

## Are intoxicated males more aggressive or do aggressive males like a drink?

### Introduction

The relationship between alcohol misuse and aggression is not clear. Alcohol and violent crime are certainly associated. People who have committed a violent crime are often intoxicated when they commit the crime, however, this relationship can be understood in two ways.

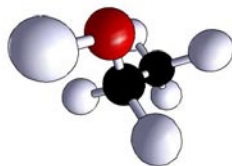
1. Alcohol intoxication causes aggression.
2. People with an aggressive predisposition also tend to misuse alcohol.

Although not necessarily mutually exclusive, these two models have different implications for policy. If evidence supports the first relationship then reducing alcohol misuse will also reduce violent crime. However, if evidence supports the second relationship then policy should be directed at treating individuals' predisposition for alcohol misuse *and* violence.

The current study, carried out by Simon Moore, Bryony Cusens, James Foreman-Peck and Jonathan Shepherd at Cardiff University, explored which of these models was most probable in a community sample of social drinkers. The study used theories of choice to develop the methodology. In particular, the researchers focused on attitude to time and attitude to risk.

Attitude to risk concerns how willing people are to engage in risky activities (e.g. alcohol misuse, aggression, risky sex, drug taking and so forth). In the current study we hypothesised that alcohol misuse and aggression are risky activities and therefore people who like to take risks may also consume more alcohol and be more aggressive.

Attitude to time concerns the value people place on future events. For example, given the choice between an immediate £15 or £20 in six months time most people would choose £15 now. This feature of decision making is explained by people discounting the value of future rewards in proportion to the delay: the greater the delay the less the subjective value of the delayed reward. Similarly, the social and personal costs of alcohol misuse and aggression are not immediate, they follow the decision to drink and act aggressively. For example, health costs, a hangover and the increased likelihood of injury follow the decision to misuse alcohol by hours, days and, in some cases, years. We hypothesised that people who discount the future heavily may also tend to misuse alcohol and be more prone to aggressive behaviour.



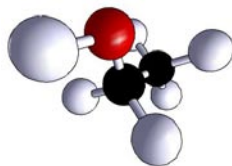
We designed an experiment that tested whether attitudes to time and risk predicted intoxication and aggression (model two, see above) or if intoxication predicted aggression (model one). The experiment was conducted at the entrance to licensed premises popular with students and members of the local community. Although considerable *laboratory* research has shown a plausible relationship between individual personality differences, intoxication and aggression no study had yet looked at real-world social drinking *and* aggression; an important aspect of any research into alcohol consumption.

The study was conducted over two evenings between the hours of 10pm and 2am. Male participants were approached as they entered licensed premises, breathalysed and asked to complete tasks that measured attitudes to risk, time and aggression. Additional information, such as whether they were a student, their age and how happy they were (to control for celebratory drinking) was collected. Participants were asked to return to the surveyors as they left the licensed premises at the end of the night where they were then breathalysed a second time.

Returning to the aforementioned models, if model one is true then initial levels of intoxication, measured as participants entered the licensed premises, should show a positive relationship with levels of aggression, the more drunk the more aggressive. However, if model two is true then attitude to risk and/or attitude to time should predict aggression and final breath alcohol score.

### Findings

- 64% of the initial 72 participants approached completed the entire survey and showed a positive increase in breath alcohol from first (mean = 21.93mg/l) to second (mean = 51.38mg/l) breath analysis. Of these participants, 41 gave scores indicative of 'hazardous drinking' on the Fast Alcohol Screening Test. Average time between the first breath analysis to the second was 2.44 hours.
- Initial levels of intoxication did not predict aggression score.
- Attitude to time predicted both aggression score and final level of intoxication with participants heavily discounting future rewards providing higher breath alcohol readings and reporting higher levels of aggression.
- Attitude to risk showed a weak association with final level of intoxication: greater avoidance of risk was associated with greater alcohol misuse.



### Implications

- The research successfully extended laboratory research into the real world and therefore adds a novel perspective on the relationship between alcohol, aggression and personality.
- Results were consistent with a model where alcohol misuse and aggression were the result of underlying personality type. Results did not support the hypothesis that alcohol *causes* aggression.
- The research has implications for policy makers seeking ways to address alcohol misuse and aggression. Tackling alcohol related violence may not benefit from strategies that assume alcohol causes violence. It appears that alcohol misuse and aggression are comorbid and are both an expression of personality type. Treatment strategies that target alcohol misuse to reduce violence may therefore provide suboptimal effects relative to treatment strategies that target the underlying psychological processes that promote alcohol misuse and aggression.
- Attitude to risk showed a weak association with final level of intoxication: greater avoidance of risk was associated with greater alcohol misuse.
- While this research does not suggest specific behavioural change strategies the now well documented relationship between attitudes to time, aggression and alcohol misuse does suggest opportunities that require greater attention. As greater aggression, greater alcohol misuse and heavy discounting of future rewards are associated, interventions that focus on the long-term benefits of moderation or cessation probably do not offer the best strategy as the long-term consequences will be discounted. Whereas interventions that lessen the immediate value of alcohol and aggression may have greater effect. Furthermore, some of the psychological and neurological processes that moderate the rate of discount have been identified. For example, deficiencies in the neurotransmitter serotonin are associated with greater discounting, as are emotional processes. Interventions that manipulate these systems may also have beneficial effects with regards aggression and alcohol misuse.

#### Enquiries to:

Dr Simon Moore  
Violence Research Group  
Dental School, Cardiff University  
Cardiff CF14 4XY UK

tel: +44 (0)29 20744246  
email: mooresc2@cardiff.ac.uk

#### ALCOHOL INSIGHTS

*Alcohol Insights* are brief summaries of the findings made from research or development grants.

They may be copied and used without permission provided that the source is attributed to the AERC.

Further information about *Alcohol Insights* can be found at  
[www.aerc.org.uk](http://www.aerc.org.uk)  
or email: [info@aerc.org.uk](mailto:info@aerc.org.uk)

the alcohol education and research council