Alcoholism and personality

Roger T. Mulder

Objective: The search for an alcoholic personality has been pursued with varying enthusiasm throughout the 20th century. This paper reviews the methodological issues, research designs and current theories relating alcoholism and personality.
Method: A selected literature search using computerised databases was ordered via the four major research design strategies: cross sectional studies, high-risk studies, longitudinal studies and genetic epidemiology studies.
Results: Cross sectional studies have suggested that two broad bands of personality, impulsivity/novelty seeking and neuroticism/negative emotionality, are associated with alcoholism. Although high-risk studies have repeatedly shown that sons of male alcoholics are at increased risk of alcoholism, whether this risk is related to personality variables is unclear. Many authors believe that the presence of antisocial personality disorder is a confounder and that this may explain some of the contradictory findings. Longitudinal studies have consistently reported that antisocial behaviour and hyperactivity are related to later alcoholism. Negative emotionality seems to be less important and may largely be a consequence of the alcoholism itself. Genetic epidemiological studies suggest that personality measures play a modest but significant role in the genetic influence of alcoholism. The strongest relationships are with conduct disorder and antisocial behaviour. The postulated alcoholic subtypes (Type I, Type II or Type A/B) based on age of onset and personality style have been challenged by recent research. The most vulnerable to alcoholism may be those with both high impulsivity/high novelty seeking and high neuroticism/negative emotionality.
Conclusion: Antisocial behaviour and hyperactivity are the most consistent behaviours associated with alcoholism. These behaviours are not specific for alcoholism and are associated with many other psychiatric conditions. Personality variables by themselves explain only a small proportion of the risk for alcohol dependence. There is no alcoholic personality nor are there personality measures which are specific to vulnerability to later alcohol dependence. Attempting to link alcoholism with theoretical, poorly validated models of personality is premature.
Keywords: alcoholism, alcohol subtypes, ASPD, personality.

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The relationship between alcoholism and personality appears to centre on a simple question: are the personalities of alcoholics different from non-alcoholics? Alcoholics Anonymous (AA) and other treatment agencies have traditionally voiced the view that alcoholics are a distinct entity and are different from other people [1]. This has been interpreted by some to mean that the personality of alcoholics is different in some way from that of individuals who are not alcoholic. Much of the research in the 1930s and 1940s looked for this 'alcoholic personality'. Most studies contrasted various behaviours and personality measures between groups of alcoholics and non-alcoholics. Differences were usually reported but the studies were often contradictory and

Roger T. Mulder, Associate Professor

Department of Psychological Medicine, Christchurch School of Medicine, PO Box 4345, Christchurch, New Zealand.
Email: roger.mulder@chmeds.ac.nz

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inconclusive. This accumulating evidence was perceptively, if sceptically, summarised by Keller; he noted 'investigation of a trait in alcoholics will show that they either have more or less of it (than non-alcoholics)' and concluded the alcoholics are 'different in so many ways it makes no difference' [2].

By the 1950s critical reviews of the literature on alcoholism reported that there was no consistent evidence for a distinct alcoholic personality [3,4]. The Alcoholics Subcommittee of the World Health Organization (WHO) discouraged the search for an alcoholic personality by stating 'It does not seem to emerge (that there is) . . . any specific personality trait or physical characteristic which inevitability would lead to excessive symptomatic drinking'. The influence of personological accounts of alcoholism fell away in the 1960s. Academic psychology, strongly influenced by behaviourism, criticised the utility of personality as a way of explaining behaviour in general [5] and there appeared to be less and less interest in the relationship between personality and drinking behaviour.

During the 1960s and '70s, a number of studies continued to report that certain behaviours appear to predispose individuals to alcoholism, but these behaviours were not conceptualised as personality. For example, Morrison and Stewart [6] and Cantwell [7] found that hyperactive children were more likely than nonhyperactive children to have a biological father who was alcoholic and more likely to become alcoholic themselves. In her longitudinal study, Robins [8] also reported higher rates of alcoholism among men who had had conduct disorder as a child.

