher among men than women,⁸ although this difference is also diminishing.⁹ There is also great variability in men's casual sexual experiences.¹⁰

A recent meta-analysis documents the strong positive association between alcohol consumption and casual sex.¹¹ In general, alcohol and sex frequently co-occur, particularly with new and casual partners.^{12–14} The goal of this paper is to take a more nuanced, person-centered approach to this relationship through latent profile analysis (LPA). We use LPA to identify subgroups of young men based on their alcohol expectancies and consumption. We then compare casual sexual attitudes and behaviors for the subgroups to determine if there are unique patterns of sexual behavior for men with different alcohol profiles. The use of a person-centered approach allows researchers to potentially tailor interventions to reduce risk behaviors associated with each profile.

We have located only a few studies that use LPA to classify young male drinkers.^{15–17} These studies primarily focused on alcohol consumption in conjunction with other drug use^{15–18} and alcohol-related problems.¹⁸ Overall conclusions are difficult to draw because consumption was measured inconsistently across studies, with some using only a single question.^{15,16} The only study we located that used a community (not college-based) sample of young men was restricted to recent heavy episodic drinkers.¹⁹

1.1 Present study

There were two main goals of the present study. The first goal was to use LPA to classify young men in two independent samples based on their alcohol expectancies and consumption to determine if similar profiles emerged across samples. These samples had similar inclusion criteria and a core set of measures; yet they had different sampling frames and demographic characteristics. We are unaware of any studies that directly compare findings from two independent samples; thus, the present study adds to existing knowledge through within-study replication of the findings. We expect multiple profiles to emerge because alcohol expectancies and consumption vary widely. Further, we expect lighter consumption profiles to include fewer problems and heavier consumption profiles to include more problems.

The second goal was to determine if casual sexual behaviors and attitudes were differentially associated with the alcohol profiles identified through the first goal. Although we are not aware of such research with men, we located one study that utilized LPA with women which identified four alcohol profiles.²⁰ The first profile consisted of women with low alcohol expectancies and consumption; they reported less positive casual sex attitudes, less drinking before sex, and viewed condom use positively. Women in the second profile reported high impairment expectancies and moderate alcohol consumption but did not differ from the low consumption group on the sex-related variables. Women in the third profile had moderate alcohol expectancies and regular, heavy alcohol consumption; these women scored higher on most sexual variables compared to the two aforementioned profiles. Women in the fourth profile had extremely high pleasure alcohol expectancies and frequent, heavy alcohol consumption; they reported the highest scores on positive attitudes about casual sex, past year partners, and drinking before sex.

As we had similar measures in our samples, we used the Stappenbeck et al.²⁰ findings as a starting point. We anticipated finding a profile with low alcohol expectancies and consumption associated with very low scores on casual sexual attitudes and behaviors. We also anticipated that profiles with strong sexual and liquid courage (disinhibition) expectancies would be associated with high scores on casual sexual attitudes and behavior even at moderate drinking levels because of the strong cultural norms linking drinking and sexual behavior.¹¹

2. Method

2.1 Participants and procedure

Secondary data analysis was conducted with two independent samples.^{21, 22} Both studies focused on young men's heterosexual dating and sexual behavior. The university's Institutional Review Board approved all procedures.

2.1.1 Sample 1 characteristics—In Sample 1,²¹ single men between 18 and 35 who had dated a woman in the past two years were recruited from the Detroit Metropolitan area statistical region, which includes more than four million people in suburban and semi-rural communities including the city of Detroit, Michigan. Eligible men met a trained interviewer at a mutually agreeable location for an hour-long audio computer-assisted interview. Participants were compensated \$50. Only the 350 men aged 18-29 were retained in the current analyses to correspond to the age range in the second sample.

