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A confirmatory factor analysis of the Observer Alexithymia Scale in treatment seeking alcohol-dependent patients

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Abstract

Confirmatory factor analyses evaluated the factorial validity of the Observer Alexithymia Scale (OAS) in an alcohol-dependent sample. Observation was conducted by clinical psychologists. All models exam-ined were rejected, given their poor fit. Given the

psychometric limitations of the OAS shown in thisstudy, the OAS may not be the most appropriate measure to use early in treatment among alcohol-dependent individuals.

Introduction

Alexithymia is characterised by difficulties identifying and describing feelings, a lack of imagination and an externally oriented thinking style (Sifneos, 1973). Approximately 45–67% of individuals with alcohol dependence also report alexithymia (Uzun et al., 2003; Thorberg et al., 2009). Furthermore, evidence suggests that individuals with alexithymia and alcohol dependence have a significantly younger age of onset, longer duration of abuse, stronger alcohol cravings, higher levels of dependence severity and more interpersonaldifficulties. This pattern of results suggests that those with alexithymia may be a very different group of people who have more severe alcohol problems than their non-alexithymic counterparts (Uzun et al., 2003; Thorberg et al., 2011a, b).

To date, the most commonly used approach to assess alexithymia in alcohol populations are self-report methods (Thorberg et al., 2009), but alternative forms of assessment including observation and clinician ratings are important as it is considered contradictory to ask people to judge a capacity they may lack (Lane et al., 1997). Yet, studies utilising observer scales in alcohol populations are scarce except for a recent study examining the reliability and concurrent validity of the Observer Alexithymia Scale (OAS; Haviland et al., 2000) in an alcoholdependent sample (see, Thorberg et al., 2010). The OAS (Haviland et al., 2000) is an observational measure to be completed by friends, relatives or clinicians. Research in nonclinical samples and a psychiatric sample found adequate reliability and validity (Haviland et al., 2000, 2001; Berthoz et al., 2005; Yao et al., 2005), whereas other research has not (Meganck et al., 2010). As those with alexithymia may find it difficult to self-report feelings and alcohol-dependent individuals exposed to the debilitating neurotoxic effects of alcohol may have impaired cognitive flexibility (Butler et al., 2008), utilising an observational measure of alexithymia may be even more important among these patients. The objective of this study was to explore the underlying factor structure of the OAS in an alcohol-dependent population. Based on the previous research, we hypothesised that the factor model with item parcels as reported by Haviland et al. (2000, 2001) would yield an acceptable fit, whereas the additional factor models tested would not.

Methods

Participants

The sample consisted of 192 (136 males) patients diagnosed with alcohol dependence with a mean age of 37.23 years (SD ¼ 11.42) in cognitive–behavioural treatment (CBT). A total of 72 patients (40.6%) were in a de facto relationship or married, 72 (37.4%) had never been married, 40 (20.8%) were separated or divorced and 2 (1%) widowed. Exclusion criteria were having a major co-morbid psychiatric disorder, organic brain syndrome or heavy sedation.

Measures

The OAS is a 33-item alexithymia measure rated by professionals, relatives or friends (Haviland et al., 2000). The scale assesses a total alexithymia score and a five-factor structure measuring several aspects of alexithymia: distant (DIS), uninsightful (UNS), somatising (SOM), humourless (HUM) and rigid (RI). Each item is rated on a 4-point Likert scale from "Never, not at all like the person" to "All of the time, completely like the person. Scores range from 0 to 99 with a higher score indicating more severe observer alexithymia. Five subscale scores are also measured (DIS, UNS, SOM, HUM and RI)." Examples of items include "Likes to be close to people" (DIS), "Has strong emotions that he or she cannot explain" (UNS), "Talks a lot about physical pain or discomfort" (SOM), "Has a good sense of humour" (HUM) and "Is stiff; rigid" (RI). The OAS has acceptable internal consistency (0.84), test–retest reliability (0.65), scale homogeneity and validity (Haviland et al., 2000; Thorberg et al., 2010).

Procedure

Ethics approval was granted by institutional ethics committees. Participants gave informed consent and were told that participation was entirely voluntary and anonymity was assured. After at least 3 weeks of detoxification, participants were observed by a clinical psychologist who completed the OAS after the third treatment session. This method was considered ecologically valid, given the typical length of CBT and the need for a valid assessment of alexithymia early in treatment. Only 3% (N ¼ 6) of those offered a programme declined participation.

