Implicit and explicit drinker identities interactively predict in-the-moment alcohol placebo consumption

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ABSTRACT

Introduction: Having an identity as a 'drinker' has been linked to increased alcohol-related harm, self-reported consumption and self-reported intention to engage in risky drinking behavior. These effects have been observed when identities have been measured using explicit measures (e.g. via questionnaires) and implicitly (e.g. using Implicit Association Tests [IATs] adapted to measure identity). Little research has used actual behavioral measures to measure alcohol consumption in-the-moment, nor compared the effects of implicit and explicit identities directly.
Methods: Participants' ($n = 40$) implicit and explicit identities associated with being a drinker were measured. Attitudes towards one's own drinking were measured explicitly. Participants completed a Pouring Taste Preference Task [PTPT] involving the consumption and rating of non-alcoholic wine. This provided a behavioral measure of intention (pouring), a behavioral measure of consumption and a measure of the implementation of intention into behavior.
Results: Results showed an interactive effect of implicit and explicit identities on attitudes and behavior. Explicit identities predicted attitudes towards drinking, but not behavior. Neither identity predicted the amount poured. Implicit identities predicted the amount consumed. A greater proportion of wine poured was predicted by higher implicit identities when explicit identities were absent.
Conclusion: These results suggest that explicit identities may be associated more with those beliefs about drinking that one is aware of than behavioral intention. In addition, explicit identities may not predict behavioral enactment well. Implicit identity shows effects on actual behavior and not behavioral intention. Together this highlights the differential influence of reflective (explicit) and impulsive (implicit) identity in-the-moment behavior.

1. Introduction

Social identities, or those aspects of self-identity tied to the groups we are a part of, (see Tajfel & Turner, 1979) have been highlighted as a pathway into (Dingle, Cruwys, & Frings, 2015) and out of (Best et al., 2015; Frings & Albery, 2015, in press) addictive behaviors. Social identities contain important information for understanding the social world by, for example, providing behavioral norms for adoption and influencing the development and use of attitude and belief sets (see Tajfel, 1978; Tajfel & Turner, 1979). As such the identities we hold should influence all forms of intention formation and subsequent ongoing action. For example, research working within the theory of planned behavior framework has shown that explicitly reported identity as a drinker predicts future intentions to drink above and beyond variance predicted by attitudes, subjective norms and perceived behavioral control (Conner, Warren, Close, & Sparks, 1999). Similarly, identities around student life (being a student or a member of fraternity) are linked with self-

reported frequency of heavier drinking because of the social influence of other group members in the development and use of intragroup consumption norms (Reed, Lange, Ketchie, & Clapp, 2007). Tarrant, Haggar, and Farrow (2012) also discuss work which suggests that making salient a student identity (in contrast to a national identity) was associated with increased intentions to binge drink. Student athletes also appear to be more likely to be risky drinkers to the extent that their social identity facilitates this (Zhou, Heim & Levy, in press). In addition seeing oneself as a 'drinker' may also lead to more positive attitudes to drinking and increased consumption. For example, an analysis of how 17–24 year olds present themselves on social media suggests that displaying alcohol related cues in profiles is common, and that drinking is an important aspect of identity for this group (Ridout, Campbell, & Ellis, 2012). Interviews with young men living in London suggest that drinking plays important part of masculinity, and that this may guide their drinking behavior (De Visser & Smith, 2007). In addition, a stronger identity around being a drinker is associated with the more ready use of alcohol in times of stress (Hershenson, 1965). More recently, Foster, Yeung, and Quist (2014) showed that, amongst US college students, higher levels of drinker identity were linked with increased self-reported alcohol consumption and related problems.

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This evidence is useful to the extent that it provides an account of the importance of identities in the generation of behavior-specific beliefs and intentions as explicitly reported by individuals. More contemporary models argue that this is one part of the cognitive landscape used in behavioral enactment and that we need to consider those processes that act outside of conscious reflection (see Sheeran, Gollwitzer, & Bargh, 2013). In particular, dual process models of alcohol consumption (e.g. Moss & Albery, 2009; Wiers et al., 2010) argue that decisions to drink, and on-going behavior, are influenced by *both* automatic (implicit) *and* reflective (explicit) cognitions. Automatic cognition is fast and often unconscious and uncontrollable. Reflective cognition is (relatively) slower, often controllable and open to conscious inspection. As social identities are cognitive constructs, it is possible that they can (i) operate at and impact other cognitions and behaviors at both explicit and implicit levels of processing and (ii) there may be a disassociation between these two processes, such that the effects if implicit identities may be more or less influential, and have effects in the same or opposite directions as explicit identities. As drinking is a behavior influenced by habitual processes (Albery, Collins, Moss, Frings, & Spada, 2015) and other automatic processes (Wiers et al., 2010) it is also likely that drinking related identities will have a particularly strong implicit effect on behavior enactment.

