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# UNDERSTANDING RESTRAINED DRINKING USING AN APPROACH-AVOIDANCE ASSESSMENT OF REACTIONS TO ALCOHOL CUES

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## BACKGROUND

Restrained drinking (RD) is a pattern of drinking characterized by competing motivations to drink and to inhibit drinking (Collins, 1993), and has been positively associated with drinking and symptoms of alcohol dependence (Collins & Lapp, 1992; Collins et al., 2000; Connors et al., 1998; Connor et al., 2004). As such, it is considered to be a risk factor for alcohol misuse.

RD is proposed to fundamentally be a response conflict (Bensley, 1991; Collins, 1993), however, this has not been directly tested.

Recent advances in multidimensional (i.e., approach-avoidance; (Stritzke et al., 2004; see Figure 1)) assessment of inclinations to drink offer the opportunity to do so.

This study examined the relationship between restrained drinking and dimensions of approach and avoidance over the course of a laboratory procedure.

## METHODS

•Design: One-way three-level (baseline evaluation, neutral cue exposure, alcohol cue exposure; Figures 2, 3, and 4) within-subjects design.

•Subjects: 92 collegiate heavy drinkers (71% Male; 84% Caucasian; Age: 18.9yo; drinks/week: M = 24.09, SE = .68; AUDIT, M = 14.49, SE = .52).

•Measures: RD is typically measured using the Temptation and Restraint Inventory (TRI; Collins & Lapp, 1994), which has two subscales, Cognitive and Emotional Preoccupation (CEP; "Temptation") and Cognitive and Behavioral Control (CBC; "Restriction"). In addition, two 100-point Approach and Avoidance Scales were used throughout the study.

•Procedure: Baseline → Neutral Cue Exposure → Alcohol Cue Exposure

- Hypotheses:
- Subjects' response inclinations will conform to Stritzke et al.'s (2004) typology at baseline and following the cue exposure.
  - Subjects exhibiting an approach inclination at baseline will exhibit greater CEP ("temptation") on the TRI; subjects exhibiting an avoidance inclination at baseline will exhibit greater CBC ("restriction") on the TRI.
  - CEP will be positively associated with increases in urge for alcohol in response to alcohol cues, whereas CBC will be positively associated with increases in urge to avoid alcohol in response to alcohol cues.



Figures 2, 3, and 4. Contexts across the procedure: baseline, neutral cues, alcohol cues.

		Urge for Alcohol	
		+	-
Urge to Avoid Alcohol	+	AMBIVALENT	AVOIDANT
	-	APPROACH	INDIFFERENT

Figure 1. Approach-Avoidance Inclination Typology

	BASELINE	POST ALCOHOL CUE EXPOSURE
APPROACH:	43.5%	76.1%
AMBIVALENT:	17.4%	10.9%
AVOIDANT:	26.1%	8.7%
INDIFFERENT:	13%	4.3%

Table 1. Proportions of Subjects by Inclination at Baseline and Following the Alcohol Cue Exposure

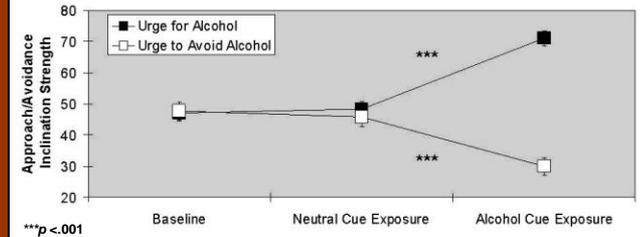
## RESULTS

Hypothesis 1: Participants' data was consistent with Stritzke et al.'s typology (Table 1). In the laboratory procedure, one-way within-subjects ANOVAs revealed significant effects on approach ( $F[2, 182] = 100.19, p < .001$ ) and avoidance ( $F[2, 182] = 45.60, p < .001$ ) reactions, indicating a significant increase in approach responses and a significant decrease in avoidance responses. Both effects were in response to alcohol cues, but not neutral cues (Figure 5). [SUPPORTED]

Hypothesis 2: Subjects exhibiting an approach inclination reported marginally significantly greater CEP ("temptation"),  $F(1, 88) = 2.78, p = .099, \eta^2 = .03$ , as shown in Figure 6. No corresponding effect was evident in terms of subjects exhibiting an avoidance inclination exhibiting greater CBC ("restriction"),  $F(1, 88) = 1.58, p > .20$ . [PARTIALLY SUPPORTED]

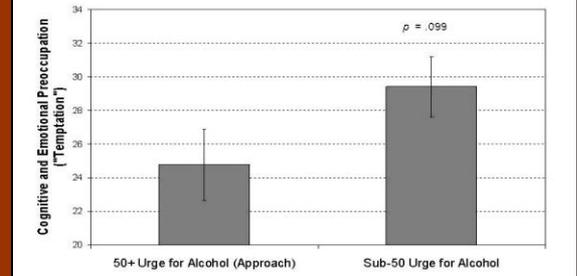
Hypothesis 3: Covarying initial inclinations, CEP was significantly positively associated with approach responses ( $\Delta F[1, 85] = 5.02, \beta = .18, p < .05$ ) and was significantly negatively associated with the increase in avoidance responses ( $\Delta F[1, 85] = 4.77, \beta = -.15, p < .05$ ). The CBC subscale was not significantly associated with either approach or avoidance inclinations ( $ps > .30$ ). [PARTIALLY SUPPORTED]

Figure 5. Alcohol approach and avoidance inclinations during the cue exposure procedure



\*\*\* $p < .001$

Figure 6. Differences in Cognitive and Emotional Preoccupation ("Temptation") based on alcohol response inclination.



## DISCUSSION

This study provided mixed support for the notion of restrained drinking as a response conflict.

Methodologically, the study supported the use of assessing alcohol approach and avoidance inclinations and revealed similar findings to Stritzke et al. (2004). Proportions of the subjects fit all the various patterns of the inclination typology. Following an alcohol cue exposure, the majority of participants could be characterized as reporting an approach inclination, although proportions of subjects could still be categorized as ambivalent, avoidant, and indifferent.

Consistent with hypotheses, subjects who exhibited an approach inclination at baseline reported higher CEP, albeit modestly so, and CEP was positively associated with urge to drink following the alcohol cue exposure.

Contrary to hypotheses, the subjects exhibiting an avoidance inclination at baseline did not differ significantly on the CBC subscale and CBC was not associated with avoidance responses following the alcohol cue exposure.

For more information, please contact James MacKillop, PhD (james\_mackillop@brown.edu).