2.1.2 Sample 2 characteristics—In Sample 2,²² single men between 18 and 29 who had dated a woman in the past two years were recruited from a large urban university in Detroit, Michigan through campus and off-campus flyers posted in local businesses and campus buildings, along with online advertisements placed using campus and community websites. Eligible men were sent an information sheet and completed a 30 min online survey. The 556 participants were compensated by receiving course credit for an eligible psychology course or entering a lottery with a 1 in 30 chance of winning a \$100 gift card.

2.2 Measures

Measures were identical for both studies except for the alcohol problems questionnaire.

2.2.1 Profile measures—Participants' expectations about the effects of alcohol on their sex drive and liquid courage were measured. Responses were recorded on a scale from 1 (*not at all*) to 5 (*very much*). Sex drive expectancies²³ included five items such as "If I were under the influence of a moderate amount of alcohol, I would feel sexually aroused", $\alpha = .93$ in both samples. Liquid courage expectancies²⁴ included five items such as "If I were under the influence of a moderate amount of alcohol, I would feel brave and daring", $\alpha = .87$ in Sample 1 and .88 in Sample 2.

Alcohol consumption was measured with four items developed by an expert panel with the National Institute on Alcohol Abuse and Alcoholism.²⁵ A drink was defined as 12 ounces of beer or wine cooler, five ounces of wine, or one shot of liquor. Participants were asked how frequently they drank, their typical amount consumed, and how many times they consumed five or more drinks in two hours (i.e., heavy drinking episodes) in the past year. They also reported their lifetime maximum number of drinks consumed during one day. Response options for frequency of consumption and heavy drinking episodes ranged from 0 (*never or not in the past 12 months*) to 9 (*every day*). Typical consumption response options ranged from 0 (*zero drinks*) to 10 (*25+ drinks*) and maximum number of drinks consumed response options ranged from 0 (*zero drinks*) to 10 (*36+ drinks*).

Alcohol-related problems in Sample 1 were measured using the 13-item dependence symptoms subscale created by the Alcohol Research Group for use with the general population.²⁶ Participants indicated either 1 (*yes*) or 0 (*no*) if any of the items had occurred after drinking. Responses were summed to create a total alcohol problems score. A sample item is "I stayed intoxicated for several days at a time", $\alpha = .78$. In Sample 2, alcohol problems and consequences in the past year were measured using 20 items from the Adult Alcohol Consequences Questionnaire.²⁷ A subset of items relevant for the study's original goals were included from the social/interpersonal, impaired control, risk behavior, academic/occupational, and blackout subscales. All items loaded onto a single higher order factor with good reliability, $\alpha = .95$. Responses were recorded on a scale from 0 (*never*) to 4 (*all the time*). A sample item is "I often drank more than I originally had planned". Items from both scales assessed dependence and alcohol-related consequences.

2.2.2 Outcome measures—Casual sexual behavior was assessed with two items. Participants indicated their total number of (a) lifetime and (b) one-time-only sexual partners.²⁸ These variables were winsorized within their respective samples because they were positively skewed.

Casual sexual attitudes were measured using seven items from the sexual permissiveness subscale of the Brief Sexual Attitudes Scale.²⁹ Participants rated their agreement with each item on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). A sample item is "Casual sex is acceptable", $\alpha = .88$ in both samples.

Alcohol use in sexual situations was assessed with two items. Participants indicated on a scale of 0 (*zero*) to 7 (*thirteen or more*) the typical number of alcoholic drinks that (a) they and (b) their partner consumed when engaging in consensual sexual intercourse.²⁸

2.3 Data analytic method

The study's first goal was assessed through multiple-group LPA similarity analyses³⁰ conducted with Mplus 8.0.³¹ The seven alcohol-related measures were first standardized within each sample to normalize the distributions and all LPA models were run with the within-sample standardized variables. Optimal fit was determined through examination of multiple fit indices as Monte Carlo findings suggest no single fit index is superior to another.³² Profile interpretability and parsimony were considered through visual inspection along with lower Akaike Information Criterion (AIC) and Sample-size Adjusted Bayesian Information Criterion (SABIC) values. Vuong-Lo-Mendell-Rubin (VLMR) and bootstrap likelihood ratio tests (BLRT) compared the fit of the given model with k profiles to the $k-1$ profile solution. Entropy values closer to 1.00 indicate greater profile distinction.

