Drink refusal self-efficacy and implicit drinking identity: An evaluation of moderators of the relationship between self-awareness and drinking behavior

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HIGHLIGHTS

- We evaluated readiness to change as a moderator of drinking.
- Readiness to change interacted with social desirability to predict drinking.
- Gender differences emerged in the interaction predicting drinking.

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ABSTRACT

This study evaluated the roles of drink refusal self-efficacy (DRSE), implicit drinking identity, and self-awareness in drinking. Self-awareness (assessed by public and private self-consciousness), DRSE, and implicit drinking identity (measured via an implicit association test; IAT) were expected to interact in predicting self-reported drinking. This research was designed to consider mixed findings related to self-awareness and drinking. Hypotheses were: 1) alcohol-related outcomes would be negatively associated with self-awareness; 2) implicit drinking identity would moderate the association between self-awareness and alcohol consumption; and 3) this association would depend on whether participants were higher or lower in drink refusal self-efficacy. Participants included 218 undergraduate students. Results revealed that drinking behavior was not associated with self-awareness but was positively associated with implicit drinking identity. Of the four drinking variables (peak drinking, drinking frequency, drinks per week, and alcohol-related problems), only alcohol-related problems were positively associated with self-awareness. Furthermore, a significant two-way interaction emerged between private (but not public) self-consciousness and drinking identity to predict drinking. Consistent with expectations, three-way interactions emerged between self-awareness, implicit drinking identity, and DRSE in predicting drinking. For participants low in DRSE: 1) high implicit drinking identity was associated with greater drinking frequency when private self-consciousness was low; and 2) high implicit drinking identity was associated with greater drinks per week and peak drinks when public self-consciousness was low. This suggests that alcohol-related IATs may be useful tools in predicting drinking, particularly among those low in self-awareness and DRSE.

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1. Introduction

Despite current intervention and prevention efforts, heavy drinking among undergraduate students continues to be problematic. Research shows that young adults engage in heavy drinking and experience a range of alcohol-related problems, including poor class attendance, hangovers, trouble with authorities, injuries, and even fatalities (Hingson, 2010; Hingson, Heeren, Winter, & Wechsler, 2005; Wechsler, Davenport, Dowdall, & Moeykens, 1994; Wechsler, Lee, Kuo, & Lee,

2000). Research has demonstrated links between sexual assault, risky sexual behavior, and college drinking (Abbey, Buck, Zawacki, & Saenz, 2003; Kaysen, Neighbors, Martell, Fossos, & Larimer, 2006; Koss & Gaines, 1993; Larimer, Lydum, Anderson, & Turner, 1999), depression (Geisner, Larimer, & Neighbors, 2004), and eating disorders (Dunn, Larimer, & Neighbors, 2002). Estimates of prevalence demonstrate that four out of five undergraduate students drink at least occasionally, two-thirds of college students drink at least monthly, and two out of five students frequently consume several drinks on a given occasion (Johnston, O'Malley, Bachman, & Schulenberg, 2006). Moreover, 43.6% of undergraduate students, compared to 38.4% of non-college peers, report heavy episodic drinking (five or more drinks in a row during

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the past two weeks; SAMHSA, 2008). Reports published by the NIAAA (2007) examining trends in the magnitude of the morbidity and mortality related to college drinking show that almost 20% of college students meet DSM-IV criteria for alcohol abuse or dependence, however less than 5% of undergraduates seek counseling or treatment for alcohol abuse (NIAAA, 2007). Additional research is needed to understand how to further translate empirical findings into effective interventions to reduce drinking and related problems (Hingson, 2010).

1.1. Self-awareness

College drinking can be examined using the theory of objective self-awareness, which posits that self-awareness is a reflective process that involves attention being inwardly focused towards the self rather than outwardly focused towards the environment (Duval & Wicklund, 1972). Alcohol-related studies have evaluated self-awareness as an individual difference trait. One study found that for adolescents low in self-awareness, a family history of alcoholism was associated with higher drinking levels and related consequences, but this relationship did not emerge among adolescents high in self-awareness (Chassin, Mann, & Sher, 1988). This suggests that the association between self-awareness and drinking may vary as a function of other correlates of drinking. More recently, self-consciousness has been used as an individual trait measure of self-awareness (e.g., LaBrie, Pedersen, Neighbors, & Hummer, 2008). Self-consciousness is defined as the selective encoding process of information that is self-relevant (Niaura, Wilson, & Westrick, 1988) and consists of both private self-consciousness, which is cognitive and related to attendance to inner reflections, and public self-consciousness, which is related to the self as a social object that is influenced by others (Fenigstein, 2009; Fenigstein, Scheier, & Buss, 1975). Private self-consciousness refers to introspection on one's own thoughts and feelings, whereas public self-consciousness refers to a focus on how one interacts with others (Fenigstein et al., 1975).

