ALCOHOL INSIGHT

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Mediating effects of mental health problems in the stress alcohol relationship
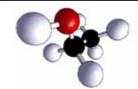
Background

Previous research has identified different patterns of alcohol consumption in the British population. It is proposed that significant differences in alcohol consumption, related problems, and dependence will be accounted for by stressful life events. The aim of this project was to develop a statistical model to test the association between stressful life events and alcohol usage in the general population based on data from a nationally representative sample of 8,580 British adults.

Levels of alcohol consumption, associated problems, and dependence vary substantially in the population and a number of reasons have been proposed to account for this observed heterogeneity. One such reason for alcohol usage is the reduction of stress due to adverse life events (Kuntsche, Knibbe, Gmel et al., 2006). Stressors will also range in intensity and it is common for individuals to experience frequent and relatively minor events such as work-related problems, minor illness or injury, and relationship problems. However, many people also experience major traumatic experiences during their lifetime. Kessler, Sonnega, Bromet, et al. (1995) reported that over 61% of males and 51% females experienced one or more traumatic events. Common traumas reported included being threatened with assault (19%), actual assaulted (11%), witnessing somebody being killed/injured (36%). Females had higher rates of exposure to rape (9%), molestation, and childhood abuse (5%).

There is a lot of evidence to suggest that that alcohol is used to self-medicate in response to the distress caused by trauma exposure, or the symptoms of posttraumatic stress disorder (Dantas & de Andrade, 2008). This association between posttraumatic stress disorder and the diagnosis of alcohol abuse or dependence has been identified in both epidemiological studies (Kessler, Sonnega, Bromet, et al. 1995) and treatment based studies (Jacobsen, Southwick, & Kosten, 2001). While, the association between trauma exposure and alcohol usage is consistently reported, the findings are based on individuals who have (a) experienced a very traumatic event and developed posttraumatic stress disorder, and (b) have a diagnosis of alcohol abuse or dependence. Such samples represent only a small proportion of people. Attempts to test the relationship between stressful life events and alcohol usage beyond the clinical setting have proved less conclusive. A recent review of the research literature on the relationship between the experience of

stressful life-events and alcohol use in the general population was equivocal in its conclusions (Veenstra, Lemmens, Friesema, et al., 2007). Of the twelve studies reviewed there were three that supported the stress-alcohol relationship, three found no support for the relationship, and the findings from the remaining five studies were not 'clear-cut' (p. 455).

The inconsistency of the results may be attributable to methodological limitations. First, the selection of stressful life events to analyse has generally been narrow, focussing on less common traumatic events. Second, the effect of stressful life experiences on alcohol use may not be direct, but mediated by psychological variables (Veenstra, Lemmens, Friesema, et al.2007). It was hypothesized that there would be both a significant positive direct relationship between the number of stressful experiences and hazardous drinking. Significant mediated effects were also predicted. First, disorders such as anxiety and depression have been shown to be predicted by exposure to stressful events and they can also lead to self-medication using alcohol. Therefore it was predicted that the indirect, or mediated, effect would be positive. Second, it has been shown that health related events are associated with a decrease in alcohol consumption. On the basis of this it was predicted that neurotic disorders with related to somatic and physical concerns would mediate the stress-alcohol association; this indirect effect was predicted to be negative.
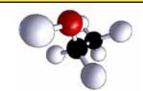
Methods and Findings

Data was drawn from the "Psychiatric Morbidity Among Adults living in Private Households, 2000" survey (Singleton, Bumpstead, O'Brien, Lee & Melzer, 2001). The survey was conducted among a population of adults living in England, Scotland and Wales between March and September 2000. When participants with any missing data were removed from the study the sample size was 7849. Stressful life events were assessed using The List of Threatening Experiences (LTE; Brugha, Bebbington, Tennant, Hurry, 1985) and alcohol use was measured by the Alcohol Use Disorders Test (AUDIT; Saunders et al., 1993; Babor et al., 1992). The Clinical Interview Scale Revised (CIS-R: Lewis and Pelosi, 1990) was used to measure somatic symptoms, fatigue, sleep problems, worry about physical health, depressive ideas, worry, and anxiety.

A mediation model was used that specified stressful life events as an independ-

ent variable, alcohol use as a dependent variable and somatic symptoms, fatigue, sleep problems, worry about physical health, depressive ideas, worry, and anxiety as mediators. The statistical significance of the mediated effects were calculated using bootstrapped bias-corrected and accelerated percentile based confidence intervals (Efron, 1997, Efron, Tibshirani, 1993). The overall model was based on the approach proposed by Preacher and Hayes (2008). The model was specified and estimated using SPSS v15.0 based on maximum likelihood estimation and 1000 bootstrap draws.

The results showed

- Stressful life events predict all neurotic symptoms

- Somatic symptoms, fatigue, sleep problems, worry about physical health, depressive ideas, and worry all predict alcohol use.

- Stressful Events predicts alcohol use.

- The indirect effects of stressful events through illness, somatic symptoms, fatigue, and worry about physical health reduces the strength of the stress – alcohol use link.

- Sleep problems and worry strengthens the stress – alcohol use link.

Implications

The stress-alcohol relationship is direct and indirect. The direct effect is positive that shows that alcohol consumption may be in response to stress, thereby supporting the self-medication model.

Some psychological variables may increase the stress-alcohol relationship while others may reduce the relationship.

Future research conducted in this area may be improved by using a longitudinal design that examines the reciprocal stress-alcohol relationship.

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