The second goal was assessed through multivariate analysis of variance (MANOVA) and follow-up Tukey Honestly Significant Difference (HSD) tests. These analyses determined if the profiles were differentially related to the sex-related variables.

3. Results

3.1 Descriptive analyses

Table 1 presents demographic information for both samples. Table 2 presents descriptive statistics and correlations between all variables for both samples. The means and the magnitude of the correlations between the variables were highly similar for both samples.

3.2 LPA results

The comparability of the number of profiles in each sample was investigated by computing iterative models separately for each sample (see Table 3).³⁰ For both samples, the AIC and SABIC values decreased as the number of profiles increased from two to five. The VLMR test indicated that fit was significantly better when comparing one versus two, two versus three, and three versus four profiles; however, the five-profile solution did not fit significantly better than a four-profile solution. All sample-specific model entropy values were adequate. Considering all statistical and visual criteria in combination,³² the four-profile solution was selected for both samples. Thus, we conducted a multiple-groups model with four profiles from each sample specified (labeled “configural” in Table 3) which serves as a baseline model for comparing successive models. Start values for the profile means were provided so that the resulting profiles aligned across samples (see Figure 1).

Structural similarity was examined next;³⁰ within-profile means of the drinking variables were set to be equal across samples. Compared with the configural model, the lower SABIC (and slightly lower AIC) provides evidence for the structural similarity of the two samples. To examine similarity in dispersion, the within-profile variances (and means) of the variables were constrained to be equal across samples. The dispersion model had lower AIC and

SABIC than the configural and structural models, thus providing evidence for similarity in dispersion. Finally, the class probabilities were constrained across samples (as well as the within-profile means and variances). The slightly lower SABIC value (compared with the dispersion model) provided evidence of the two samples' distributional similarity.

We concluded that the two samples produced four similar profiles of male drinkers based on the similarity tests. Therefore, we ran a single groups model with both samples combined. This combined group provided lower AIC and SABIC values than the similarity models. Entropy was lower than for the multiple-groups models but still high and similar to the values from each sample. The VLMR and BLRT confirmed that the four-profile combined samples model fit the data better than a three-profile combined samples model. The average likelihood that any individual was misclassified is presented in Table 4, demonstrating that it is unlikely that individuals were misclassified.

Table 4 provides the standardized and unstandardized means and standard errors of the drinking-related variables for each profile. Members of the two lighter drinking profiles had similarly low alcohol expectancies, but significantly differed on four alcohol consumption measures (the lower half of Table 4 provides comparisons between groups). The Occasional Drinkers with Low Expectancies group (Sample 1: 12.6%; Sample 2: 14.6%) consumed alcohol less frequently, at lower quantities, and had fewer heavy drinking episodes than the Light Drinkers with Low Expectancies group (Sample 1: 33.4%; Sample 2: 25.7%). Members of both heavier drinking profiles had significantly higher alcohol expectancies, consumption, and problems than did members of the two lighter drinking profiles. Among the heavier drinking groups, the Heavy Drinkers with High Liquid Courage Expectancies (Sample 1: 20.9%; Sample 2: 20.7%) had significantly higher scores on every measure except sex drive expectancies as compared to the Moderate Drinkers with Moderate Expectancies group (Sample 1: 33.1%; Sample 2: 39.0%).

