Real-time drinking, age of drinking onset, & other drug use predict the adverse alcohol use consequences of tertiary students

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Background

- Tertiary students drink more alcohol, are at increased risk of injury/harm, and have higher rates of alcohol use disorder (AUD) compared to their non-university enrolled peers

- The Brief Young Adult Alcohol Consequences Questionnaire (BYAACQ) is one of several tools commonly utilised to explore adverse alcohol-related outcomes among tertiary students in the US

- Alcohol intake assessed via retrospective surveys is linked to score on the Brief Young Adult Alcohol Consequences Questionnaire (BYAACQ)

But, it is unclear how drinking assessed in real-time – and potentially other variables – predict/s severity of negative alcohol consequences

Aims

- Investigate the psychometric properties of the BYAACQ in a large Australian sample
  - Classical test theory
  - Item response theory

- Examine the relationship between current drinking, age of drinking onset, and alcohol-related consequences

Study Design

Procedure
- Completion of online surveys
- Download and use of free smartphone app (21 days) to capture alcohol intake

Materials
- Demographics
- Surveys
  - BYAACQ
  - AUDIT
  - ASSIST (drug use)
  - GAD-7, PHQ-9
- App

BYAACQ

1. Said/done embarrassing things
2. Hangover
3. Sick to the stomach/thrown up
4. Drinking when planning not to
5. Taken foolish risks
6. Passed out from drinking
7. Needed larger amounts of alcohol
8. Done impulsive things
9. Not been able to remember large stretches of time
10. Driven a car when intoxicated
11. Not gone to work or missed classes
12. Sexual situations later regretted
13. Difficult to limit quantity
14. Rude, obnoxious, or insulting
15. Woken up in an unexpected place
16. Felt badly about self
17. Less energy or felt tired
18. Quality of work/schoolwork suffered
19. Spent too much time drinking
20. Neglected obligations
21. Created problems with partner, etc.
22. Been overweight
23. Physical appearance harmed
24. Needed a drink before breakfast

Results

- n = 504 undergraduate/graduate university students (70.2% female) with 14.56 (2.03) years of education
- BYAACQ score = 7.62 (5.20)

	M (SD)	BYAACQ correlation
Age	21.69 (4.81)	.19
GAD-7 (anxiety)	5.02 (5.15)	.16
PHQ-9 (depression)	6.19 (5.29)	.19
AUDIT	8.10 (5.30)	.67
ASSIST (drug use)	8.33 (15.15)	.42
Drinking days (%)	24.93 (18.62)	.33
Drinks/day	23.13 (24.06)	.44
Drinks/drinking day	4.04 (3.03)	.40
5/5+ intake	1.59 (2.04)	.41

All correlations significant at $p < .001$

Results

	Variance of BYAACQ score (%)	Additional variance explained (%)
Step 1 Age	3.5	
Step 2 App-derived drinking	24.6	21.2
Step 3 Age of drinking	30.2	5.6
Step 4 ASSIST (drug use)	37.3	7.1
Step 5 GAD-7 (anxiety) PHQ-9 (depression)	39.2	1.9

Note: All models significant at the $p < .001$ level; all changes in R^2 significant at the p < .001 level

	B (SE)	β	p	CI 95%
Final model				
Constant	-2.69 (1.02)			
Age	0.18 (0.04)	.17	<.001	[0.10, 0.26]
Drinking days (%)	0.04 (0.01)	.13	.001	[0.02, 0.06]
Drinks/drinking day	0.54 (0.07)	.31	<.001	[0.41, 0.67]
≤ 15 age at first drink (vs. 18)	2.49 (0.53)	.23	<.001	[1.45, 3.52]
16/17 age at first drink (vs. 18)	1.73 (0.51)	.16	.001	[0.72, 2.73]
ASSIST (drug use)	0.09 (0.01)	.25	<.001	[0.06, 0.11]
PHQ-9 (depression)	0.14 (0.05)	.14	.011	[0.03, 0.24]
GAD-7 (anxiety)	0.01 (0.05)	.01	.894	[-0.10, 0.11]

Chronological age, app-derived drinking indices, age of drinking onset, drug use, and depression/anxiety symptomology together accounted for 39.2% of the variance in adverse alcohol use consequences

Conclusion

- Our psychometric analyses suggested the BYAACQ was suitable for use with Australian samples

- Real-time measures of alcohol intake, age of drinking onset, and other drug use together function as useful markers for identifying tertiary students at risk of experiencing more severe negative drinking outcomes

- Tertiary institutions might consider using these markers to determine provision of targeted prevention and/or early intervention programs

Further Reading

- Poulton, A., Mata, A., Pan, J., Bruns, L.R., Sinnott, R.O., & Hester, R. (2019). Predictors of adverse alcohol use consequences among tertiary students. *Alcoholism: Clinical and Experimental Research*, *43*, 877-887.

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Thank you