1

Supplemental Screening Data

Zoom Screening

Assessed for eligibility (n=419)

Rejected (n=187)
- Unable to abstain from alcohol (n=4)
- Nicotine/drug use (n=11)
- Quota met (n=4)
- Demographics (i.e. age, BMI) (n=3)
- Health (n=3)
- Depression Criteria not met (n=20)
- Did not fit drinking cohort (n=33)
- <2 year drinking pattern (n=16)
- Psych (n=19)
- Unreliable/Fraudulent (n=9)
- No Shows (n=65)

Enrollment

Accepted (n= 232)

Enrollment Failure (n=6)
Dropped From Analyses (n=5)
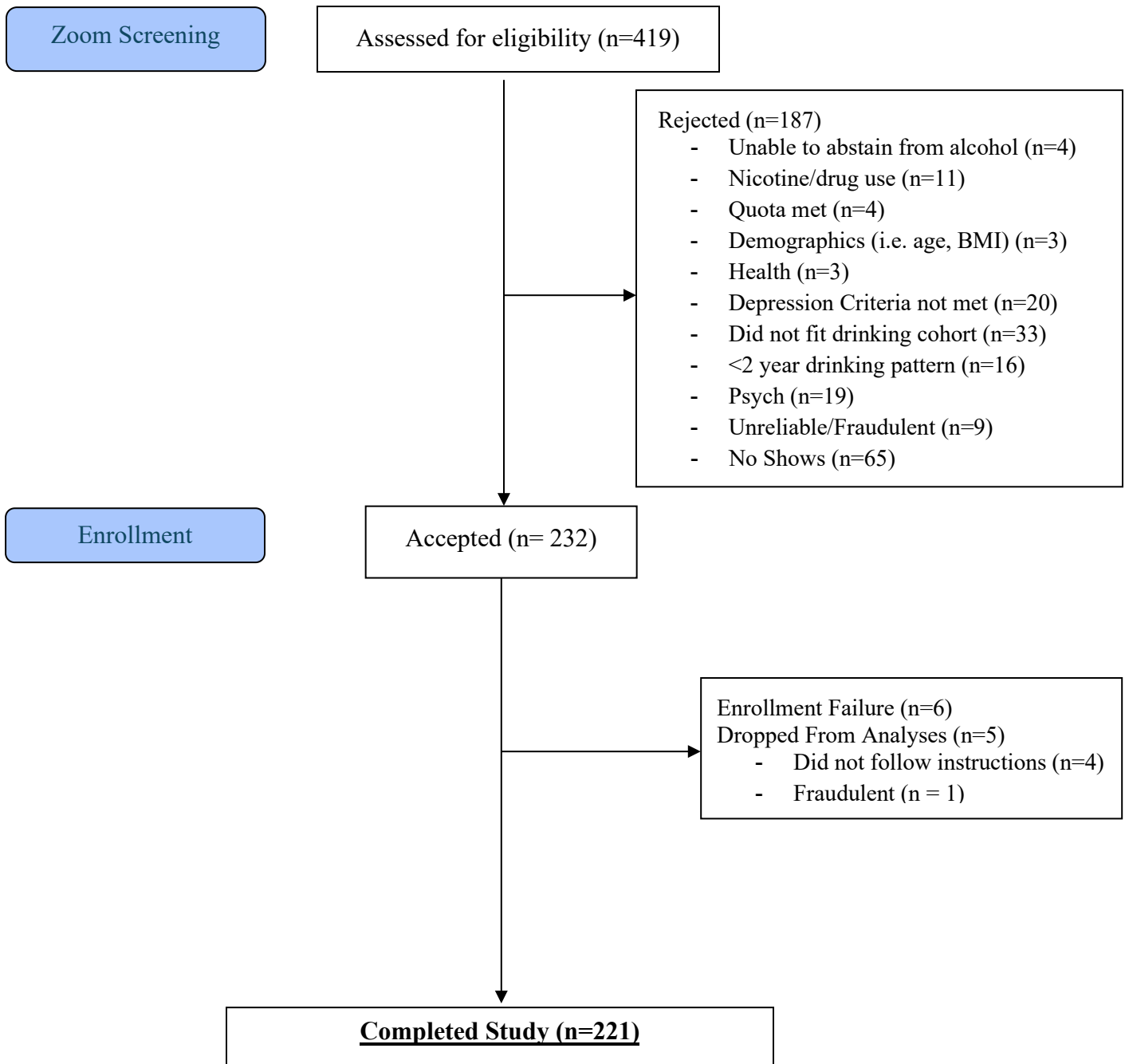- Did not follow instructions (n=4)
- Fraudulent (n = 1)

