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Intensive Longitudinal Assessment of Drinking Intentions: Temporal Proximity Improves Prediction

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College Drinking and Interventions

- College drinking is prevalent and problematic.
 - Of U.S. college students, 56% report past month drinking; 24% report past 2-week binge drinking (≥ 5 drinks in a row in the past 2-weeks; Patrick et al., 2020)
 - College students who binge drink are more than twice as likely to experience past-year negative consequences (i.e., blacking out, vomiting; 72% vs. 33%; Patrick et al., 2020)
- Research examining the daily etiology and context of college drinking is critical for developing more effective interventions and boosters
- Adaptive text messages (TMs) could capitalize on prior research to extend the effects of drinking interventions
 - Easily tailor to an individual's alcohol intentions/goals that day (Suffoletto et al., 2015)
 - Adaptive, just-in-time messages are more effective than randomly delivered messages (Smyth & Heron, 2016; Nahum-Shani et al., 2018)



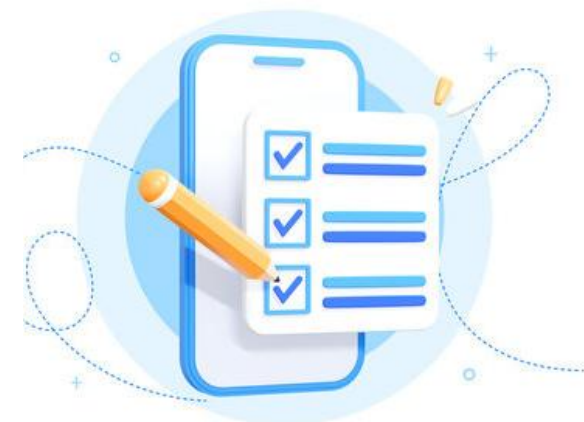
Alcohol Intentions and Assessment Approaches

- Creating/adapting messages can benefit from knowledge about student drinking intentions
 - If they plan to drink, how much, where, with whom, etc.
- Students consume more drinks on days when they reported higher drinking intentions earlier in the day (Hamilton et al., 2022), although unplanned drinking may be associated with greater consequences (Suffoletto & Chung, 2025), suggesting drinking intentions may be an important factor in adaptive interventions.
- For alcohol-focused research questions requiring intensive longitudinal data, it is common to use daily diary rather than true momentary approaches (i.e., more frequent assessments).
 - Often, a single survey per day is used (e.g., Hamilton et al., 2022)
 - Or intentions are asked once per day among additional surveys (Rhew et al., 2021; Suffoletto & Chung, 2025)
- Alcohol intentions (i.e., how much one plans to drink) may vary throughout the day and this variability may have implications for predicting drinking.



The Current Study

- The current **fully-remote** study asked young adult college drinkers to complete twice-daily assessments for up to 21 days assessing their previous day's drinking (morning only) and intentions for the current day (assessed in both morning and afternoon surveys), among other constructs.
- The primary study examines the daily etiology of drinking with socioenvironmental contexts, and was a pilot trial for daily text message feedback.
- The **current examination** evaluated differences in measuring alcohol intentions to predict later drinking.
- Primary research question asks if an afternoon survey including intentions is necessary for better prediction, or if morning intentions were reasonably accurate and sufficient.





The Current Study

- Participants were undergraduate students, 18-30 years old ($M = 23.61$; $SD = 2.78$), who reported consuming at least one alcoholic drink in a typical week ($N=101$; 62% female; 53% White)

Protocol

- Watched three brief videos describing the general purpose of the study, the protocol, and the compensation structure, then provided informed consent and completed baseline
- Were sent two surveys daily for 21 days (at 9am, 2pm)
 - Morning survey sent at 9am, unavailable by 2pm
 - Afternoon survey sent at 2pm, unavailable by 7pm
 - By default were emailed, but could opt into texting
- Max of \$75 for the daily portion of the study (including compliance bonus), in addition to the \$25 for the baseline survey (totaling \$100)



The Current Study (cont.)

Baseline

- Surveys consisted of measures of alcohol-related behaviors (e.g., PBS use, typical alcohol use), cognitions (e.g., alcohol expectancies, drinking motives), and social support

Morning Surveys

- Brief surveys including measures of:
 - **Previous day** drinking, including amount, motives, problems, and protective behavioral strategies
 - Time balance questions for non-drinking days
 - **Current** positive/negative affect, intentions to drink, and self-efficacy to restrict alcohol use

Afternoon Surveys

- Even briefer surveys including measures of:
 - **Current** positive/negative affect, intentions to drink, and self-efficacy to restrict alcohol use



The Current Study (cont.)

