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Intoxicated prejudice: The impact of alcohol consumption on implicitly and explicitly measured racial attitudes

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Abstract

Recent research has shown that alcohol consumption can exacerbate expressions of racial bias by increasing reliance on stereotypes. However, little work has investigated how alcohol affects intergroup evaluations. The current work sought to address the issue in the context of the correspondence between implicit and explicit measures of anti-Black attitudes. Participants were randomly assigned to consume an alcoholic (target BrAC of 0.08%), placebo, or control beverage prior to completing implicit and explicit measures of racial attitudes. Although beverage condition did not affect prejudice levels on either measure, it did change the correlation between them. Implicitly measured attitudes significantly predicted explicit reports of prejudice and discrimination only for participants who consumed alcohol. We discuss the implications of our findings for debates regarding dissociations between implicit and explicit measures and the cultural phenomenon of intoxicated individuals attributing prejudiced statements to alcohol consumption rather than personal attitudes.

Keywords

alcohol, attitudes, implicit measures, prejudice, race bias

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When we think about, perceive, or interact with someone, a critical determinant of our psychological response is the evaluative reaction elicited by that person (Allport, 1935; Banaji & Heiphetz, 2010). In the domain of intergroup relations, evaluations of outgroup members are often affected by general attitudes towards their social category, so much so that this group-based attitude may change our perception of that person's unique characteristics and behavior (Dovidio, Kawakami, & Gaertner, 2002; Sagar & Schofield, 1980). As such, considerable research has investigated the various factors that impact expression of intergroup evaluations, with a

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specific focus on racial attitudes (Dovidio, Hewstone, Glick, & Esses, 2010).

In recent years, a number of studies have shown that alcohol consumption—a practice serving important group bonding functions (Sayette et al., 2012) that has a deep history in virtually all cultures (World Health Organization, 2011)—can significantly increase the impact of race on subsequent responding (e.g., see Bartholow, Dickter, & Sestir, 2006; Bartholow, Henry, Lust, Saults, & Wood, 2012). This can lead to a variety of negative outcomes, such as perceiving more hostility in an African American's behavior (Reeves & Nagoshi, 1993) and more frequently misperceiving harmless objects as guns after seeing a Black male face (Schlauch, Lang, Plant, Christensen, & Donohue, 2009). Unfortunately, such effects do not seem limited to the laboratory, as there are numerous real-world anecdotes in line with these findings. For example, in 2006 the American film star Mel Gibson received a great deal of attention when he was arrested for driving while intoxicated, yelled ethnic slurs at the Jewish arresting officer, and later made sexist comments to a female officer. When interviewed about the incidents, Gibson claimed to have been "drunk," and maintained that he was not prejudiced, despite his actions (American Broadcasting Corporation, 2006).

Interestingly, across these effects, the negative intergroup attitude that might be inferred from people's actions does not seem to match those individuals' personally endorsed egalitarian evaluations of the group in question. For instance, Mr. Gibson's quote attributes the blame for his actions to alcohol itself, not to his underlying attitudes towards Jewish individuals and women. Such an attribution suggests that alcohol changes some aspect of the attitude expression process, perhaps by altering the way in which underlying evaluative associations inform explicit reports and behavior. We are not aware of any previous studies that have directly examined whether alcohol can influence the expression of intergroup attitudes in such a way. Given the prevalence of alcohol consumption (Centers for Disease Control and Prevention, 2013), its frequent consumption in social settings where people of different racial and ethnic groups are likely to encounter one another, and the potential negative impact of expressing derogatory attitudes on intergroup relations, it is important to better understand the processes by which alcohol may alter prejudice and its expression. That racially motivated crimes are especially likely to be committed under the influence of alcohol (Messner, McHugh, & Felson, 2004) further underscores the social importance of such research.

In the current study, we examined the effects of alcohol consumption on non-Black participants' expression of prejudiced feelings towards African Americans. Critically, we did so with both explicit (i.e., self-report) and implicit measures of evaluation. These implicit measures, such as the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998), were created in part to minimize reporting biases such as social desirability concerns (Sears & Henry, 2005). By using this tool, we can draw inferences about the underlying structure of people's evaluative associations without directly asking them about these attitudes (Fazio & Olson, 2003). Thus, by implementing both implicit and explicit measures, we can more precisely examine the mechanism by which alcohol influences prejudice.