Completed Study (n=221)

Supplemental Table 1

Results of linear mixed effects models conducted separately in AUD- and AUD+ groups on eBAC, feel beverage effects and primary outcomes (stimulation, sedation, liking, wanting more, and negative affect). For stimulation, sedation and negative affect, baseline measures were included as a covariate.

	AUD-					AUD+			
eBAC									
Effect	**df (num)**	**df (den)**	**F**	**Pr > F**	**Effect**	**df (num)**	**df (den)**	**F**	**Pr > F**
Cohort[a]	1	1307	0.03	0.8539	Cohort[a]	1	1444	0.02	0.8777
Episode[b]	1	1307	256.22	<.0001	Episode[b]	1	1444	213.80	<.0001
Cohort * episode	1	1307	0.08	0.7746	Cohort * episode	1	1444	3.11	0.0779
Time	1	99	0.00	0.9507	Time	1	118	0.01	0.9165
Cohort * time	1	1307	0.08	0.7769	Cohort * time	1	1444	0.95	0.3291
Episode * time	1	1307	36.06	<.0001	Episode * time	1	1444	431.29	<.0001
Cohort * episode * time	1	1307	2.82	0.0933	Cohort * episode * time	1	1444	14.25	0.0002
eBAC	--	--	--	--	eBAC	--	--	--	--
Feel									
Effect	**df (num)**	**df (den)**	**F**	**Pr > F**	**Effect**	**df (num)**	**df (den)**	**F**	**Pr > F**
Cohort[a]	1	1306	1.33	0.2492	Cohort[a]	1	1443	8.86	0.0030
Episode[b]	1	1306	12.95	0.0003	Episode[b]	1	1443	6.03	0.0142
Cohort * episode	1	1306	8.43	0.0037	Cohort * episode	1	1443	2.23	0.1355
Time	1	99	2.39	0.1249	Time	1	118	42.85	<.0001
Cohort * time	1	1306	0.71	0.3999	Cohort * time	1	1443	0.83	0.3614
Episode * time	1	1306	4.59	0.0324	Episode * time	1	1443	75.11	<.0001
Cohort * episode * time	1	1306	0.00	0.9603	Cohort * episode * time	1	1443	1.93	0.1644
eBAC	1	1306	107.25	<.0001	eBAC	1	1443	97.33	<.0001
Stimulation									
Effect	**df (num)**	**df (den)**	**F**	**Pr > F**	**Effect**	**df (num)**	**df (den)**	**F**	**Pr > F**
Baseline stimulation[c]	1	1305	346.26	<.0001	Baseline stimulation[c]	1	1442	131.2	<.0001
Cohort[a]	1	1305	0.02	0.8820	Cohort[a]	1	1442	0.75	0.3871
Episode[b]	1	1305	19.42	<.0001	Episode[b]	1	1442	77.83	<.0001
Cohort * episode	1	1305	3.02	0.0823	Cohort * episode	1	1442	0.03	0.8706
Time	1	99	105.32	<.0001	Time	1	118	62.52	<.0001
Cohort * time	1	1305	3.54	0.0601	Cohort * time	1	1442	0.13	0.7139
Episode * time	1	1305	8.78	0.0031	Episode * time	1	1442	2.53	0.1118
Cohort * episode * time	1	1305	0.42	0.5146	Cohort * episode * time	1	1442	0.18	0.6715
eBAC	1	1305	11.91	0.0006	eBAC	1	1442	65.93	<.0001
Like									
Effect	**df (num)**	**df (den)**	**F**	**Pr > F**	**Effect**	**df (num)**	**df (den)**	**F**	**Pr > F**
Cohort[a]	1	1306	0.27	0.6015	Cohort[a]	1	1442	5.07	0.0246
Episode[b]	1	1306	30.24	<.0001	Episode[b]	1	1442	37.95	<.0001
Cohort * episode	1	1306	2.43	0.1192	Cohort * episode	1	1442	0.53	0.4659
Time	1	99	26.19	<.0001	Time	1	118	7.15	0.0086
Cohort * time	1	1306	0.90	0.3431	Cohort * time	1	1442	0.01	0.9192
Episode * time	1	1306	1.10	0.2947	Episode * time	1	1442	14.96	0.0001
Cohort * episode * time	1	1306	2.28	0.1316	Cohort * episode * time	1	1442	6.18	0.0130
eBAC	1	1306	10.41	0.0013	eBAC	1	1442	69.85	<.0001
eBAC	1	1305	3.97	0.0464	eBAC	1	1442	9.08	0.002