Niaura et al. (1988) conducted a study in which 72 healthy males were divided into Type A and B groups, and further subdivided into low and high private self-consciousness. Half of participants were randomly assigned to consume alcohol, and half placebo, and they were then exposed to a stressor (e.g., self-disclosing speech). Findings showed that alcohol dampened autonomic responsiveness (increased systolic blood pressure reactivity and sensitivity to alcohol effects) during the speech stressor among Type A individuals low in private self-consciousness (Niaura et al., 1988). This suggests that a task forcing participants to focus on discrepancies between the actual and ideal self (e.g., a speech stressor related to drinking behavior) might be aversive for those low in private self-consciousness based on the natural tendency to avoid the uncomfortable self-aware state, and this discomfort may be reflected in increased autonomic arousal (Niaura et al., 1988). Alcohol may interfere with the salience of these discrepancies, thereby dampening autonomic responsiveness (Niaura et al., 1988). Additional research has found that private self-consciousness was protective for both fraternity and sorority Greek members, however, only public self-consciousness buffered against drunkenness for fraternity members (Park, Sher, & Krull, 2006). Consistent with these findings, LaBrie et al. (2008) found that private self-consciousness predicted less drinking among college students. This study further showed that public self-consciousness predicted alcohol-related consequences beyond self-reported drinking for both genders.

In sum, research examining the association between self-awareness (measured via self-consciousness) and drinking has been mixed, with some findings suggesting a positive association (Niaura et al., 1988) and others suggesting a negative association (LaBrie et al., 2008; Park et al., 2006). This suggests the possibility of moderators yet to be identified. Thus, further research is needed to better elucidate individual difference factors influencing the effect of self-awareness on drinking.

1.2. Implicit drinking identity

Implicit attitudes may help us understand the mixed findings related to self-awareness and drinking. Many processes that affect drinking behavior are cognitive and unconscious (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). The manifestation of implicit alcohol-related attitudes as behaviors can occur without conscious awareness of causation, which presents difficulties in measuring attitudes using self-report methods. Additionally, in studies examining alcohol consumption, implicit measures are particularly beneficial as they are less subject to the influence of self-presentation biases which can pose a stronger threat to explicit measures (Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005; Sayette et al., 2000). One widely known implicit attitude measure is the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998), an experimental method that evaluates automatic processes through the measurement of timed reactions between word and/or picture pairings (Greenwald et al., 1998; Nosek, Greenwald, & Banaji, 2007). The IAT has been applied to alcohol use research in efforts to predict drinking from implicit associations (e.g. Houben & Wiers, 2008; Jajodia & Earleywine, 2003; Lindgren, Neighbors, Ostafin, Mullins, & George, 2009; Ostafin, Marlatt, & Greenwald, 2008; Wiers, Van Woerden, Smulders, & De Jong, 2002). Furthermore, a recent study comparing several alcohol-related IATs found the implicit drinking identity IAT to be the best at predicting drinking, alcohol-related problems, and craving (Lindgren, Neighbors, et al., 2013).

Despite conceptual overlap between self-awareness and implicit attitudes, no one has yet considered implicit attitudes as a potential moderator of the relationship between self-awareness and drinking. According to the theory of planned behavior (Ajzen, 1991), explicit attitudes are a key contributor in the prediction of behavior. Research also indicates that considering self-identification within this theoretical framework can contribute to better prediction of behavioral outcomes (e.g., Pierro, Mannetti, & Livi, 2003; Smith et al., 2007). As individuals seek to maintain consistency in views of the self (Lalwani & Shavitt, 2009), self-identity may be a powerful predictor of behavior. Drinking identity is typically defined as how closely individuals believe that consuming alcohol is a crucial aspect of their identities (Conner, Warren, Close, & Sparks, 1999). An implicit analog of drinking identity, which does not require explicit self-reporting, has also been found to be positively associated with drinking and related consequences (e.g., Casey & Dollinger, 2007; Lindgren, Neighbors, et al., 2013). As implicit aspects of the self such as the self-concept have traditionally been measured using the IAT (e.g., Gray, LaPlante, Bannon, Ambady, & Shaffer, 2011; Greenwald & Farnham, 2000), a drinking identity IAT was used for this study.

Individual differences in implicit drinking identity may account for variations in alcohol associations. The connection between increased drinking and self-awareness is that drinking is presumed to provide psychological relief from unpleasant states of self-awareness (Hartman, 1986; Hull, 1981); however, not everyone is likely to be equally affected by internal discomfort. Recent research involving implicit measures suggests that drinking identity associations are powerful and reliable predictors of drinking (Lindgren, Foster, Westgate, & Neighbors, 2013; Lindgren, Neighbors, et al., 2013, Lindgren et al., 2009). Drinking identity has been shown to positively correlate with and significantly predict alcohol consumption and problems (Lindgren, Foster, et al., 2013; Lindgren, Neighbors, et al., 2013). Thus, we considered how implicit drinking identity might influence the relationship between self-awareness and alcohol use. Individuals with *stronger* implicit drinking identity may be more likely to drink to reduce self-awareness, whereas those with weaker associations with implicit drinking identity may reduce unpleasant self-aware states by modifying behaviors to be more consistent with inner values (e.g., drinking less). Those with *less strong* implicit drinking identity may be more likely to drink based on intrapersonal and interpersonal cues (e.g., social influence).