By the 1980s, interest in the personality-based explanations for alcoholism began to increase again. This was for at least two reasons. The first was the rise of poly drug dependence in the 1960s and '70s. It appeared that alcoholics who also abused other drugs had different personality characteristics from those who did not and these characteristics had implications for treatment. Such individuals were noted to be younger, more impulsive, disinhibited and extroverted, and seemed to do poorly in treatment programs designed to help more pure alcoholics. The second reason was the repeated demonstration that genetic factors contribute fundamentally to individual differences in alcohol related behaviours [9]. Since many personality characteristics were heritable, it was suggested that personality may be an important mediator of the genetic effects of alcoholism[e.g. 10].

One significant problem when reviewing the relationship between alcoholism and personality is the meaning of each term. The term alcoholism suffers from at least two serious problems. The first is that it is vague; alcoholism includes a wide variety of symptoms ranging from occasional memory blackouts to end-stage symptoms of chronic, heavy alcohol misuse, sometimes including the consumption of nonbeverage alcohols [11]. The second is that, as a diagnostic category, alcoholism is probably heterogeneous. Typologies of alcoholism have been posited for well over a century [12] ranging from dichotomies [13,14] to five or more classes [15]. For the purpose of this review alcoholism means alcohol dependence, i.e. salience, loss of control and/or tolerance and withdrawal, rather than abuse or misuse.

Classification of personality is equally problematic. The meaning of personality is frequently related to its context and the structure of the theory within which it is employed. Most formal definitions of personality note that it involves behaviours and emotions which are characteristic of an individual, stable over time and situations, and have some motivational and adaptive significance. A variety of measures have been used to measure personality in alcoholics which can be roughly divided into two models. The first model focuses on personality psychopathology conceptualised as personality disorders. The majority of studies on alcoholism centre on antisocial personality disorder and its predecessor, conduct disorder. The second focuses on normally distributed personality measures. Several dimensional models have been promoted as comprehensive accounts of the major dimensions underlying adult personality. In the field of alcoholism the most studied so far have been Eysenck's neuroticism, extraversion/introversion and psychoticism [16] and Cloninger's novelty seeking, harm avoidance, reward dependence and persistence [13]. Table 1 lists the secondary traits related to these higher order dimensions.

Method

Computerised Medline and Psychinfo searches were performed covering the period from January 1957 to April 2000 using the terms: alcoholism, personality, personality disorder.

Criteria for search: All articles needed to be in English and in a peer-reviewed journal or book. The abstracts were searched for studies in which focus was on alcoholism and personality and the subjects had alcohol dependence as the principal diagnosis. This is not an all-inclusive review and the choice of articles reflects the author's qualitative assessment of current important themes in this area of research.

Coding of articles: The articles were coded based on their research design: (i) cross-sectional studies, (ii) high-risk or case-control studies, (iii) prospective studies, and (iv) genetic epidemiology. Because of the large number of cross-sectional and high-risk studies only the largest and most methodologically rigorous are highlighted. There are far fewer prospective and genetic epidemiology studies, so all those available were reviewed.

Results

Cross-sectional studies

Even a selective review of this large literature is difficult although things have changed since Keller's summary 25 years ago. There are

Table 1. Personality traits in Eysenck's and Cloninger's personality models

Eysenck	**Cloninger**
Neuroticism anxious, depressed, guilt feelings, low self-esteem, tense, irrational, shy, moody, emotional	Harm avoidance cautious, apprehensive, fatigable, inhibited
Extraversion sociable, lively, active, assertive, sensation-seeking, carefree dominant, surgent, venturesome	Reward dependence ambitious, sympathetic, warm, industrious, sentimental, persistent, moody
Psychoticism aggressive, cold, egocentric, impersonal, impulsive, antisocial,	Novelty seeking impulsive, excitable, exploratory, quick tempered, unempathic, creative, tough-minded fickle, extravagant

Adapted from Sher *et al.* 1998

three broad personality dimensions that have been repeatedly studied in individuals with alcoholism: (1) impulsivity/novelty seeking (2) neuroticism/negative emotionality (3) extraversion/reward dependence. These dimensions have been measured in a variety of ways; most commonly Eysenck's Personality Questionnaire (EPQ) scores and Cloninger's Tridimensional Personality Questionnaire (TPQ) scores.

