

The yin and yang of alcohol intoxication: implications for research on the social consequences of drinking

It is well known that alcohol consumption results in positive social consequences such as mood enhancement and increased social integration (see Baum-Baicker 1985; Heath 2000; Mäkelä & Mustonen 2000; Heather 2001) as well as negative consequences such as aggression and child neglect (see Klingemann & Gmel 2001). Most research on alcohol treats these two outcomes as separate, unrelated phenomena. Even research on expectancies, which allows that the same person may hold both positive and negative expectations about the effects of alcohol (e.g. Brown *et al.* 1987; Leigh 1987; Young & Knight 1989) does not explore specifically the extent that positive and negative consequences may be part of a single drinking occasion or that these consequences may actually be inter-related.

There are hints from the popular literature and at least some descriptive research to suggest that during a single drinking occasion, a person may experience *both* positive and negative social consequences related to drinking. For example, the word 'suddenly' in the following items from a quiz in *The Art of Coarse Drinking* nicely captures the fine line between alcohol-induced euphoria and alcohol-induced misery:

- (2) Do you suddenly feel handsome, strong and good looking?
- (3) Alternatively, do you suddenly feel bleary, bald and blotchy?
- (5) Do you suddenly love everyone?
- (6) Do you suddenly hate everyone?

(Green 1973, p. 99)

Similarly, Pernanen (2001) noted from his observational research in bars that by the end of the 3 hour period of observation, both positive and negative social interactions had reached a peak. Pernanen's finding suggests the possibility that, at least to a certain level of consumption, both positive and negative consequences may increase with amount consumed.

Given that alcohol consumption is associated with both positive and negative social consequences, a better understanding of the social consequences of drinking might be achieved if researchers adopted a theoretical framework capable of addressing their co-occurrence and inter-relationships. There are three main directions that

could guide this research: (1) assessing the extent to which positive and negative social consequences co-occur within the same drinking occasion and are inter-related; (2) identifying the mediating role of specific pharmacological effects of alcohol on both positive and negative social outcomes; and (3) clarifying the role of potential moderating factors related to characteristics of the drinker and the drinking context in terms of how they may influence the relationship between alcohol consumption and social consequences.

ASSESSING THE CO-OCCURRENCE AND INTER-RELATIONSHIP OF POSITIVE AND NEGATIVE SOCIAL CONSEQUENCES

There is a rather large literature on alcohol expectancies, but relatively little research on the actual effects of alcohol experienced by people. We need basic knowledge about the nature, extent and co-occurrence of positive and negative social consequences of drinking within a drinking occasion. To address this topic adequately, we need to use multiple methods, including laboratory experiments to observe social behaviors following drinking under controlled circumstances as well as self-reports and observational research methods to assess social consequences in natural drinking settings. The extent to which these consequences are correlated with each other or cluster together, as well as their temporal ordering, needs to be better understood.

THE MEDIATING ROLE OF THE PHARMACOLOGICAL EFFECTS OF ALCOHOL IN DIFFERENT TYPES OF SOCIAL OUTCOMES

We also need research that explores the mediating role of specific pharmacological effects of alcohol in research focused on the link between the effects of alcohol on the brain and the social behaviour of the drinker.

For example, alcohol can act as an anxiolytic by potentiating the inhibitory neurotransmitter gamma-aminobutyric acid (GABA). One theory has linked this effect to aggression as follows: alcohol affects GABA neu-

rotransmitters of the drinker → the drinker experiences reduced anxiety → the probability that the drinker will become aggressive in response to perceived threat or provocation is increased because of lower anxiety regarding the consequences of aggression (for a fuller model linking pharmacological effects of alcohol to aggression see Pihl & Hoaken 2002).

What is interesting about this sequence is that the preliminary stages leading to aggression reflect the very reason that people give for consuming alcohol—that is, ‘to relax’ (Cooper *et al.* 1992), ‘to feel less shy’ and ‘to feel less nervous with strangers’ (Smith, Abbey & Scott 1993). Thus, a reduction in anxiety due to the effects of alcohol on neurotransmitters may be linked both to positive social consequences such as social facilitation and to negative consequences such as aggression.

