

Of-often-used DSM diagnosis of alcohol dependence shows reliability

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Compared to other common psychiatric disorders, the diagnostic reliability of alcohol dependence (AD) as determined by the Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition (DSM-IV) is relatively high. However, when members of the general public are asked to report on past experiences or lifetime history (LTH) of psychiatric or substance use disorders, associations are often unreliable and underestimated. A new study looking at the reliability of, as well as the influence of genetic and environmental influences on, DSM-IV LTH-AD in a population-based sample has found that a diagnosis based upon a single diagnostic interview is reasonably reliable.

Results will be published in the September 2011 issue of *Alcoholism: Clinical & Experimental Research* and are currently available at Early View.

"People are inaccurate when interviewed about their history of psychiatric symptoms," observed Eivind Ystrom, a researcher at the Norwegian Institute of Public Health and corresponding author for the study. "The most obvious reason for this is that people just don't recall when prompted. Thus, by interviewing people several times about the same disorder it is possible to estimate to what extent people are inaccurate."

"This study is unique in that Ystrom and his colleagues report that certain variables, including a specific AD criterion, robustly predict the reliability of the diagnosis," said Alexis Edwards, a postdoctoral fellow

at the Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth University. "Obviously, all of the symptoms are, at some level, predictive of the disorder; but that some are more useful than others at identifying a reliable diagnosis is interesting."

The researchers examined a population-based sample of male twins in Virginia (n=4,203) who had been assessed for LTH-AD on two different occasions one year apart (i.e., each pair of twins was assessed twice, at about the same ages, one year apart). Logistic regression was used to identify clinical features that might predict a reliable diagnosis. Genetic and environmental influences were also examined.

"The first key finding was that men who are diagnosed with LTH-AD using a clinical interview tend to have many symptoms of AD, they have at some point in their life sought treatment for their AD, their period of life with AD lasted a long time, or they spent much time on obtaining [alcohol](#) or recovering from alcohol use," said Ystrom. "The second key finding was that, after taking into account that people are inaccurate when reporting psychiatric symptoms, the heritability of LTH-AD was estimated to be 71 percent. Or, put another way, 71 percent of the causes as to why some people in the general population become AD, while others do not, were genetic."

"This higher heritability of the LTH-AD phenotype, a bit higher than we might have expected, confirms the importance of genetic influences," added Edwards. "Furthermore, while the reliability of the diagnosis itself is moderate, results show that we can potentially increase our confidence in the diagnosis by taking into account a few specific variables."

"Since the study identifies which characteristics are associated with a reliable diagnosis," said Ystrom, "these characteristics can be used to enhance the reliability of single measures of LTH-AD. In addition, although psychometric theory states that the heritability should go up as

the diagnostic reliability goes up, this study describes the phenomenon empirically. Finally, by estimating the heritability of LTH-AD to 71 percent, the study moves AD into a class of disorders that are highly dependent on genes, such as schizophrenia or bipolar disorder."

Both Ystrom and Edwards see practical implications from these findings for various audiences.

"Researchers often want to know what characterizes people with a disorder," said Ystrom. "If the diagnoses of the cases in their sample are inaccurate, they will be less able to correctly describe the characteristics of the people with the disorder."

"Clearly clinicians would be interested in reliable diagnoses because of their goal of providing appropriate treatment for patients," said Edwards. "Clinicians need to be confident that a patient truly has a disorder before embarking on a treatment program, whether that involves counseling, pharmaceutical treatment, or something else."

"However, the finding that LTH-AD is a disorder which is to a great extent dependent on genes, is also important to the public," said Ystrom. "Some people might view AD purely as a matter of will. Since most people in the western world use alcohol regularly, but only a few become dependent on it, it is significant to know that much of the reason why this happens to people is because of individual genetic vulnerability. Genetic vulnerability is not a demerit." Edwards concurs. "Most people know someone who has struggled with alcohol problems, and this report underscores the fact that the disorder is very complicated, and is a function of both biology and the environment. While some of the nuances of the report might be too technical to be relevant to someone not involved in this research, the general findings are still of broad interest simply because AD affects so many people, directly or indirectly."

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