	AUD-					AUD+			

Negative Affect

Effect	df (num)	df (den)	F	Pr > F	Effect	df (num)	df (den)	F	Pr > F
Baseline negative affect[c]	1	1305	546.85	<.0001	Baseline negative affect[c]	1	1442	293.43	<.0001
Cohort[a]	1	1305	5.35	0.0209	Cohort[a]	1	1442	4.48	0.0345
Episode[b]	1	1305	19.47	<.0001	Episode[b]	1	1442	63.24	<.0001
Cohort * episode	1	1305	3.02	0.0825	Cohort * episode	1	1442	1.20	0.2743
Time	1	99	0.03	0.8611	Time	1	118	2.43	0.1218
Cohort * time	1	1305	2.28	0.1317	Cohort * time	1	1442	0.07	0.7955
Episode * time	1	1305	7.72	0.0055	Episode * time	1	1442	1.26	0.2612
Cohort * episode * time	1	1305	0.03	0.8638	Cohort * episode * time	1	1442	1.27	0.2603
eBAC	1	1305	3.32	0.0689	eBAC	1	1442	8.13	0.0044

Want More

Effect	df (num)	df (den)	F	Pr > F	Effect	df (num)	df (den)	F	Pr > F
Cohort[a]	1	1306	0.63	0.4284	Cohort[a]	1	1443	4.43	0.0354
Episode[b]	1	1306	35.81	<.0001	Episode[b]	1	1443	178.00	<.0001
Cohort * episode	1	1306	3.12	0.0775	Cohort * episode	1	1443	0.03	0.8645
Time	1	99	153.98	<.0001	Time	1	118	86.13	<.0001
Cohort * time	1	1306	2.17	0.1408	Cohort * time	1	1443	1.41	0.2345
Episode * time	1	1306	25.89	<.0001	Episode * time	1	1443	5.90	0.0152
Cohort * episode * time	1	1306	3.62	0.0575	Cohort * episode * time	1	1443	0.19	0.6607
eBAC	1	1306	5.35	0.0209	eBAC	1	1443	40.91	<.0001

Sedation

Effect	df (num)	df (den)	F	Pr > F	Effect	df (num)	df (den)	F	Pr > F
Baseline sedation[c]	1	1305	66.73	<.0001	Baseline sedation[c]	1	1442	194.00	<.0001
Cohort[a]	1	1305	10.46	0.0012	Cohort[a]	1	1442	2.63	0.1049
Episode[b]	1	1305	0.15	0.6941	Episode[b]	1	1442	0.06	0.8138
Cohort * episode	1	1305	0.66	0.4169	Cohort * episode	1	1442	1.53	0.2162
Time	1	99	56.31	<.0001	Time	1	118	46.62	<.0001
Cohort * time	1	1305	8.36	0.0039	Cohort * time	1	1442	0.01	0.9417
Episode * time	1	1305	16.77	<.0001	Episode * time	1	1442	7.00	0.0082
Cohort * episode * time	1	1305	0.83	0.3638	Cohort * episode * time	1	1442	1.00	0.3183
eBAC	1	1305	3.97	0.0464	eBAC	1	1442	9.08	0.002

[a]Coded as 1 (comorbid depressive disorder present; DEP+) or 0 (comorbid depressive disorder absent, DEP-).