Alcoholics generally score higher on measures assessing impulsivity and novelty seeking dimensions [17,18]. There are also high rates of comorbidity between alcoholism and impulsive PDs such as antisocial personality disorder (ASPD) and borderline PD. In hospitalised alcoholics, for example, rates of ASPD have been reported as 50% for men and 20% for women [19].

Neuroticism/negative emotionality has also been associated with clinical alcoholism. These individuals typically score high on psychometric scales assessing neuroticism and harm avoidance [e.g. 20–22]. Alcoholism is also associated with high rates of anxiety and, although with less consistency, depression in most studies which have looked at this [14].

The evidence for an association between alcoholism and extraversion/reward dependence is more mixed. Measures of extraversion have been reported to be no different from controls [23], to have lower scores as dependence becomes more severe [24] or even higher scores in some studies.

Cross-sectional studies are relatively easy to perform but have significant limitations related to sampling and control groups. Much of the research is carried out on samples of individuals seeking or undertaking treatment. Such individuals are likely to be more severe, be older and have comorbid psychopathology [25]. Non-clinical samples are often those of convenience – especially students. However, there are a few studies from community identified samples of alcoholics. While none of these, to my knowledge, had undertaken specific personality measures some did study rates of ASPD as well as depression and anxiety disorders. Overall, individuals with alcohol dependence had rates of ASPD ranging from 12.1% [26] to 17.4% [27] with risk ratios varying between 12.7 and 26.4 [28]. Rates of anxiety and depression were much closer to the non-alcoholic group with risk rations of around 1.5–2.0 [28].

In summary, cross-sectional studies consistently report alcoholics have high scores on measures of impulsivity and novelty seeking, as well as high rates of ASPD (the latter in both clinical and community samples). Measures of neuroticism/negative emotionality are high in clinical samples as are rates of comorbid anxiety and depression, although these comorbid disorders are only marginally increased in community samples.

High-risk (case-control) studies

An increasingly common strategy for studying the relationship of personality and alcoholism are so-called high-risk studies. This is essentially a type of case control study where children of alcoholics are contrasted with children of non-alcoholics, the hypothesis being that differences between the high-risk and low-risk children may be related to factors that predispose to alcoholism, among them trait behaviours and personality. Most of the studies have focused on male offspring.

Such studies have, at least, established one generally accepted fact: sons of male alcoholics are at increased (4–9 fold) risk of the development of alcoholism [29]. Such men initiate use of alcohol earlier, drink more heavily and demonstrate more drinking-related problems when they are young adults [30–33]. Whether this is partially transmitted via personality variables is less clear. The offspring of alcoholics in comparison to those of non-alcoholics have sometimes been found to have higher levels of activity, sociability, inattention, impulsivity and novelty seeking. In addition, some studies have reported higher levels of emotionality and lower levels of reward dependence and self esteem [e.g. 34–37]. There are also some negative results. Sher *et al.* [31] and Tarter *et al.* [38] reported no difference in measures of impulsivity and hyperactivity between sons of alcoholics and non-alcoholics.

The investigation of personality disorders among children of alcoholics has rarely been reported. Drake *et al.* [39] did not find a higher rate of personality psychopathology in children of alcoholics compared with children whose parents were not alcoholic. However, delinquency was an exclusion criteria in that study. Alterman [40] reported that a high-risk group with high familial alcoholism density had the greatest amount of personality psychopathology and this pathology was also associated with more drinking. However, they suggested the relationship was not this straightforward with their finding that in the low familial density, high-risk group there was a negative association between personality pathology and drinking.