3.3 MANOVA and HSD follow-up tests

There was a significant effect of drinking group membership on the five sex-related variables, $F(15, 2700) = 21.89, p < .001$, partial $\eta^2 = .11$, Pillai's trace = 0.33*. Table 5 presents the follow-up tests results. The Occasional Drinkers with Low Expectancies group reported the least risky scores on all the sexual variables; their scores were significantly lower than those of the Moderate Drinkers with Moderate Expectancies and Heavy Drinkers with High Liquid Courage Expectancies on all sexual variables. They reported less positive casual sex attitudes and alcohol consumed before sex by them and their partner than the Light Drinkers with Low Expectancies. The Light Drinkers with Low Expectancies reported less risky behavior on all sex-related variables than the Heavy Drinkers with High Liquid Courage expectancies. They reported less risky behaviors than the Moderate Drinkers with Moderate Expectancies on all variables except one-time partners. As compared to Heavy Drinkers with High Liquid Courage Expectancies, the Moderate Drinkers with Moderate Expectancies reported similar numbers of lifetime sexual partners but fewer one-time-only

*The overall MANOVAs were also significant when conducting the analysis separately for both samples. The pattern of results was similar when examining the follow-up tests.

partners, less positive casual sex attitudes, and less alcohol consumed by them and their partner before sex.

4. Discussion

The first goal of the study was achieved with the finding that four similar profiles fit the two independent samples of men. On average, the Occasional Drinkers with Low Expectancies consumed one drink per year and did not engage in heavy drinking. On average, the Light Drinkers with Low Expectancies consumed three drinks once per month and did not engage in heavy drinking. On average, the Moderate Drinkers with Moderate Expectancies consumed three drinks weekly and engaged in monthly heavy drinking episodes. On average, the Heavy Drinkers with High Liquid Courage consumed seven drinks three times a week and reported weekly heavy drinking episodes. The two lighter drinking groups differed from each other in their consumption behaviors but not their expectancies. The heavier drinking groups differed from each other in their liquid courage expectancies and alcohol consumption but did not differ in their sex drive expectancies.

The second goal of the study was achieved by relating the alcohol profiles to men's casual sexual behavior and attitudes. As expected based on past research, scores on sexual attitudes and behaviors increased overall from the occasional to light to moderate to heavy drinking profiles, although not all differences were significant and there were a few noteworthy exceptions. Light drinkers had more positive attitudes about casual sex and they and their partners consumed more alcohol in sexual situations than did occasional drinkers; however, light and occasional drinkers reported a similar number of lifetime and one-time-only partners. These findings suggest that the light drinkers may have more interest in casual sex but may lack opportunities. Further, the moderate drinkers had higher scores than the light drinkers on all alcohol-related behaviors and expectancies along with lifetime partners, sexual attitudes, and drinking in sexual situations; however, moderate and light drinkers did not differ in their one-time-only partners. These findings suggest that moderate drinkers may prefer casual sexual relationships with an ongoing partner (e.g., friends with benefits) rather than one-time-only partners. Heavy drinkers had higher scores on all alcohol and sexual measures as compared to the moderate drinkers except for their sex drive alcohol expectancies and lifetime partners. Taken together, these findings suggest that alcohol expectancies may contribute to the differences in sexual partners for each profile. Those with greater sex drive expectancies reported more lifetime partners and those with greater liquid courage expectancies reported more one-time-only partners. Casual sexual attitudes and alcohol consumption may increase the strength of the relationship between expectancies and sexual behaviors. These post hoc explanations need to be examined in future research.

One strength of this study was the replication of the profiles in two independent samples using multiple alcohol-related measures. Although both samples were from the same region of the country, one sampled men in semi-rural, suburban, and urban communities; whereas the other sampled men on an urban university campus. The present study suggests that some patterns of behaviors, such as alcohol consumption and expectancies along with casual sexual behavior, may be consistent among young men in different social environments.^{11, 33, 34} The roughly equivalent percentage of individuals from both samples within each

profile suggest that heavy alcohol consumption and casual sex are not necessarily more prevalent in college settings.