The link between alcohol use and tension reduction received considerable attention from alcohol researchers in the past. However, it would be useful to revisit this issue from the perspective of trying to develop a better understanding of biological mechanisms, proximal experiences such as tension reduction and more distal effects such as positive and negative social behaviours.

FACTORS THAT MODERATE THE SOCIAL CONSEQUENCES OF ALCOHOL

In general, there are a large number of situational factors and personal characteristics of the drinker (e.g. gender, age, drinking experience and patterns) that affect the nature of social consequences of drinking. In fact, there is considerable evidence to suggest that, although alcohol affects the brain in predictable ways, the social consequences of these brain changes are highly malleable. In a recent monograph aptly entitled ‘Alcohol, the ambiguous molecule’, Edwards (2000) noted the essential plasticity of alcohol’s effects and the importance of drinking context and other factors in whether these effects will result in positive or negative consequences for the drinker.

The plasticity of the effects of alcohol was clearly demonstrated in a 1974 study (Pliner & Cappell 1974) of the influence of the presence of others in the drinking situation on the perceived effects of alcohol. This study found that those who consumed alcohol in the presence of others were more likely to perceive increased feelings related to sociability (e.g. friendliness, euphoria) and more likely to exhibit objective indicators of sociability (e.g. smiling, laughing) compared with those who consumed a placebo beverage in the company of other people; on the other hand, those who consumed alcohol in the solitary condition perceived significantly more physiological changes (e.g. more sleepy, dizzy, less able to think clearly) compared with those consuming a placebo, and relatively few

effects related to sociability. Thus, the exact same drug had very different effects depending on the social context—in this case the presence or absence of other people.

It is also worthwhile to explore the relationship between moderating and mediating variables. For example, the role of reduced anxiety from alcohol and the related impact on both positive and negative social consequences (described earlier) appears to be strongest in situations in which persons are stressed or anxious before drinking (see Baum-Baicker 1985) and situations in which there is high response conflict (i.e. a strong desire by the drinker to act in a certain way combined with strong pressure or mores not to act in the desired way) (Steele & Southwick 1985; Steele, Critchlow & Liu 1985). Cultural context may also moderate the extent to which reduced anxiety is associated with positive and negative social consequences. For example, after reviewing drinking practices in 16 preliterate societies, Washburne (1961) concluded that alcohol was ‘almost essential to certain social relationships’ among cultures in which social anxieties were high (p. 259).

IMPLICATIONS FOR CLINICAL PRACTICE AND PREVENTION

A greater knowledge of the relationship between positive and negative consequences could have clinical and policy implications. For example, a neglected area of research is the consistent finding that a substantial proportion of heavy drinkers report no negative social consequences due to drinking (Room, Bondy & Ferris 1995). If in fact these self-reports are valid, it would be useful to ask: why not? Where do these people drink? With whom? and under what circumstances? In addition, how important are positive experiences for these individuals in maintaining a pattern of heavy drinking? Studies of expectancies regarding the effects of alcohol have found a strong relationship between positive expectancies and heavy drinking (Earleywine 1995), suggesting that positive experiences may be just as important as negative consequences in terms of identifying high-risk populations and understanding addiction.

In terms of policy, the acceptability and effectiveness of different policies may depend on the relative impact of these policies (perceived or real) on negative versus positive social consequences of drinking. For example, policies that target drink-driving by focusing on the driving (e.g. penalties for driving after drinking, policies that increase perceptions that drinking drivers will be caught, ride services for intoxicated persons) may be more acceptable to potential drinking drivers (because they do not necessarily prevent the individual from having pleasurable outcomes from drinking) compared with the accept-

ability of policies that address drink-driving by focusing on the drinking aspect (e.g. policies that limit availability of alcohol).

Understanding how positive and negative social consequences are linked may also be helpful in fine-tuning policies to be maximally effective in reducing negative consequences. For example, if the probability of negative consequences tends to increase over the course of a drinking occasion, this would have particular relevance for policies related to the closing times of licensed establishments and recommended staff : patron ratios, especially later in the evening.

In sum, although it is common knowledge that people experience both positive and negative social consequences when drinking, greater effort is needed by researchers to understand the co-occurrence and linking of different types of social consequences as well as mediating and moderating factors. Such research endeavours into the 'yin and yang' of drinking consequences would help to improve our understanding of social drinking, drinking problems and the process of addiction.

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