Behaviour activity level has also been reported to be higher in the sons of alcoholic men [41]. One study used an actigraph to compare the sons of drug and alcohol abusers with the offspring of nondrug abusing, non-alcoholic men [42]. They reported that the sons of alcoholics demonstrated higher behavioural activity while performing tasks, although not while resting. They also noted that this was independent of conduct disorder [42].

Studies comparing TPQ measures in high-risk groups have produced mixed results. Most have reported no difference between the sons of alcoholics and sons of non-alcoholics [43–47]. There were some positive findings; Sher [31] reported that children of alcoholics had modestly elevated NS scores and lower HA scores. However, a recent review concluded that only two out of nine studies on high-risk males identified significant TPQ differences [48].

A significant problem for these case-control studies is in the selection of the control group. In many cases the high-risk subjects will have coexisting psychopathology and should ideally be contrasted with non-alcohol low-risk subjects who have psychiatric disorders that are likely to be found in alcoholics, as well as with subjects with no psychopathology. Therefore, some control subjects should have ASPD and anxiety and affective disorders. Differences could then be determined from diagnostic control variables rather than control groups and this would permit an assessment of personality traits that are related to alcoholism rather than other psychopathology such as ASPD or depression.

In summary, high-risk studies have consistently shown that children of alcoholics have an increased risk of alcoholism. There is a tendency for such risks to be associated with antisocial behaviour and hyperactivity. The lack of consistency of other personality measures might reflect the sampling, particularly if families with high rates of ASPD are excluded, and the fact that the control groups are often too pure.

Longitudinal studies

Major longitudinal studies began in the 1940s. They have a number of methodological problems including selection of delinquent 'high-risk individuals' samples, varying criteria for alcoholism, limited outcome measures which are sometimes only obtained via public records, and different control samples. There is also the possibility that the social and environmental antecedents influencing drinking behaviour when these cohorts were initially studied may be very different from ones currently operating. Nevertheless, these studies are important because unlike cross-sectional studies they allow some estimate of temporal precedence. Alcoholism may distort an individual's personality, his or her social stability and their recollection of relevant childhood variables, so that all retrospective impressions are suspect.

The most consistent personality finding from these studies is that antisocial behaviour is related to later alcoholism. The behaviour includes antisocial activity [8,49–52] aggressive and sadistic behaviour [49,50,53] and rebellion and hostility [50]. All the longitudinal studies which have looked for these behaviours have found higher rates among their alcoholic sample.

There is also reasonable agreement that a greater activity level may be a risk factor in alcoholism. Although this has been less sought after, the studies which have reported on it, reported more hyperactivity [49] and rapid tempo [50] in individuals who went on to be alcoholics. These prospective studies parallel the higher activity levels found in cross-sectional investigations[e.g. 6,7,38].

Less consistent is the relationship to negative emotionality usually found in cross-sectional studies. McCord and McCord [49] reported that alcoholics premorbidly were no more likely than non-alcoholics to manifest inferiority feelings, 'oral tendencies' or dependency. Jones [50] and Loper [54] reported that males were, if anything, premorbidly more self-confident and outgoing than their non-alcoholic peers. Jones [51] did note, however, that the women in her sample were premorbidly depressive and self-negating. Vaillant claims that there is no evidence that negative emotionality contributes to risk of alcoholism once other factors, particularly heredity, are allowed for [52].