[b]Coded as 1 (alcohol-drinking episode) or 0 (non-alcohol drinking episode).

[c]Assessed at the baseline time assessment prior to starting the episode.

AUD = Alcohol use disorder; eBAC = estimated blood alcohol concentration.

Supplemental Table 2: Post-Hoc comparisons and P-values

AUD -		AUD +	
eBAC			
Comparison	**P-Value**	**Comparison**	**P-Value**
slope: drinking early vs late	0.9418	slope: drinking early vs late	0.0557
slope: drinking early vs non-drinking early	<.0001	slope: drinking early vs non-drinking early	0.9999
slope: drinking early vs non-drinking late	<.0001	slope: drinking early vs non-drinking late	<.0001
slope: drinking late vs non-drinking late	<.0001	slope: drinking late vs non-drinking late	<.0001
slope: drinking late vs non-drinking early	<.0001	slope: drinking late vs non-drinking early	<.0001
slope: non-drinking late vs non-drinking early	0.3521	slope: non-drinking late vs non-drinking early	<.0001
difference in episodes at timehour=0	<.0001	difference in episodes at timehour=0	0.0404
difference in episodes at timehour=0.15	<.0001	difference in episodes at timehour=0.15	<.0001
difference in episodes at timehour=0.5	<.0001	difference in episodes at timehour=0.5	<.0001
difference in episodes at timehour=1	<.0001	difference in episodes at timehour=1	<.0001
difference in episodes at timehour=1.5	<.0001	difference in episodes at timehour=1.5	<.0001
difference in episodes at timehour=2	<.0001	difference in episodes at timehour=2	<.0001
difference in episodes at timehour=2.5	<.0001	difference in episodes at timehour=2.5	<.0001
difference in episodes at timehour=3	<.0001	difference in episodes at timehour=3	<.0001
Feel			
Comparison	**P-Value**	**Comparison**	**P-Value**
slope: drinking early vs late	0.0177	slope: drinking early vs late	<.0001
slope: drinking early vs non-drinking early	<.0001	slope: drinking early vs non-drinking early	<.0001
slope: drinking early vs non-drinking late	0.0079	slope: drinking early vs non-drinking late	<.0001
slope: drinking late vs non-drinking late	0.4673	slope: drinking late vs non-drinking late	0.0653
slope: drinking late vs non-drinking early	1.0000	slope: drinking late vs non-drinking early	0.1003
slope: non-drinking late vs non-drinking early	0.5638	slope: non-drinking late vs non-drinking early	0.9801
difference in episodes at timehour=0	0.5229	difference in episodes at timehour=0	0.1942
difference in episodes at timehour=0.15	0.7025	difference in episodes at timehour=0.15	0.4963
difference in episodes at timehour=0.5	0.6995	difference in episodes at timehour=0.5	0.2532
difference in episodes at timehour=1	0.0383	difference in episodes at timehour=1	<.0001
difference in episodes at timehour=1.5	<.0001	difference in episodes at timehour=1.5	<.0001
difference in episodes at timehour=2	<.0001	difference in episodes at timehour=2	<.0001
difference in episodes at timehour=2.5	<.0001	difference in episodes at timehour=2.5	<.0001
difference in episodes at timehour=3	<.0001	difference in episodes at timehour=3	<.0001

P-values adjusted for multiple comparisons using Tukey-Kramer method
Early: 0-2 hours; Late: 2.5-3 hours