Based on past research, there are a number of possible ways in which alcohol may affect people's evaluations of African Americans. The first possibility is that alcohol, as suggested by our previous examples, will simply increase the general negativity of people's evaluations (as it increases the use of negative stereotypes; e.g., see Bartholow et al., 2006; Bartholow et al., 2012). If this occurs, our two measures will allow us to examine whether the effect is limited to the racial attitudes participants explicitly endorse, or whether it also influences the currently accessible race-based evaluative associations assessed by an implicit measure.

Notably, other research suggests that alcohol is unlikely to produce this type of mean shift in attitudes. As highlighted by alcohol myopia theory (Steele & Josephs, 1990), one of alcohol's primary effects is to alter the judgment and

decision-making process, causing people to become more reliant on whatever information is currently accessible in mind (e.g., Abroms, Fillmore, & Marczinski, 2003; Curtin & Fairchild, 2003). Because of this, the drug can push judgment and behavior in either positive (e.g., Fairbairn, Sayette, Levine, Cohn, & Creswell, 2013) or negative directions (e.g., Reeves & Nagoshi, 1993), depending on the particular mental content that is most salient at the time (Steele, Critchlow, & Liu, 1985; Steele & Josephs, 1988). These results, coupled with other work indicating that alcohol does not uniformly increase the accessibility of negative outgroup stereotypes (Bartholow et al., 2006, Experiment 1), are in line with the alcohol myopia-derived prediction that alcohol's effects on racial attitude expression will depend upon whatever evaluative content is currently in mind. If this is the case, then alcohol should increase participants' reliance on the currently accessible evaluations (here assessed by our implicit measure) when explicitly expressing their attitude. Thus, we should expect a stronger relationship between implicit and explicit attitudes for participants who ingest alcohol, compared to participants who do not. The purpose of the current work is to examine this possibility, thereby providing further insights into the process by which alcohol changes the expression of prejudice.

Method

Participants

Fifty-seven, non-Black, moderate drinkers (49% female) between the ages of 21 and 30 (M_{age} = 22.7) completed the study. These individuals were recruited using campus-wide, mass e-mails announcing research on the effects of alcohol. Interested persons called the lab and left contact information, and a research assistant called them back to administer a brief eligibility interview. Persons reporting major medical conditions contra-indicating alcohol administration (including pregnancy and symptoms of alcohol use disorders) were disqualified from participation, as were individuals with a history of neurologic disease or trauma. To ensure that the alcohol dose given in the lab was within participants' range of normal experience, individuals reporting an average of less than two or more than 24 drinks per week during the past 6 months were also disqualified.

Once scheduled, participants were asked to refrain from alcohol and drug use (for 24 hours), abstain from strenuous physical exercise (for 3 hours), and eat a light meal 4 hours before the session. At the experiment, all participants signed affidavits attesting to their adherence to study protocols and completed an initial breathalyzer test to ensure they were not currently under the influence of alcohol. Women were required to self-administer a hormonal pregnancy test in a private restroom (all were negative). Participants were paid US$12.00 per hour for sessions that lasted between 4 and 8 hours; all sessions began at either 10:00 a.m. or 2:00 p.m. Four participants were eliminated from the final sample (two for indicating African American ethnicity during the collection of demographic information, one for previous participation in the placebo condition of an alcohol administration study, and one due to a computer error during IAT data collection). Thus, our final sample consisted of 53 individuals.[1]

Materials and Procedure

Beverage administration. Participants were randomly assigned to alcohol (n = 18; target breath alcohol concentration [BrAC; closely approximates blood alcohol concentration] = 0.08%), placebo (n = 15), or control beverage conditions (n = 20). Those in the alcohol and placebo conditions were informed that they would receive a moderate amount of alcohol, mixed in a vodka and tonic drink (Sher & Walitzer, 1986). Alcohol participants' beverages contained 0.80 g/kg ethanol (men) or 0.72 g/kg ethanol (women). Dosage was calculated using published formulas (Curtin & Fairchild, 2003) that project BrAC from total body water volume (estimated with age, gender, height, and weight), alcohol concentration, and duration of the drinking period. Participants in

the placebo condition drank the same mixture but with a diluted vodka substitute (nine parts flattened tonic to one part 100-proof vodka mixed in a vodka bottle; 0.04 g/kg ethanol). This beverage retained the taste and smell of alcohol without affecting BrAC. Participants in the control condition were informed that their beverage would not contain alcohol and simply drank tonic water. Total beverage (isovolemic across conditions) was divided into three equal-size drinks that were given one at a time. Participants were allowed 5 minutes to consume each drink. A 20-minute absorption period followed.

