A daily process examination of episode-specific drinking to cope motivation among college students ☆

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HIGHLIGHTS

- Daily negative mood and avoidance coping uniquely predict drinking to cope.
- Negative mood modifies avoidance coping-drinking to cope association.
- Tension reduction expectancies did not moderate day-level predictors.

ARTICLE INFO

ABSTRACT

Objective: Theory suggests that state- and trait-like factors should interact in predicting drinking to cope (DTC) motivation, yet no research to date has demonstrated this at the drinking episode level of analysis. Thus, we examined whether daily variation in positive and negative affect and avoidance and active coping were associated with DTC motivation during discrete drinking episodes and whether these associations were moderated by tension-reduction expectancies and other person-level risk factors.
Methods: Using a secure website, 722 college student drinkers completed a one-time survey regarding their tension reduction expectancies and then reported daily for 30 days on their affect, coping strategies, drinking behaviors and motives for drinking.
Results: Individuals reported higher levels of DTC motivation on days when negative affect and avoidance coping were high and positive affect was low. We found only little support for the predicted interactive effects among the day- and person-level predictors.
Conclusion: Our results support the state and trait conceptualizations of DTC motivation and provide evidence for the antecedent roles of proximal levels of daily affect and avoidance coping. Our inconsistent results for interaction effects including day-level antecedents raise the possibility that some of these synergistic processes might not generalize across level of analysis.

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1. Introduction

Consistent evidence indicates that drinking to cope (DTC) motivation predicts alcohol-related problems over and above alcohol consumption levels (e.g., Cooper, Frone, Russell, & Mudar, 1995; Merrill,

Wardell, & Read, 2014; Neighbors, Lee, Lewis, Fossos, & Larimer, 2007; Simons, Gaher, Correia, Hansen, & Christopher, 2005). Theory suggests that both stable individual differences and proximal state-like risk factors combine to influence DTC motivation (Cooper et al., 1995; Cooper, Russell, & George, 1988); however, few studies have examined these antecedents at the drinking-episode level of analysis. In the present study we used a micro-longitudinal design to examine how daily affective states and situational coping are uniquely predictive of episode-specific reports of DTC motivation and how these within-person associations vary as a function of individual difference factors identified in the social learning affect-regulation (SLAR) framework (Abrams & Niaura, 1987). We examined these questions in a sample of college student drinkers — a population at high risk for heavy drinking and physical and social consequences (Hingson, Heeren, Winter, & Wechsler, 2005).

1.1. Drinking to cope motivation and level of analysis

According to the SLAR model, trait-like factors such as beliefs regarding the tension-reducing effects of drinking and individuals' coping style combine in an additive and interactive fashion with more proximal antecedents, such as affective states and situational coping strategies, to influence coping-related drinking (Cooper et al., 1988; Cooper et al., 1995). Specifically, this framework implies that individuals with strong tension-reduction expectancies (TREs) and those who characteristically rely on less adaptive coping strategies (namely, avoidance coping) are more likely to engage in coping-motivated drinking when they experience increased distress. Although a large body of research has examined these antecedents (e.g., Read, Wood, Kahler, Maddock, & Palfai, 2003; Simons et al., 2005), the overwhelming majority of these studies have used cross-sectional or long-term longitudinal research designs that de facto treat motives as somewhat stable, trait-like constructs that only change slowly over time. Use of such designs limits the conclusions that can be drawn about the dynamic within-person processes spelled out in theoretical models, including whether DTC motivation is higher on days characterized by relatively higher levels of proximal antecedents.

To date only a few studies have examined the within-person effects of proximal antecedents of episode-specific variation in DTC motivation. Both Arbeau, Kuiken, and Wild (2011) and Dvorak, Pearson, and Day (2014) found among college students that DTC motivation was higher on days characterized by higher negative affect, and Arbeau et al. found that DTC motivation was higher on days characterized by lower positive affect. O'Hara, Armeli, and Tennen (2014) also found that DTC motivation among college students was higher on days characterized by relatively higher sadness and that drinking occurred earlier in weeks characterized by relatively higher levels of sadness, anger, and anxiety. Neither study, however, examined whether daily engagement in various coping strategies were related to DTC motivation. Additionally, previous studies using micro-longitudinal designs have not examined how these within-person processes vary across individuals as a function of key person-level vulnerabilities such as TREs and individual differences in avoidance coping and distress.