AUD -		AUD +	
Stimulation			
Comparison	**P-Value**	**Comparison**	**P-Value**
slope: drinking early vs drinking late	0.9415	slope: drinking early vs drinking late	0.2437
slope: drinking early vs non-drinking early	0.0112	slope: drinking early vs non-drinking early	<.0001
slope: drinking early vs non-drinking late	0.9652	slope: drinking early vs non-drinking late	<.0001
slope: drinking late vs non-drinking late	0.4893	slope: drinking late vs non-drinking late	0.0024
slope: drinking late vs non-drinking early	0.9996	slope: drinking late vs non-drinking early	0.02
slope: non-drinking late vs non-drinking early	0.4735	slope: non-drinking late vs non-drinking early	0.9998
difference in episodes at timehour=0	0.2316	difference in episodes at timehour=0	0.0001
difference in episodes at timehour=0.15	0.22	difference in episodes at timehour=0.15	<.0001
difference in episodes at timehour=0.5	0.1916	difference in episodes at timehour=0.5	<.0001
difference in episodes at timehour=1	0.1559	difference in episodes at timehour=1	<.0001
difference in episodes at timehour=1.5	0.1611	difference in episodes at timehour=1.5	<.0001
difference in episodes at timehour=2	0.2971	difference in episodes at timehour=2	<.0001
difference in episodes at timehour=2.5	0.5749	difference in episodes at timehour=2.5	<.0001
difference in episodes at timehour=3	0.8273	difference in episodes at timehour=3	0.0002
Like			
Comparison	**P-Value**	**Comparison**	**P-Value**
slope: drinking early vs drinking late	0.6617	slope: drinking early vs drinking late	0.2966
slope: drinking early vs non-drinking early	<.0001	slope: drinking early vs non-drinking early	<.0001
slope: drinking early vs non-drinking late	0.0963	slope: drinking early vs non-drinking late	<.0001
slope: drinking late vs non-drinking late	<.0001	slope: drinking late vs non-drinking late	<.0001
slope: drinking late vs non-drinking early	0.8224	slope: drinking late vs non-drinking early	0.0182
slope: non-drinking late vs non-drinking early	0.0153	slope: non-drinking late vs non-drinking early	0.4933
difference in episodes at timehour=0	0.5764	difference in episodes at timehour=0	0.1236
difference in episodes at timehour=0.15	0.3954	difference in episodes at timehour=0.15	0.0451
difference in episodes at timehour=0.5	0.0875	difference in episodes at timehour=0.5	0.0009
difference in episodes at timehour=1	0.0004	difference in episodes at timehour=1	<.0001
difference in episodes at timehour=1.5	<.0001	difference in episodes at timehour=1.5	<.0001
difference in episodes at timehour=2	<.0001	difference in episodes at timehour=2	<.0001
difference in episodes at timehour=2.5	<.0001	difference in episodes at timehour=2.5	<.0001
difference in episodes at timehour=3	<.0001	difference in episodes at timehour=3	<.0001

P-values adjusted for multiple comparisons using Tukey-Kramer method
Early: 0-2 hours; Late: 2.5-3 hours

	AUD -		AUD +

Negative Affect			
Comparison	**P-Value**	**Comparison**	**P-Value**
slope: drinking early vs drinking late	<.0001	slope: drinking early vs drinking late	0.7809
slope: drinking early vs non-drinking early	<.0001	slope: drinking early vs non-drinking early	0.0178
slope: drinking early vs non-drinking late	<.0001	slope: drinking early vs non-drinking late	0.4691
slope: drinking late vs non-drinking late	0.0003	slope: drinking late vs non-drinking late	0.7983
slope: drinking late vs non-drinking early	0.9998	slope: drinking late vs non-drinking early	0.9848
slope: non-drinking late vs non-drinking early	<.0001	slope: non-drinking late vs non-drinking early	0.9726
difference in episodes at timehour=0	<.0001	difference in episodes at timehour=0	0.1169
difference in episodes at timehour=0.15	<.0001	difference in episodes at timehour=0.15	0.109
difference in episodes at timehour=0.5	<.0001	difference in episodes at timehour=0.5	0.0907
difference in episodes at timehour=1	<.0001	difference in episodes at timehour=1	0.0705
difference in episodes at timehour=1.5	<.0001	difference in episodes at timehour=1.5	0.0815
difference in episodes at timehour=2	<.0001	difference in episodes at timehour=2	0.2147
difference in episodes at timehour=2.5	<.0001	difference in episodes at timehour=2.5	0.5438
difference in episodes at timehour=3	<.0001	difference in episodes at timehour=3	0.8673