Intentions assessment (both surveys)

- Do you intend to drink alcohol later today?
 - yes no unsure
- **[If they say yes or unsure]** How many standard drinks do you intend to have?
 - [0-20+]
- Do you intend to get drunk?
 - yes no unsure

Previous day's drinking (morning survey only)

- Did you drink alcohol yesterday?
 - yes no
- **[If they say yes]** How many standard drinks did you consume yesterday?
 - [1-20+]
- Additional items about context



Measures by Survey Type

	Drinking Days	Non-Drinking Days	All Days	Morning survey	Afternoon survey
Positive and negative affect			X	X	X
Alcohol use	X			X	
Alcohol cognitions, context, and behaviors	X			X	
Time-Balance questions		X		X	
Intentions for same-day drinking			X	X	X

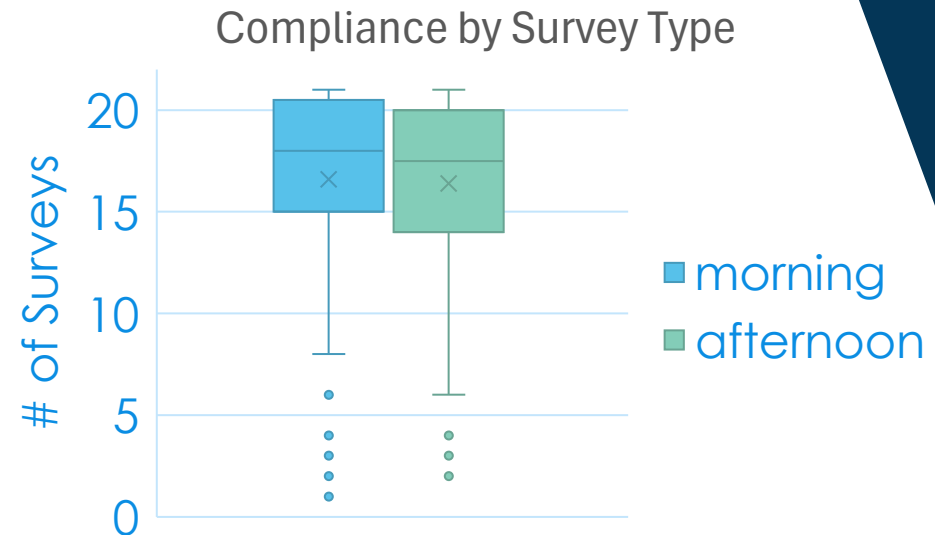


Results

- Participants drank on 32% of days reported; they consumed 4+ drinks on 30% of drinking days and reported alcohol-related problems on 49% of drinking days

Compliance

- Participants completed 1677 morning surveys (M=17.6 per person)
 - 80% completed 12+ surveys
 - Median time = 413 seconds (6-7 minutes)
- Completed 1592 afternoon surveys (M=16.8 per person)
 - 80% completed 13+ surveys
 - Median time = 99 seconds (~1.5 minutes)



Intraclass Correlations (ICCs)

- Previous day drinking quantity = .257 (74% within-person variability)
- Intended quantity = .337 (66% within-person variability)



Agreement (or Changing Their Minds)

Do you intend to drink alcohol later today?

		Afternoon		
		Yes	No	Unsure
Morning	Yes	114	14	13
	No	35	833	73
	Unsure	47	88	149

- Agreement = 1096 days (80%)
- Disagreement = 270 days (20%)

Do you intend to get drunk?

		Afternoon		
		Yes	No	Unsure
Morning	Yes	32	2	5
	No	5	156	20
	Unsure	13	13	77

- Agreement = 265 days (82%)
- Disagreement = 58 days (18%)



Agreement (or Changing Their Minds)

How many standard drinks do you intend to have?

Drinks difference	freq	%
-13.00	1	0.3
-3.00	2	0.6
-2.00	9	2.8
-1.00	20	6.2
0.00	225	69.7
1.00	45	13.9
2.00	12	3.7
3.00	2	0.6
4.00	5	1.5
8.00	2	0.6
Total	323	100.0

- Agreement = 225 days (70%)
- Intentions increased (+) = 66 days (20%)
- Intentions decreased (-) = 32 days (10%)



Prediction of Later Drinking

- Lagged MSEM models
- **Bivariate** multilevel models revealed intentions assessed in the morning and afternoon both strongly, significantly predicted likelihood of drinking later that day, number of drinks consumed, and likelihood of later heavy drinking (4+ drinks).
 - Outcome = drinking (*yes/no*); predictor = intend to drink (*yes/no; unsure* treated as missing)
 - Outcome = number of drinks consumed; predictor = number of drinks intended
 - Outcome = Heavy drinking (*yes/no* based on quantity of 4+); predictor = HD intended (based on intended quantity of 4+)
- When both morning and afternoon intentions were both included as **simultaneous** predictors, afternoon intentions were consistently stronger and always significant (whereas morning intentions were only significant predictors of likelihood and quantity of drinking).



Implications

- Taken together, findings indicate drinking intentions can fluctuate throughout the day, and afternoon assessments are better predictors of later drinking behavior than morning assessments
- Morning assessments tended to be consistent with afternoon, but when they differed, afternoon intentions were the better predictors
- Suggests morning-only assessments may be sufficient for many research questions, but more intensive measurement may be appropriate for intentions-focused research questions
- Limitations
 - Single site
 - Large windows of time for survey completion
 - Did not account for context, problems, etc.



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Questions



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