The findings of this study complement a recent study using person-centered analyses to investigate women's alcohol consumption and sexual behavior.²⁰ The two studies did not have all of the same measures or use the same sampling strategy, thus direct comparisons cannot be made. However, similar patterns emerged. In both studies, participants who drank more reported more positive casual sexual attitudes and more alcohol consumed before sexual activity. Men and women appear to show similar patterns for these variables. One intriguing difference between the two studies was that in the Stappenbeck et al.²⁰ study, the number of lifetime partners was unrelated to women's profile membership. Yet, in the present study, men who consumed more alcohol and had higher sex drive expectancies reported the greatest number of lifetime partners. The next step is to directly compare men's and women's profiles from the same sample using a wide range of alcohol expectancies and sexual measures. Although differences in men's and women's alcohol consumption and sexual behavior have been diminishing over time,⁵ double standards still exist.³⁵ Thus, the inclusion of measures of traditional gender role beliefs and sexual stigma could potentially help explain gender differences.

4.1 Limitations and future directions

Only cross-sectional, retrospective reports of men's behaviors were examined, thus temporal direction cannot be determined. Future research should examine if alcohol consumption increases casual sexual interests, or if an interest in casual sex leads to more consumption. Further, researchers should examine the motivations associated with consuming alcohol before sex along with the context in which alcohol is consumed. Some people may drink alcohol in sexual situations because they believe it will reduce their inhibitions. Other people may not consciously drink for this reason, but may still implicitly connect alcohol and sex in ways that increase their likelihood of having sex when drinking.³⁶ These motivations may be enhanced in settings in which alcohol and sex frequently co-occur such as bar settings.

The present study only included global assessments of consumption and sexual behaviors. Future research should examine if similar patterns emerge with different partner types (e.g., steady vs. casual) or if the findings change based on one's relationship to the partner. The measure of alcohol problems differed for the two studies, limiting our ability to focus on alcohol dependence or other types of consequences within the profiles.

4.2 Conclusions

These findings demonstrate the value of taking a person-centered approach to understanding young men's alcohol expectancies and consumption in relation to their casual sexual attitudes and behavior. The heaviest drinking profile was distinguished from other profiles not just by having the heaviest alcohol consumption, but also the strongest liquid courage alcohol expectancies. Many young adults report that to feel comfortable in casual sexual situations they need the liquid courage induced by alcohol.^{37,38} Although liquid courage provides the benefit of self-confidence, it can also increase the risk of contracting sexually transmitted infections or unintended pregnancy because the pharmacological effects of

alcohol increase the likelihood of having sex without a condom.³⁹ These findings highlight the need for primary prevention programs that focus on reducing liquid courage alcohol expectancies and increasing negative outcome expectancies.

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Highlights

- Drinking profiles were replicated in two independent samples of young adult men.
- Four drinking profiles emerged based on alcohol consumption and expectancies.
- The heaviest drinking profile had the strongest liquid courage expectancies.
- Occasional and light drinkers differed in sexual attitudes, not lifetime partners.
- Moderate and heavier drinkers differed in one-time partners and sexual attitudes.

Figure 1.

Average consumption for drinking profiles in both samples.

Note. AE = Alcohol Expectancy. HED = Heavy Episodic Drinking.

Table 1

Demographic Information for Samples 1 and 2

	Sample 1 (<i>N</i> = 350)		Sample 2 (<i>N</i> = 556)	
	<i>M/n</i>	<i>SD/%</i>	<i>M/n</i>	<i>SD/%</i>
Age	21.77	2.98	22.37	2.90
Current Student	103	29.4	505	92.0
Race/Ethnicity				
African-American	48	13.7	44	7.9
Asian	4	1.1	86	15.5
Caucasian	259	74.0	301	54.1
Hispanic	5	1.4	19	3.4
Middle Eastern	9	2.6	53	9.5
Multiracial	19	5.4	39	7.0
Native American, Alaskan Native	3	0.9	1	0.2
Unspecified	3	0.9	13	2.3