Implicit measure. Following the absorption period, participants completed a personalized IAT (Olson & Fazio, 2004) designed to assess evaluative associations towards African Americans (as compared to White Americans). This IAT variant was used because of its documented sensitivity to participants' personal attitudes towards the IAT categories (Han, Olson, & Fazio, 2006). On each trial of this task, participants were presented with one of four stimulus types (positive words, negative words, stereotypically Black names, and stereotypically White names) and two category labels. They were asked to categorize each stimulus as quickly as possible using one of two response keys ("f" and "j").

Our IAT consisted of a standard structure (Greenwald, Nosek, & Banaji, 2003) including seven blocks with 20 trials in the (three) noncritical blocks and 80 trials in the (four) critical blocks (380 total trials). During two "compatible" critical blocks, participants saw all four stimulus types and were required to categorize each as either White or liked (using one key) or Black or disliked (using the other). The two "incompatible" critical blocks used the reverse categorization pairings (i.e., White or disliked vs. Black or liked). Label side and the order of the critical blocks were counterbalanced between participants. The task took approximately 10–15 minutes. All stimuli were taken from Han, Czellar, Olson, and Fazio (2010).

As in the original work on the personalized IAT (Olson & Fazio, 2004), we utilized a modified version of the *D*-score algorithm suggested by Greenwald et al. (2003) to analyze our IAT data. In line with these recommendations, we omitted trials with reaction times (RT) greater than 10,000 ms (< .01% of trials); all participants were retained as no-one had RTs < 300 ms on more than 10% of trials. We then computed two separate *D*-ratios (one for the first blocks of compatible and incompatible trials and one for the second blocks of compatible and incompatible trials). To compute each of these scores, we subtracted participants' mean RT in the "compatible" block from their mean RT in the "incompatible" block. This value was then divided by the pooled standard deviation of these two blocks. These two ratios were averaged to obtain an overall bias score. Higher scores indicate relatively more negative evaluative associations with African Americans. Because errors are not possible on the personalized IAT, we scored every trial as correct and did not implement an error penalty (see also Olson & Fazio, 2004).

Explicit measure. Approximately 15 minutes later (after completing two tasks unrelated to attitudes, race, or the aims of this study),[2] participants completed our explicit measure. In contrast to some other explicit measures of racial attitudes (e.g., feeling thermometer scales), this assessment was constructed such that participants were required to directly report their feelings and past behavior toward African Americans. Interspersed among similar questions about non-African American groups (e.g., the blind, Canadians, Catholics, etc.) were our four target items (α = .72). Two questions asked participants about their feelings towards Black Americans and interracial couples: "On a scale from 1 (*Definitely no negative feelings*) to 9 (*A lot of negative feelings*), rate how much you personally have negative feelings towards…" The other two items asked participants about past negative behaviors towards Black Americans and interracial couples: "On a scale from 1 (*Never behaved in negative ways*) to 9 (*Often behaved in negative ways*), rate how often in the past you personally have behaved towards…" The order of these item sets was counterbalanced between participants.

Table 1. Means (and standard deviations) for dependent variables by beverage condition.