P-values adjusted for multiple comparisons using Tukey-Kramer method
Early: 0-2 hours; Late: 2.5-3 hours

	AUD -			AUD +	
Want More					
Comparison		**P-Value**	**Comparison**		**P-Value**
slope: drinking early vs drinking late		0.8937	slope: drinking early vs drinking late		0.0183
slope: drinking early vs non-drinking early		0.0526	slope: drinking early vs non-drinking early		<.0001
slope: drinking early vs non-drinking late		0.9784	slope: drinking early vs non-drinking late		<.0001
slope: drinking late vs non-drinking late		0.0711	slope: drinking late vs non-drinking late		<.0001
slope: drinking late vs non-drinking early		0.7912	slope: drinking late vs non-drinking early		0.0128
slope: non-drinking late vs non-drinking early		0.6415	slope: non-drinking late vs non-drinking early		0.3059
difference in episodes at timehour=0		0.0031	difference in episodes at timehour=0		<.0001
difference in episodes at timehour=0.15		0.0032	difference in episodes at timehour=0.15		<.0001
difference in episodes at timehour=0.5		0.004	difference in episodes at timehour=0.5		<.0001
difference in episodes at timehour=1		0.0094	difference in episodes at timehour=1		<.0001
difference in episodes at timehour=1.5		0.0764	difference in episodes at timehour=1.5		<.0001
difference in episodes at timehour=2		0.7417	difference in episodes at timehour=2		<.0001
difference in episodes at timehour=2.5		0.3801	difference in episodes at timehour=2.5		<.0001
difference in episodes at timehour=3		0.1217	difference in episodes at timehour=3		<.0001
Sedation					
Comparison		**P-Value**	**Comparison**		**P-Value**
slope: drinking early vs drinking late		1.0000	slope: drinking early vs drinking late		1.0000
slope: drinking early vs non-drinking early		0.0847	slope: drinking early vs non-drinking early		0.0847
slope: drinking early vs non-drinking late		0.9995	slope: drinking early vs non-drinking late		0.9995
slope: drinking late vs non-drinking late		0.3173	slope: drinking late vs non-drinking late		0.3173
slope: drinking late vs non-drinking early		0.9992	slope: drinking late vs non-drinking early		0.9992
slope: non-drinking late vs non-drinking early		0.4358	slope: non-drinking late vs non-drinking early		0.4358
difference in episodes at timehour=0		0.3335	difference in episodes at timehour=0		0.3335
difference in episodes at timehour=0.15		0.4125	difference in episodes at timehour=0.15		0.4125
difference in episodes at timehour=0.5		0.7075	difference in episodes at timehour=0.5		0.7075
difference in episodes at timehour=1		0.5670	difference in episodes at timehour=1		0.5670
difference in episodes at timehour=1.5		0.0754	difference in episodes at timehour=1.5		0.0754
difference in episodes at timehour=2		0.0077	difference in episodes at timehour=2		0.0077
difference in episodes at timehour=2.5		0.0027	difference in episodes at timehour=2.5		0.0027
difference in episodes at timehour=3		0.0022	difference in episodes at timehour=3		0.0022

P-values adjusted for multiple comparisons using Tukey-Kramer method
Early: 0-2 hours; Late: 2.5-3 hours

Supplemental Table 3

Demographics and drinking characteristics in AUD+: Mild *vs*. moderate-severe AUD