Two methodological problems should be noted. First, most of the studies discussed are not in the strict sense prospective, in that the research was not specifically designed at the outset to investigate the relationship between personality and alcoholism. The McCord [49] study, for example, was centred on a study to attempt to prevent delinquency. The Robins [8] and Vaillant [52] studies were also not designed to look at personality predictors of later alcoholism. Second, the relationship between current behaviour and later alcoholism may not be consistent across developmental stages. For example, the period of late adolescence and early adulthood is associated with the highest prevalence of heavy alcohol use. The strength of the relationship between personality measured at this stage of life, and later alcoholism, may be very different from that found if personality were to be measured in early childhood or later adulthood. Bates and Labouvie [55] reported that none of the well-documented risk factors, including disinhibition and deviant coping, accessed at age 18 predicted alcohol problems in later adulthood. They concluded that the stability of risk factors and discontinuities in what constitutes risk in different life stages needs much more careful research.

In summary, longitudinal studies can report on the temporal relationship between personality and alcoholism. There is strong evidence that antisocial behaviour is related to later alcoholism, and moderate evidence that a greater activity level may be a risk factor. Much of the reported association between negative emotionality and alcoholism may be secondary to the effects of alcoholism. There may be a gender effect in that negative emotionality may predispose women to later alcoholism, but have little effect in men.

Genetic epidemiology

Another design which has a number of unique strengths is using samples of twin pairs. This not only allows estimates of the genetic influences of alcoholism risk to be considered, but also can study mechanisms by which such genetic influences could arise. As discussed earlier, one postulated mechanism is heritable differences in personality. Prescott *et al*. [56] reported that higher extraversion and interpersonal dependency predicted problem drinking, while higher neuroticism predicted problem drinking and alcohol dependency in female twin pairs. Somewhat surprisingly, high 'mastery' was also a significant predictor of alcohol dependence. Heath *et al*. [57] used a longitudinal twin pair design. In women, the strongest association with alcohol dependence was childhood conduct disorder (OR = 4.6) and there were also significant but weak associations with extraversion, neuroticism, social nonconformity, and low novelty seeking and high harm avoidance. In men, the association with conduct disorders was weaker (OR = 1.9) and there was no association with baseline extraversion or novelty seeking, but a stronger association with neuroticism. The authors concluded that a history of childhood conduct

disorder – which in their sample was strongly influenced by genetic factors – was the most important behavioural or personality measure in predicting future alcohol dependence, especially in women. EPQ traits (especially nonconformity [L] and to some extent neuroticism [N]) were modestly associated but TPQ traits were less so; only novelty seeking (NS) showed a modest association with a lifetime history of alcoholism.

Discussion

A number of significant findings have emerged from the studies reviewed. The first is that there is a clear association between antisocial behaviour and alcoholism. This association is found in clinical and community samples and in high-risk groups and it appears to predate the onset of alcoholism. In twin studies childhood conduct disorder is the most important personality factor predicting future alcohol dependence. There is a probable association between hyperactivity and alcoholism although how much this overlaps with antisocial behaviour is not clear.

There is also reasonable evidence that neuroticism and negative emotionality are associated with alcoholism in clinical populations. This has not been specifically studied in community samples, but proxy measures such as anxiety and depressive disorders have only very modestly increased risk ratios. Longitudinal studies suggest that much of the association is secondary to the effects of alcohol, although in women high negative emotionality may predate their alcoholism.

The fact that these two broad personality traits have been repeatedly found in alcoholics has led some researchers to postulate that there are two different routes to alcohol problems based on these traits, one via impulsivity and novelty seeking and another via neuroticism or negative emotionality. In the latter it is hypothesised that alcohol is used to moderate the experience of psychological distress, while in the former socialisation, including drinking behaviour, is compromised by possession of a difficult temperament. Perhaps the most refined hypothesis is Cloninger's Type I/Type II model [13]. In this model, the temperament measures of high novelty seeking (i.e. high impulsivity, exploratory behaviour, extravagance and disorderliness) and low harm avoidance (i.e. low worry, fear, shyness and fatigability) are associated with Type II alcoholism. Type II alcoholics, according to Cloninger, have an earlier onset of alcohol-related problems, more familial aggregation, less ability to abstain from alcohol, more frequent alcohol-related antisocial behaviour and little guilt or fear associated with drinking. In contrast, Type I alcoholics have low novelty seeking and high harm avoidance. They have a relatively late onset of drinking problems, experience guilt and fear in association with drinking and infrequently engage in alcohol-related antisocial conduct [10]. These subtypes have received support from some studies in that novelty seeking scores have been reported to be elevated in Type II versus Type I alcoholics [58,59]. The most convincing study related childhood personality traits to adult alcohol abuse in 243 Swedish adoptees [60]. Measures of novelty seeking, harm avoidance and reward dependence were rated retrospectively based on teacher reports and narrative summaries. In boys, low harm avoidance and high novelty seeking independently and additively predicted alcohol abuse by age 27, consistent with a Type II alcoholic subtype.