1.2. The present study

Consistent with the SLAR framework, we examined whether episode-level variation in DTC motivation can be explained by variation in positive and negative affect and avoidance coping earlier in the day and whether these within-person associations are moderated by person-level factors identified in the SLAR model. Our central hypothesis was that when participants experienced days characterized by high levels of negative affect and avoidance coping they would report higher levels of DTC motivation that evening. Consistent with theory (e.g., Cooper et al., 1995) we also tested whether these antecedents had multiplicative effects. At the daily level of analysis, we tested whether the within-person association between daily negative affect and DTC motivation would be stronger in the positive direction on days when individuals were engaged in a high level of avoidance coping and whether the effects of the day-level predictors would be stronger (in the positive direction) among more vulnerable individuals, i.e., individuals with higher levels of tension-reduction expectancies and higher average (aggregate) levels of daily avoidance coping and negative affect.

We also had several secondary aims. We sought to replicate findings showing an inverse association between daily positive affect and DTC motivation (Arbeau et al., 2011). Additionally, we examined the role of daily active coping in DTC motivation. Previous findings have been inconsistent regarding the role that active coping may play in DTC motivation (e.g., Cooper et al., 1995) – though no study has examined it at the daily level of analysis. Finally, we explored the associations described above substituting drinking level as the dependent variable instead of

DTC motivation. Given that overall drinking level includes drinking for a variety of reasons (e.g., enhancement, social, conformity) – each having a distinct antecedent profile (e.g., Cooper et al., 1995; Simons et al., 2005) – we would expect stronger effects of our identified antecedents in predicting DTC motivation, thus demonstrating the specificity of these antecedents in this pathway.

2. Methods

2.1. Participants

College students (N = 924) were recruited over five semesters through the Psychology research pool of a state university and through campus-wide broadcast messages. To be eligible for participation, students had to be at least 18 years old and needed to report drinking alcohol at least twice in the past month (measured during prescreening). Students (N = 202) were omitted from the final sample either due to low daily adherence (< 15 daily reports), missing data on person variables of interest, or failure to report a drinking episode during the 30-day study duration.

The final sample of 722 (54.2% female) had an average age of 19.24 years (SD = 1.51), was mostly European-American (82.8%) and either freshmen or sophomores (72.4%). Compared to the final sample, excluded participants had a larger percentage of males (56.4% vs. 46.5%), χ^2 (1) = 7.09; $p = .008$, were less advanced in school (82.2% vs. 72.4% freshmen/sophomores), χ^2 (1) = 7.90; $p = .005$, and were more likely to be minorities (34.7% vs. 17.2%), χ^2 (1) 29.07; $p < .01$.

2.2. Procedure

Approximately one month following the start of the semester participants completed a baseline survey containing demographic items and a measure of alcohol-outcome expectancies. Approximately two weeks later, participants began completing a daily online diary. Each day for 30 days, participants completed the daily diary between the hours of 2:30 PM and 7:00 PM. This time window was selected to coincide with most undergraduate students' end of school day and before the onset of evening activities. This window was also designed to minimize instances of participants completing the diary while under the influence of alcohol. The survey queried participants about (a) their current affective states, coping efforts, and drinking that day (i.e., up to reporting time) and (b) their drinking from the past evening (i.e., drinking that occurred after completing the previous day's diary). If any alcohol use was reported for the previous evening, participants were then queried about their drinking motives for that episode. Participants were paid for their participation.

Participants reported on 18,997 person-days (out of a maximum of 21,660 person-days; 88% adherence rate) and reported drinking on 20.6% of the reporting days, yielding 3913 days for analysis. Complete data were needed from consecutive days to match daytime affect and coping (reported on day t) with nighttime drinking motives for that day (reported on day $t + 1$). Due to missing days and the loss of the final day (given no follow-up day), the data were further reduced to 3203 person-days for analyses.

2.3. Measures

2.3.1. Tension reduction expectancies

In the baseline survey participants responded to items from the tension-reduction subscales of the Alcohol Effects Questionnaire (AEQ; Rohsenow, 2000) and Comprehensive Effects of Alcohol Scale (Fromme, Stroot, & Kaplan, 1993). For all items, participants indicated what they personally experience after having a few drinks using a 7-point scale (1 = "strongly disagree" to 7 = "strongly agree"). Example items are "Alcohol makes me less worried about doing things well" and "Drinking makes me feel calm." Reliability for the scale (α) was .88.