	Mild AUD N=54		Moderate-Severe AUD N=66		Significance
	N	**%**	**N**	**%**	
Sex assigned at birth (male)	28	51.9	42	63.6	*ns*
Race (white)	43	79.6	50	75.8	*ns*
Family history of AUD	22	40.7	33	50.0	*ns*
	Mean	**SD**	**Mean**	**SD**	
Age (years)	26.8	4.1	26.7	4.6	*ns*
Education (years)	16.2	1.9	15.4	1.7	*p<0.05*
DSM-5 AUD symptoms	2.5	0.5	5.7	1.7	*p<0.001*
AUDIT	13.6	4.4	18.7	5.1	*p<0.001*
Age of first drink (years)	16.3	2.2	15.7	2.3	*ns*
Drinks per drinking day[1]	4.4	2.1	7.2	2.5	*p<0.001*
Drinks per week[1]	16.0	6.0	34.3	14.1	*p<0.001*
% Drinking days	55.8	4.6	69.5	4.6	*p<0.001*
% Heavy drinking days[2]	22.6	2.7	52.9	4.9	*p<0.001*
% High intensity days[3]	5.0	2.3	21.0	5.5	*p<0.001*

Note. [1]In standard drink units (14g ethanol per drink); [2] Heavy drinking defined as consuming ≥4 standard drinks for a woman (≥5 standard drinks for a man); [3] High intensity drinking defined as consuming ≥8 standard drinks for a woman (≥10 standard drinks for a man). AUD = alcohol use disorder; DEP = depressive disorder; DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition; AUDIT = Alcohol Use Disorder Identification Test.

Supplemental Analysis

The following analyses results are from exploratory mixed linear models in AUD+ that assessed the effects of AUD subgroup (mild vs. moderate-severe), episode (alcohol, non-alcohol), time, and their interactions, covarying for baseline score (when available) and eBAC.

Stimulation

Effect	Num DF	Den DF	F Value	Pr > F
baseline score	1	1443	133.51	<.0001
ebac	1	1443	55.61	<.0001
group	1	1443	0.08	0.7813
episode	1	1443	83.87	<.0001
group*episode	1	1443	0.23	0.6294
time	1	118	61.81	<.0001
group*time	1	1443	4.12	0.0425
episode*time	1	1443	2.68	0.1016
group*episode*time	**1**	**1443**	**10.26**	**0.0014**

Wanting More

Effect	Num DF	Den DF	F Value	Pr > F
ebac	1	1444	33.53	<.0001
group	1	1444	1.48	0.2234
episode	1	1444	181.85	<.0001
group*episode	**1**	**1444**	**5.05**	**0.0248**
time	1	118	85.49	<.0001
group*time	1	1444	3.77	0.0523
episode*time	1	1444	4.85	0.0277
group*episode*time	1	1444	0.09	0.7636

Liking

Effect	Num DF	Den DF	F Value	Pr > F
ebac	1	1443	64.2	<.0001
group	1	1443	0.01	0.924
episode	1	1443	39.3	<.0001
group*episode	1	1443	0.34	0.562
time	1	118	6.01	0.0157
group*time	1	1443	0	0.997
episode*time	**1**	**1443**	**13.57**	**0.0002**
group*episode*time	1	1443	1	0.3175

Negative Affect

Effect	Num DF	Den DF	F Value	Pr > F
baseline score	1	1443	294.56	<.0001
ebac	1	1443	6.33	0.012
group	1	1443	0.31	0.5803
episode	**1**	**1443**	**69.43**	**<.0001**
group*episode	1	1443	0.07	0.7909
time	1	118	2.91	0.0908
group*time	1	1443	1.78	0.1824
episode*time	1	1443	1.37	0.2428
group*episode*time	1	1443	0.01	0.9374

Sedation

Effect	Num DF	Den DF	F Value	Pr > F
baseline score	1	1443	211.6	<.0001
ebac	1	1443	10.19	0.0014
group	1	1443	1.29	0.2557
episode	1	1443	0.06	0.8134
group*episode	1	1443	0	0.9632
time	1	118	52.49	<.0001
group*time	1	1443	4.72	0.0301
episode*time	**1**	**1443**	**8.34**	**0.0039**
group*episode*time	1	1443	0.54	0.4619