Table 2
Descriptive Statistics and Correlations among Study Variables for Sample 1 (N = 350) and Sample 2 (N = 556)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Liquid Courage AE	-	.52 [*]	.11 [*]	.21 [*]	.16 [*]	.15 [*]	.30 [*]	.10	.12 [*]	.18 [*]	.25 [*]	.11 [*]
2. Sex Drive AE	.60 [*]	-	.24 [*]	.26 [*]	.18 [*]	.18 [*]	.31 [*]	.23 [*]	.23 [*]	.33 [*]	.38 [*]	.24 [*]
3. Drinking Frequency	.12 [*]	.16 [*]	-	.51 [*]	.69 [*]	.62 [*]	.53 [*]	.22 [*]	.25 [*]	.36 [*]	.53 [*]	.47 [*]
4. Drinking Quantity	.18 [*]	.16 [*]	.51 [*]	-	.63 [*]	.68 [*]	.56 [*]	.11 [*]	.14 [*]	.34 [*]	.56 [*]	.39 [*]
5. Heavy Drinking Episodes	.20 [*]	.21 [*]	.70 [*]	.66 [*]	-	.60 [*]	.63 [*]	.12 [*]	.16 [*]	.26 [*]	.56 [*]	.49 [*]
6. Max # Drinks in 24 h	.15 [*]	.20 [*]	.72 [*]	.67 [*]	.64 [*]	-	.46 [*]	.22 [*]	.26 [*]	.40 [*]	.55 [*]	.46 [*]
7. Alcohol Problems ^a	.28 [*]	.25 [*]	.56 [*]	.55 [*]	.67 [*]	.58 [*]	-	.16 [*]	.23 [*]	.31 [*]	.50 [*]	.41 [*]
8. Lifetime Sex Partners ^b	.09 [*]	.24 [*]	.22 [*]	.12 [*]	.16 [*]	.19 [*]	.15 [*]	-	.82 [*]	.36 [*]	.22 [*]	.23 [*]
9. Lifetime One-Time Partners ^b	.12 [*]	.25 [*]	.19 [*]	.14 [*]	.18 [*]	.18 [*]	.18 [*]	.84 [*]	-	.36 [*]	.27 [*]	.28 [*]
10. Casual Sex Attitudes	.22 [*]	.31 [*]	.27 [*]	.22 [*]	.29 [*]	.27 [*]	.24 [*]	.31 [*]	.32 [*]	-	.39 [*]	.32 [*]
11. Amount He Drinks ^c	.17 [*]	.24 [*]	.49 [*]	.57 [*]	.55 [*]	.57 [*]	.43 [*]	.24 [*]	.20 [*]	.27 [*]	-	.81 [*]
12. Amount She Drinks ^c	.15 [*]	.20 [*]	.42 [*]	.45 [*]	.46 [*]	.47 [*]	.34 [*]	.24 [*]	.18 [*]	.27 [*]	.85 [*]	-
Sample 1												
<i>M</i>	2.77	2.73	4.31	3.32	2.49	6.30	1.99 ^a	7.33 ^b	2.51 ^b	2.80	1.80	1.43
<i>SD</i>	0.90	1.00	2.37	1.96	2.25	2.56	2.31	9.07	3.53	0.94	1.74	1.27
Sample 2												
<i>M</i>	3.07	3.20	4.30	3.08	2.59	6.03	0.80 ^a	7.94 ^b	2.86 ^b	3.29	1.57	1.37
<i>SD</i>	0.93	1.06	2.54	2.03	2.19	2.70	0.68	9.75	4.07	0.91	1.50	1.22

Note. Values above the diagonal pertain to Sample 1 and values below come from Sample 2. AE = Alcohol Expectancy.

^aAlcohol problems was assessed with different measures in the two samples.

^bScores for sexual partner variables were winsorized. The median number of lifetime partners was 4.00 in Sample 1 and 5.00 in Sample 2. The median number of one-time only partners was 1.00 in Sample 1 and 1.00 in Sample 2.