Recently, a number of studies have revealed that implicit associations between the self and being a drinker are linked to both higher levels of self-reported past behavior and stronger intentions to drink heavily in the future. Typically these studies use an Implicit Association Test (see Greenwald, McGhee, & Schwartz, 1998) or similar tasks to measure levels of association between the cognitive categories of 'self' and 'drinker'. Stronger associations are thought to be linked to stronger implicit identities. Gray, LaPlante, Bannon, Ambady, and Shaffer (2011) showed that such measures are stable over time (six months sampling period) and have good internal reliability and converging validity with other measures. Importantly, Gray et al. (2011) also showed that alcohol related identities predict self-reported risky drinking behaviors. Similarly, Lingren, Neighbours et al. (2013) showed that their Drinking Identity IAT can predict alcohol consumption, alcohol related problems and alcohol craving. Lindgren, Foster et al. (2013) also employed this method and observed that having an implicit drinking identity predicted self-reported alcohol consumption and alcohol related harms to a greater extent than implicit approach/avoid attitudes to alcohol. Implicit drinker identity also appears to mediate the relationship between drinking motives (around coping, enhancement and social goals) and self-reported consumption and craving (Lindgren, Neighbors, Wiers, Gasser, & Teachman, 2015). These effects do not seem to be moderated by other individual differences (e.g. habit) which predict consumption (Lindgren, Neighbours et al., 2013). Not all evidence has shown such strong effects: Caudwell and Hagger (2014) showed that positive implicit alcohol identity linked to self-reported alcohol related harm, but found only a significantly marginal link to self-reported typical alcohol consumption. The current study adopts a dual process account of identities (see Frings & Albery, 2015, in press) to explore the effects of identities (reported both explicitly and implicitly) on actual drinking behavior.

As one would expect from an emerging area of study, the extant literature has both theoretical and methodological limitations. From a methodological point of view, existing alcohol consumption studies have relied on self-report measures of retrospective consumption patterns. This is problematic to the extent that people are poor judges of how much they have consumed in the past (see Bellis, Hughs, Cook, & Morleo, 2009) and that their intentions to drink (particularly in moderation) may not predict future behaviors. Alongside this, admissions of heavy drinking may be either seen as desirable or undesirable amongst participants leading to presentation biases. As a result, there is an increasing use of measures of actual drinking behaviors to corroborate the results of retrospective and intentional designs. One way of achieving this without the administration of actual alcohol is to use a *Taste-Preference Task* [TPT, see Morrison, Noel, & Ogle, 2012] or the more recently developed Pouring Taste Preference Task [PTPT, Albery et al., 2015].

The TPT and PTPT measure 'in-the-moment' drinking behavior. In the TPT participants are given a set volume of realistic wine or beer substitutes (in reality, a placebo) to consume over a set time period, purportedly to allow them to rate the drinks on taste/quality, etc. At the end of the study the remaining fluid is measured, allowing a calculation of consumption. The PTPT adds an additional step. Participants pour their own drinks from a known volume, allowing the calculation of the amount poured, the amount consumed, and the proportion of the amount poured consumed. This allows the differentiation of behavioral intention (pouring), behavior (drinking) and the intention-behavior link (proportion consumed). These measures have been used variously by multiple research labs, probe debriefing suggests that they possess a good level of plausibility amongst participants and they appear to be sensitive to both contextual and individual differences (e.g. Albery et al., 2015; Frings, Albery, Rolph, Leczfalvy & Moss, under review; Morrison et al., 2012; Moss et al., 2015). In the present study, the PTPT was employed as a direct measure of consumption.

From a conceptual perspective, one issue is that the majority of existing studies measure identities either explicitly *or* implicitly. Directly comparing the influence of these two identities is important, as without understanding the relative influence of each process, it is hard to draw conclusions around mechanisms for their relative operation. It is possible that the effects of implicit and explicit identities are dissociated which would have important implications for understanding alcohol consumption as a behavior. Such disassociation can only be identified if both constructs are measured simultaneously. One study which informs this question is Lindgren, Neighbours et al. (2013) which measured both implicit and explicit identities as a drinker, and observed both to be positive and unique predictors of self-reported drinking. However, little other work directly addresses this issue, and none to the authors' knowledge using actual behavioral measures of drinking. The current study aimed to expand this literature by simultaneously measuring drinker identities, and linking them with in-the-moment consumption.

In summary, the current experiment examined the effects of implicit and explicit drinker identities on in-the-moment alcohol consumption intentions and actual consumption, and how these identities relate to explicit attitudes towards drinking. As alcohol consumption has many features which make it a more automated, as opposed to reflective, behavior, we expect in-the-moment drinking behavior to be more strongly influenced by implicit rather than explicit drinking identities. In contrast, the generation of explicit attitudes about one's own behavior is a conscious, reflective process. As such, attitudes about one's own drinking should be influenced more strongly by explicit identity processes than implicit ones.

2. Methodology

2.1. Participants

Forty participants (32 females and 8 males) were recruited from an undergraduate population. Their ages ranged from 18 to 41 years ($M = 24.60$, $SD = 4.90$). All participants were over 18 and all reported that they drank alcohol.

2.2. Design

A correlational design was used. Measures comprised levels of explicit and implicit and levels of drinker identity, and amount of placebo alcohol poured, drank and the proportion drank, measured via the Pouring Taste Preference Task.[1]

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[1] In addition, participants either conducted the study in a traditional laboratory or bar laboratory (see Moss et al., 2015 for details of the setting). Subsequent t-tests revealed no differences in any dependent variables due to context ($ps > .17$) and including context as a covariate made no difference to pattern of results presented below (see Footnote 2).