		Condition		
Dependent measure	Assessment time	Alcohol	Placebo	Control
IAT - Raw RT bias	N/A	118 ms (145)	171 ms (121)	163 ms (176)
IAT – *D*-score bias	N/A	0.24 (0.27)	0.32 (0.15)	0.33 (0.30)
IAT – % Normative	N/A	.90 (.09)	.96 (.03)	.94 (.04)
IAT – Mean RT	N/A	964 ms (142)	960 ms (197)	903 ms (141)
Explicit attitude (EA)	N/A	1.96 (1.23)	1.85 (0.62)	2.05 (1.05)
D-score/EA correlation	N/A	0.55	0.03	< 0.01
BrAC	(1) – Before IAT	.069% (.014)	.000% (.000)	.000% (.000)
	(2) – Before EA	.076% (.010)	0%	N/A
	(3) – After EA	.076% (.010)	0%	N/A
Subjective intoxication	(1) – Before IAT	4.28 (1.49)	2.80 (1.52)	1.05 (0.22)
	(2) – Before EA	3.61 (1.20)	2.20 (1.26)	1.05 (0.22)
	(3) – After EA	3.00 (0.97)	1.80 (0.78)	1.00 (0.00)

Note. IAT = Implicit Association Test; EA = explicit attitude measure; RT = reaction time; % Normative = percentage of normative responses; BrAC = breath alcohol concentration.

Intoxication measures. After each task of the experiment, we measured BrAC using a breathalyzer test (Alco-Sensor IV, Intoximeters Inc., St. Louis, MO), and assessed participants' subjective level of intoxication using a single item asking participants to rate their current intoxication on a scale anchored at 1 (*Not drunk at all*) and 10 *(More drunk than I've ever been*). Individuals in the alcohol condition were retained following the experiment until their BrAC was ≤ 0.02%.

Results

Preliminary Analyses

Summary values for all dependent measures are listed in Table 1. All analyses collapse across the various counterbalancing factors (IAT block order, IAT label side, and explicit measure item order. Participants in the alcohol condition obtained peak BrACs close to our 0.08% target and all tasks were administered on the ascending limb of the dose-response curve. Although the increase in mean BrAC from before the IAT to before the explicit measure was significant, $t(17) = 4.53$, $p < .01$, the difference was nominal (.007%) and BrAC was near its peak during both measures. There was also a significant effect of beverage condition on subjective intoxication ratings at all time points (ps < .01). Although placebo participants felt less intoxicated than alcohol participants, they also felt significantly more intoxicated than those in the control condition, supporting the efficacy of the placebo manipulation (all between-group contrasts were significant at each time point, ps < .01).

As in prior research (Han et al., 2010; Olson & Fazio, 2004), our sample exhibited significant anti-Black attitudes on the personalized IAT *D*-score measure ($M = 0.30$, $SD = 0.26$), $t(52) = 8.44$, $p < .01$, $d = 1.15$. Also in line with prior research (Devine, 1989; Dunton & Fazio, 1997), participants generally reported low levels of explicit anti-Black attitudes ($M = 1.96$, $SD = 1.00$), and the observed correlation between implicitly and explicitly assessed prejudice was modest (overall $r = .24$, $p = .09$; see also Cunningham, Preacher, & Banaji, 2001). Beverage condition did not significantly affect participants' attitudes as measured by either the IAT[3] or explicit report, both Fs < 1. Although beverage condition did not influence the amount of anti-Black bias displayed on the IAT, it did affect the total number of counternormative responses, $F(1, 50) = 4.63$, $p = .01$, $\eta^2_p = .16$. If viewed as a reflection of mistaken responding, this indicates

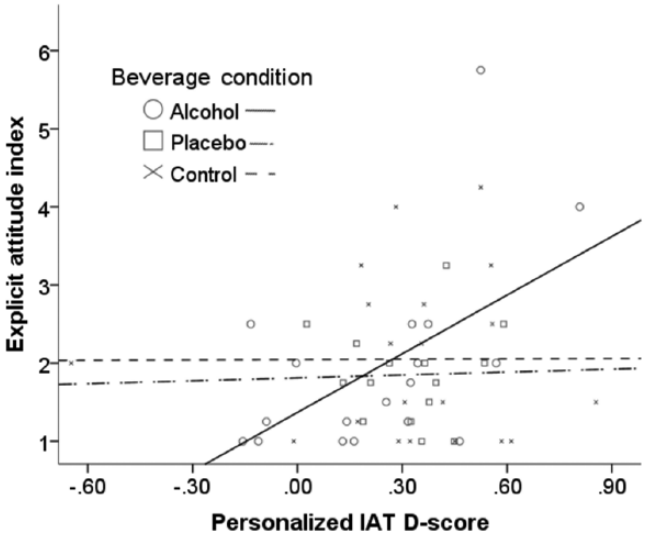

Figure 1. Scatter plot of participants' IAT *D*-scores and explicit attitudes with separate fit lines for each beverage group; higher scores indicate greater negativity towards African Americans.

that individuals in the alcohol condition were less accurate than participants in the other conditions, both *p*s < .03. Beverage condition did not affect mean reaction times (RTs), $F < 1$. This pattern (reduced accuracy but no increase in RT) is consistent with previous studies examining effects of alcohol in speeded RT tasks (see Bartholow, Pearson, Gratton, & Fabiani, 2003, 2012; Ridderinkhof et al., 2002).