^cAmount consumed in sexual situations.

* $p < .05$

Table 3

Fit Results from Latent Profile Analyses

Sample/Mode		<i>k</i>	LL	#fp	SC	AIC	SABIC	Entropy	VLMR	BLRT
Sample 1 (N= 350)										
	2 profiles	2	-3157.458	22	1.397	6358.916	6373.999	0.838	.005	<.001
	3 profiles	3	-2996.762	30	1.230	6053.524	6074.092	0.885	.001	<.001
	4 profiles	4	-2926.222	38	1.220	5928.445	5954.497	0.868	.022	<.001
	5 profiles	5	-2876.682	46	1.264	5845.364	5876.900	0.873	.216	.223
Sample 2 (N= 556)										
	2 profiles	2	-4893.025	22	1.327	9830.050	9925.107	0.917	<.001	<.001
	3 profiles	3	-4599.608	30	1.139	9259.217	9293.606	0.888	<.001	<.001
	4 profiles	4	-4494.170	38	1.224	9064.340	9107.900	0.863	.017	<.001
	5 profiles	5	-4434.585	46	1.264	8961.170	9013.900	0.866	.115	<.001
Cross-sample Similarity (N= 906)										
	Configural	4	-8024.757	77	1.218	16203.515	16329.270	0.910	--	--
	Structural	4	-8042.615	49	1.277	16183.230	16263.256	0.909	--	--
	Dispersion	4	-8048.913	42	1.262	16181.826	16250.420	0.909	--	--
	Distributional	4	-8052.434	39	1.286	16182.868	16246.562	0.909	--	--
Combined Sample (N = 906)										
	4 profiles	4	-7448.068	38	1.294	14972.136	15034.197	0.864	.027	<.001

Note. LL = model log likelihood; #fp = number of free parameters; AIC = Akaike information Criterion; SABIC = Sample-size Adjusted Bayesian Information Criterion; VLMR = Vuong-Lo-Mendell-Rubin likelihood ratio test; BLRT = bootstrap likelihood ratio test.

Standardized and Unstandardized Alcohol Consumption Scores based on Drinking Profile

Table 4

Standardized Scores	Occasional Drinkers Low Expectancies (n = 125; 13.80%)		Light Drinkers Moderate Expectancies (n = 260; 28.70%)		Moderate Drinkers Moderate Expectancies (n = 333; 36.76%)		Heavy Drinkers High Liquid Courage (n=188; 20.75%)	
	M	(SE)	M	(SE)	M	(SE)	M	(SE)
Liquid Courage AE	-0.27 [*]	(0.11)	-0.19 [*]	(0.08)	0.06	(0.09)	0.34 [*]	(0.08)
Sex Drive AE	-0.43 [*]	(0.12)	-0.19 [*]	(0.08)	0.13	(0.08)	0.33 [*]	(0.08)
Frequency	-2.66 [*]	(0.17)	-0.66	(0.35)	0.69 [*]	(0.09)	1.51 [*]	(0.09)
Typical Quantity	-2.10 [*]	(0.08)	-0.48 [*]	(0.11)	0.36 [*]	(0.14)	1.44 [*]	(0.13)
HED Frequency	-2.76 [*]	(0.28)	-1.90 [*]	(0.14)	0.53	(0.41)	3.52 [*]	(0.52)
Max Drinks in 24 Hours	-3.87 [*]	(0.30)	-0.31	(0.19)	0.86 [*]	(0.10)	1.54 [*]	(0.12)
Alcohol Problems ^a	-1.45 [*]	(0.07)	-0.66 [*]	(0.13)	0.18	(0.13)	1.55 [*]	(0.16)
Unstandardized Scores	M	(SE)	M	(SE)	M	(SE)	M	(SE)
Liquid Courage AE	2.70 _a	(0.08)	2.76 _a	(0.06)	3.04 _{bc}	(0.05)	3.25 _{bd}	(0.07)
Sex Drive AE	2.60 _a	(0.09)	2.78 _a	(0.06)	3.19 _b	(0.06)	3.33 _b	(0.08)
Frequency	0.91 _a	(0.16)	3.33 _{bc}	(0.11)	5.27 _{bde}	(0.10)	6.20 _{bdf}	(0.13)
Typical Quantity	0.78 _a	(0.14)	2.57 _{bc}	(0.10)	3.59 _{bde}	(0.09)	4.86 _{bdf}	(0.12)
HED Frequency	0.43 _a	(0.12)	0.95 _{bc}	(0.08)	2.99 _{bde}	(0.07)	5.40 _{bdf}	(0.10)
Max Drinks in 24 Hours	1.54 _a	(0.16)	5.78 _{bc}	(0.11)	7.14 _{bde}	(0.10)	7.91 _{bdf}	(0.13)
Sample 1 Alcohol Problems ^a	0.11 _a	(0.06)	0.87 _a	(0.11)	2.09 _{bc}	(0.17)	4.74 _{bd}	(0.30)
Sample 2 Alcohol Problems ^a	0.21 _a	(0.06)	0.54 _{bc}	(0.04)	0.88 _{bde}	(0.03)	1.40 _{bdf}	(0.07)
Probability of Profile Membership	0.99	(0.05)	0.91	(0.13)	0.90	(0.12)	0.93	(0.12)