Similar subtypes such as Type B alcoholism [61] and early onset alcoholism [62] have been proposed. However, some recent studies have questioned the validity of the subtype model. Ohannessian and Hesselbrock [63] reported that the Type I/Type II pattern of clustering was evident in the offspring of non-alcoholic samples as well as alcoholic samples and suggested that these temperament typologies are not specific to alcoholics. Another study on an early onset alcoholic group reported Type I and Type II temperament typologies – a group that should primarily exhibit Type II characteristics according to Cloninger's model [64]. In addition, McGue *et al*. [65] suggested that individuals high in ***both*** negative emotionality and behavioural disinhibition are most at risk of alcoholism and proposed a continuum of risk with the most severe alcoholics being most likely to have high scores on both types of personality measures. They reported that severe alcoholics were not only characterised by early onset, high family loading, antisocial behaviour and substance abuse but were also significantly more deviant on all measures of negative emotionality and constraint than moderate alcoholics. Therefore, rather than there being two pathways via negative emotionality and disinhibition, they are summative and quantitative. Such individuals were also more likely to have an early onset of alcohol problems.

Case-control studies have also cast doubt about the validity of two personality subtypes. As noted previously only two out of nine studies reported significant TPQ score differences in high-risk versus low-risk males [48]. The fact that individuals with ASPD consistently score higher on measures of novelty seeking and impulsivity [66] has led some researchers to speculate that Type II alcoholism is an artefact of comorbid ASPD and the contradictory findings are related to the prevalence of ASPD in the population studied.

This leaves us with the overall impression that childhood antisocial behaviour is the most powerful, although still relatively modest, behavioural predictor of alcoholism and the behaviour most associated with alcohol dependence in adulthood. If we accept an association between antisocial behaviour and alcoholism are there

plausible aetiological mechanisms? Part of the reason for the revival of interest in personality and alcoholism was the hope that it would provide a mechanism by which genetic influences are passed on. So far the results are disappointing: although the fact that genetic influences are important in alcoholism is now well established [9], whether these powerful effects are significantly mediated by personality variables is doubtful. Genetic epidemiological studies suggest that conduct disorder has a significant but modest effect on later alcoholism, and that much of this effect is genetically influenced [57]. Other personality measures such as extraversion, neuroticism and novelty seeking have low odds ratios (less than 2) suggesting a weak association with alcohol risk. Heath *et al*. [57] concluded that much of the genetic variance in alcohol risk is not mediated through personality, sociodemographics or Axis I pathology but through other pathways which remain to be determined.

Sher and Trull [67] have postulated that deviance proneness may be one model relating alcoholism and personality. They suggest that the childhood temperament traits of impulsivity and disinhibition in transaction with ineffectual parental control lead to deficits in socialisation. These socialisation deficits are associated with a range of problem behaviours including poor academic performance, school failure, delinquent behaviour, deviant peers, and alcohol and substance abuse. This raises the question of why such effort is made to measure personality variables which may be very distal from alcohol involvement when other possibly more important variables, such as deviant peer groups and poor school achievement, are poorly studied. At the least, the latter should be prioritised since the search for personality variables may be more fruitful once the more proximal risk factors are better established.