Primary Analyses

We next examined whether alcohol would affect the correspondence between implicit and explicit assessments of racial attitudes. To test this, we conducted a regression analysis in which participants' explicit attitude score was predicted by beverage condition, IAT *D*-score, and the interaction between the two. To determine whether alcohol increased the correspondence between these two measures, the alcohol condition (coded +2) was contrasted against the placebo and control conditions (each coded −1). This analysis produced a significant interaction between beverage condition and IAT score, $\beta = .45$, $t(52) = 2.34$, $p = .02$, $r^2 = .10$ (see Figure 1). We probed this interaction by separately examining the simple slope between IAT score and explicit reports in each condition. This slope was significant for participants who drank alcohol ($b = 2.50$, $r = .55$, $p = .02$), but not for those in the placebo ($b = 0.12$, $r = .03$, $p = .91$) or control conditions ($b = 0.02$, $r < .01$, $p = .98$).[4]

Because our explicit measure was created by combining participants' responses to queries about both feelings and behaviors towards African Americans, we also conducted a within-subjects analysis to examine whether the results differed as a function of question type. This factor did not interact with any of our predictors, all *t*s < 1, demonstrating that the reported effect was driven equally by responses to both questions. Despite this fact, an investigation of the intercorrelations among IAT scores and the two forms of explicit questions proved informative. As can be seen in Table 2, all three measures were highly correlated for our intoxicated participants. This suggests that they were either unmotivated or unable to differentiate between these conceptually distinct measures. Instead of effortfully

Table 2. Correlations among attitude measures by beverage condition.

Condition		1	2	3
Alcohol	1. IAT	–	–	–
	2. Discriminatory behaviors	.46*	–	–
	3. Negative Feelings	.59*	.84*	–
Placebo	1. IAT	–	–	–
	2. Discriminatory behaviors	−.17	–	–
	3. Negative feelings	.19	.03	–
Control	1. IAT	–	–	–
	2. Discriminatory behaviors	−.23	–	–
	3. Negative feelings	.12	.41†	–

Note. IAT = Implicit Association Test.
*$p < .05$, †$p < .10$.

recruiting new information for each, it seems that participants based their responses on the same basic evaluative content for all measures. A very different pattern was observed for participants in the placebo and control conditions. Among these individuals, none of the three measures were significantly correlated. This suggests that under standard (i.e., sober) reporting conditions, participants sought to recruit unique sources of information for each measure.

Discussion

Alcohol is the most commonly used mind-altering drug in the world (World Health Organization, 2011) and its use in social settings is heavily ingrained in many cultures (Centers for Disease Control and Prevention, 2013; MacAndrew & Edgerton, 1969). Despite the commonplace use of this drug, and a strong cultural bias against African Americans in the United States (Nosek et al., 2007), relatively little research has been conducted at the intersection of these two phenomena. Reflecting the basic lessons of alcohol myopia theory, the current findings suggest that alcohol intoxication will not necessarily increase the expression of racial prejudice (cf. Bartholow et al., 2006; Bartholow et al., 2012; Schlauch et al., 2009). Rather, alcohol seems to amplify the impact of whatever evaluative predispositions exist, be they positive or negative. Thus, alcohol consumption may facilitate negative attitude expression and behavior for individuals with negative associations, but facilitate positive attitude expression and behavior for individuals with positive associations. As such, our data suggests that individuals who invoke situational attributions for prejudiced behavior when intoxicated (e.g., see American Broadcasting Corporation, 2006) are in part correct to infer that alcohol is changing their behavior. However, it seems unlikely that the drug is actually making them more prejudiced, but rather causes them to rely more heavily on preexisting attitudes and apply to the current situation whatever evaluations (positive or negative) are most accessible. Like the participants in our alcohol condition, intoxicated individuals in the real world may find themselves unmotivated or unable to effortfully recruit information specific to the situation at hand, instead using the same evaluative content to inform behavior even when significant aspects of the situation change.