Note.

^{*} $p < .05$.

AE = Alcohol Expectancy. HED = Heavy Episodic Drinking. For standardized scores, asterisks indicate means significantly different from zero. For unstandardized scores, subscripts are used to indicate means that are significantly different from one another. A differs from B; C differs from B; C differs from D; E differs from F.

^a Alcohol problems was assessed with different measures in the two samples. Therefore, sample specific means and standard errors were reported in the unstandardized scores table. Separate values were not reported in the standardized table because the standardization procedure allows for comparisons to be made between variables with different scaling. All profiles differed from one another on the alcohol

problems measure in Sample 2; however, in Sample 1 the two lighter drinking profiles did not differ from one another on this variable. The two lighter profiles did differ from the two heavier drinking profiles which also differed from one another.

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Table 5

Results for Tests of Between-Subjects Effects and Follow-up Tukey Honestly Significant Difference Tests

	1. Occasional Drinkers Low Expectancies <i>M (SE)</i>	2. Light Drinkers Low Expectancies <i>M (SE)</i>	3. Moderate Drinkers Moderate Expectancies <i>M (SE)</i>	4. Heavy Drinkers High Liquid Courage <i>M (SE)</i>	<i>F</i> (3, 902)	partial η^2
Lifetime Partners	4.22 (0.83) _a	6.60 (0.58) _a	8.66 (0.51) _b	9.86 (0.68) _b	11.53 [*]	.04
One-Time Partners	1.42 (0.34) _a	2.22 (0.24) _c	2.93 (0.21) _{bc}	3.92 (0.28) _{bdf}	12.99 [*]	.04
Casual Sex Attitudes	2.56 (0.08) _a	2.94 (0.06) _{bc}	3.22 (0.05) _{bde}	3.46 (0.07) _{bdf}	29.04 [*]	.09
Amount He Drinks ^{<i>I</i>}	0.28 (0.12) _a	0.97 (0.08) _{bc}	2.05 (0.07) _{bde}	2.83 (0.10) _{bdf}	122.09 [*]	.29
Amount She Drinks ^{<i>I</i>}	0.40 (0.10) _a	0.98 (0.07) _{bc}	1.68 (0.06) _{bde}	2.12 (0.07) _{bdf}	80.22 [*]	.21

Note.^{*} $p < .05$.

In the same row, subscripts indicate means significantly different from one another. A differs from B; C differs from D; E differs from F.

^{*I*} Amounts consumed in sexual situations.