Similarly, the model of pharmacological vulnerability linking alcoholism and personality is unconvincing. Although historical and anecdotal evidence suggest that some individuals are more sensitive to disinhibition by alcohol, empirical evidence for personality based individual differences in such effects is sparse [68]. Eysenck's work using alcohol to test the relationship between arousal and personality produced contradictory results [69]. The most intriguing findings are those showing that some individuals who are high on the traits of impulsivity and disinhibition may be more sensitive to the stress reducing properties of alcohol, especially on the cardiovascular system [14]. However, these results are not consistent [e.g. 70] and there is no evidence that they predict the development of alcohol problems. Schuckit and his colleagues have consistently shown that individual differences in ethanol reactivity are associated with later alcohol problems, but they have not been able to consistently relate these differences to personality variables [44].

A further issue is whether the probably modest relationship between personality (or behaviour) and alcoholism is specific. In other words, are the personalities of alcoholics different from non-alcoholics? Again, the evidence does not support this. The most consistent predisposing behaviour, antisociality, predisposes an individual to a number of other disorders including other substance abuse, ASPD and possibly psychopathology in general. For example, conduct disordered individuals appear to have higher rates of depression and anxiety, as well as ASPD and alcoholism, than nonconduct disordered individuals [71]. Furthermore, such behaviours are also associated with other health 'risk' behaviours such as unsafe sex and dangerous driving and inversely correlated with conventional behaviours such as school and church attendance.

Summary and conclusions

Interest in the relationship between alcoholism and personality may be entering another jaundiced era. The most consistent behaviour which predates and is associated with alcoholism is antisociality. Measures of impulsivity or novelty seeking appear to be less predictive when antisocial behaviour is a covariant, consistent with the hypothesis that much of the relationship between personality and drinking behaviour may be accounted for by ASPD [44,63,66].

What is the strength of this association? Most alcoholic patients do not have comorbid ASPD; in community samples rates vary from 12 to 17% [28] and even in inpatient samples, it is less than 50%. Antisocial behaviour also predisposes an individual to a wide range of other psychopathology including substance dependence, depression and anxiety.

Negative emotionality is also associated with alcohol dependence, much of this may be secondary to the effects of alcohol. The evidence that such traits predispose an individual to alcoholism is relatively inconsistent, but may be significant in women. While there is evidence for at least two subtypes of alcoholism including one where familial alcoholism density and antisocial behaviour may have a significant role, individuals vulnerable to severe alcoholism may be those with both high neuroticism/negative emotionality and high impulsivity/novelty seeking traits.

Personality variables explain only a small proportion of risk of alcohol dependence. Simply indexing trait differences between clinical alcoholics and control groups is redundant. Personality variables are probably only distally related to drinking behaviour and their measurement almost certainly affected by it. Research results appear to

be biased by rigid theoretical alliances, extreme samples, poor measurement and meagre attempts at replication.

In conclusion, there is no alcoholic personality or personality measures specific to vulnerability to alcohol dependence. At most, alcoholism shares with other psychopathology a higher proportion of individuals who had a difficult early life marked by antisocial behaviour and often proneness to negative emotionality, poorer educational achievement, deviant peers and general disadvantage. If personality is defined as including social development, behavioural pharmacology and social deviance then it may be relevant to the aetiology of alcoholism. If the definition of personality is confined to hypothetical, broad-based, normally distributed temperament dimensions, then it may be much less so.

Alcohol dependence is an extremely complex social behaviour whose natural history and patterns of comorbidity are only just beginning to be understood. Attempting to link this behaviour with theoretical, poorly validated models of personality when its relationship with simpler observable behaviour has been inadequately studied seems to be premature. Personality research may be better directed into investigations of ethanol reactivity, hyperactivity, stress and coping, social peer group affiliations, acquisition of attitudes to alcohol and continuity of drinking across major life transitions, than putative dimensions underlying adult personality.

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