In addition to its pharmacological effects, alcohol also has been shown to influence behavior by invoking certain beliefs or expectancies concerning its effects (Testa et al., 2006). Thus, the mere belief that one has consumed alcohol (e.g., Lang, Goeckner, Adesso, & Marlatt, 1975), or even simple exposure to alcohol-related pictures or words (see Bartholow & Heinz, 2006; Friedman, McCarthy, Förster, & Denzler, 2005; Stepanova, Bartholow, Saults, & Friedman, 2012), can cause changes in behavior that mimic the effects of actual consumption. In the current

study, potential effects of expectancies on racial attitude expression were tested through the use of a placebo beverage group. Because participants in the placebo and control conditions showed similar patterns of results, there is no evidence that the findings are driven by such expectancy effects.

Despite this, our study design does introduce some confounds that limit interpretation of the results. The most critical of these is that the IAT was always presented before participants completed the explicit measure. Although we chose this order to avoid having an explicit query about people's feelings and behavior towards African Americans change the evaluative content that was accessible when participants completed the IAT, it also presents some ambiguities. First, it may be that the results were produced because participants became aware of the evaluative content measured by the IAT. Thus, it may be that a different order of presentation, or a longitudinal design in which the implicit and explicit measures were separated in time would not lead to the same pattern of findings. Second, although individuals in the placebo and control conditions were in similar mental states while completing both measures, those in the alcohol condition experienced greater levels of intoxication while completing the explicit measure (see Table 1). Although it is unlikely, this aspect of the procedure may have contributed to our findings.

On Attitude Measurement and Expression

In addition to forwarding our understanding of the acute effects of alcohol on racial attitudes, the present research also has implications for basic theories about attitude measurement and expression. Although implicit attitude measures are now commonplace throughout psychological science (see Gawronski & Payne, 2010; Petty, Fazio, & Briñol, 2009), there is still a great deal of debate regarding exactly what content they measure (e.g., Blanton & Jaccard, 2006; Gawronski, Hofmann, & Wilbur, 2006; Hahn & Gawronski, 2014; Payne, Burkley, & Stokes, 2008; Sherman et al., 2008). In large part, this discussion has been fueled by research documenting low correlations between various implicit and explicit measures (e.g., Buhrmester, Blanton, & Swann, 2011; Cunningham et al., 2001), especially in socially sensitive domains such as race (Greenwald, Poehlman, Uhlmann, & Banaji, 2009).

Two highly influential attitude models—MODE (Fazio, 1990) and APE (Gawronski & Bodenhausen, 2006, 2011)—both predict that the lack of correspondence between implicit and explicit attitudes is due to effortful modification of the associative content assessed by implicit measures as people construct an explicit response. Given that alcohol intoxication increases reliance on the first information that comes to mind (Steele et al., 1985; Steele & Josephs, 1988) and may reduce concerns about expressing bias (Bartholow et al., 2012), our findings are congruent with the predictions made by these models. When participants were intoxicated, it appears that the evaluative content assessed by the personalized IAT and our explicit attitude measure was quite similar, suggesting that alcohol disrupts the motivation or ability to modify explicit responses. The fact that participants in the alcohol condition did not differentiate between questions asking about discriminatory behavior and prejudiced feelings further supports this idea, as they did not recruit new information when responding to these different measures. Alternatively, individuals in the placebo and control conditions seemed to have modified their explicit responses by considering additional sources of information that were evaluatively distinct from the associations tapped by the personalized IAT. Notably, these findings stand in contrast to perspectives that account for implicit–explicit dissociations by suggesting that most implicit tasks, by nature of their design, directly measure associative content of which people are largely unaware and the impact of which they cannot control (e.g., DeCoster, Banner, Smith, & Semin, 2006; Rydell & McConnell, 2006). Because all participants completed the same tasks regardless of beverage condition, the current findings are not consistent with this perspective.