Data analysis methods

Confirmatory factor analysis (CFA) was undertaken using structural equation modelling (Amos 16.0) to evaluate the stability of the factor structure of the OAS. All factor models were fitted using maximum likelihood estimation and included the following:

(1) using randomly generated item parcels (see Haviland et al., 2000, 2001) that included a second-order five-factor model where all five first-order subscales were collectively represented by a single second-order dimension (alexithymia);

(2) using all 33 original items where a first-order five-factor configuration was used;

(3) a second-order model where all the five first-order factors were combined into a single second-order factor (alexithymia) and

(4) an atheoretical model using a single factor including all of the 33 items.

The following standards were used to assess model adequacy: the normed ($\chi 2/df$) where values <3 represent a good fit, the Akaike's Information Criterion (AIC) where a lower score for both criteria indicates a better model fit (Tanaka, 1993), the Comparative Fit Index (CFI; Bentler, 1990) where values of >0.90 indicate a good fit and the root mean square error of approximation (RMSEA) where values ranging from 0.06 to 0.08 suggest an acceptable fit (Hu & Bentler, 1999).

Results

Means and SD

The OAS total mean score and subscale scores including standard deviations are shown in Table I.

Confirmatory factor analyses

The original second-order five-factor model using item parcels was tested and yielded a poor fit (see Table II). Second, the first-order five-factor model was tested where individual items were fitted, which also demonstrated an unacceptable fit. Third, the second-order five-factor model was tested and showed a poor fit to the data. Both of these models used items instead of item parcels. Finally, an atheoretical model was examined, which also yielded a poor fit. As shown in Tables III and IV, most factor loadings were significant.

Discussion

This is the first study to investigate the factorial validity of the OAS administered by clinical psychologists in a sample of patients with alcohol dependence. The findings did not provide

support for any of the tested factor models. This is in line with a recent study by Meganck et al. (2010) that reported a poor fit for the 33-item second-order five-factor model including the subscales, but they still found that the original model provided an excellent fit in the analogue and clinical sample applying Haviland et al.'s (2000, 2001) approach to relax the model using six parcel-level error covariances and one first-order factor-level disturbance covariance. By contrast, our current findings yielded a poor fit to the data for the secondorder five-factor model with item parcels. Although Haviland et al. did not provide a theoretical rationale for relaxing the model, we used modification indices to conduct a post hoc analysis (model relaxation), which did not significantly improve data fit. As Meganck et al. (2010) discuss, the parcelling approach is highly problematic in this context because it masks problems at item level.

As the atheoretical one-factor model also yielded a poor fit, this raises fundamental issues about the factorial validity of the OAS in an alcohol-dependent sample. We were unable to find a stable underlying structure in any model, and as such, our findings are also in contrast to those of CFA in the normative and student samples (Haviland et al., 2000, 2001; Berthoz et al., 2005; Yao et al., 2005). One explanation may be that the OAS was used pragmatically and completed after the third CBT session, which may have limited "in-depth" knowledge about the patient. Perhaps, future studies could vary the time point in treatment at which the OAS ratings are obtained or it may be important to validate clinician ratings against those of other parties who know their targets well. A potential limitation of this study was the predominantly male sample; however, across the broader OAS literature, only some research has found significant gender differences with higher "distant" subscores among men and higher "somatising" subscores among women (e.g. Yao et al., 2005; Meganck et al., 2010). Yet, as the majority of individuals with alcohol dependence tend to be men, these findings are likely to be representative of treatment-seeking alcohol-dependent patients.

With respect to clinical implications, these findings highlight the importance of using an observer measure that accurately captures the alexithymia construct among alcoholdependent individuals. At present, observer measures of alexithymia that can be used early in treatment are needed. Perhaps, future alcohol research may benefit from exploring the Toronto Structured Interview for Alexithymia (Bagby et al., 2006) in alcohol-dependent populations as an alternative to the OAS.

In conclusion, we report the first study to investigate four factorial models of the OAS in alcohol-dependent outpatients. Given the psychometric limitations of the OAS shown in this study, the OAS may not be the most appropriate measure to use early in treatment among alcohol-dependent individuals.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

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