Implications for Real-World Behavior

Given the striking links between alcohol and racially motivated crime (e.g., Messner et al., 2004), it is clear that our research also has important implications for actual intergroup interactions. Although it is comforting that alcohol consumption did not increase the overall negativity of participants' attitudes, the findings do suggest one mechanism by which alcohol may increase the propensity for racist individuals to commit crimes against a member of a negatively evaluated group. When the first information that comes to mind upon perception of this individual is negative, alcohol is likely to increase the extent to which judgment and behavior is based on this initial evaluation. Perhaps the most troubling aspect of our findings is that intoxicated individuals were not only more likely to base their explicit reports on these underlying evaluative associations, but they also did not differentiate between questions assessing very different types of information (i.e., feelings towards African Americans vs. past behaviors enacted towards that group). This suggests that alcohol may encourage a person to treat all members of the negatively evaluated group the same; regardless of their personal characteristics, or the particular aspects of the situation in which that person is embedded. Future research should examine whether implicitly measured attitudes do interact with alcohol to predict these types of outcomes.

It is also possible that these processes would play out differently when individuals find themselves in a group setting. On one hand, the deindividuation that occurs when one is intoxicated and surrounded by ingroup members (Zimbardo, 1969), coupled with a corresponding increase in intergroup competition (Hopthrow, Abrams, Frings, & Hulbert, 2007), may make alcohol consumption particularly problematic when a group of people all share a similar evaluative structure towards an outgroup. If these attitudes are not held uniformly by the group, however, increased group monitoring may help suppress the influence of alcohol on that subset of group members who do possess negative evaluations of this outgroup (Abrams, Hopthrow, Hulbert, & Frings, 2006; Hophrow, Randsley de Moura, Meleady, Abrams, & Swift, 2014). Again, future research should investigate such possibilities.

Conclusion

When people consume alcohol, they often say and do things that they otherwise would not. In the domain of race relations, prejudiced behavior is often "excused," to some degree, because of the intoxicated state of the perpetrator (see American Broadcast Corporation, 2006). The current results demonstrate one way in which basic attitudinal processes may underlie such effects: by increasing reliance on whatever evaluative associations are accessible at the time of a judgment or behavior. Thus, alcohol may increase prejudicial behavior for people with a negative underlying attitude structure. However, alcohol is unlikely to increase prejudicial behavior for people with more positive evaluative associations. In such cases, it is possible that alcohol may even improve intergroup interactions by causing these individuals to behave in a more positive manner than they would when sober (e.g., Fairbairn et al., 2013).

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Notes

1. Our initial goal was to recruit 20 participants per beverage condition. Due to the monetary and labor costs associated with participant recruitment and data collection (and a rather high number of no-shows), we terminated the study with 57 participants. This was done only after completely exhausting the subject pool obtained from our final recruitment effort and occurred

prior to any data analysis. Many previous studies investigating alcohol effects on cognitive outcomes have utilized similar (e.g., Casbon, Curtin, Lang, & Patrick, 2003) or even smaller cell sizes (e.g., Fillmore & Vogel-Sprott, 2000; Fillmore & Weafer, 2004).

2. Participants completed an evaluative priming task (Fazio, Sanbonmatsu, Powell, & Kardes, 1986), designed to measure evaluative responses to fast food and desert items, followed by the behavioral identification form (Vallacher & Wegner, 1989).
3. This was true of racial bias as measured both by the reaction time based *D*-score measure and also by differences in counternormative response rates across conditions (an accuracy bias analogue), both Fs < 1.
4. To ensure that the results were not driven by outliers, we also conducted a rank-order correlation analysis. By creating a distribution of relative rather than absolute scores on both the implicit and explicit measures, this prevents extreme scores from exerting an undue influence. Beverage condition (coded as in the primary analysis), rank position in the IAT score distribution, and the interaction between the two were used to predict rank position in the explicit attitude score distribution. There was a significant interaction between beverage condition and IAT rank, $\beta = .57$, $t(52) = 2.31$, $p = .03$, $r^2 = .09$. As in the traditional analysis, the simple slope was significant for participants who drank alcohol ($b = 0.04$, $r = .57$, $p = .01$), but not for those in the placebo ($b < 0.01$, $r = .05$, $p = .86$) or control conditions ($b < 0.01$, $r < .01$, $p = .99$).

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