

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

## Psychiatry Research

journal homepage: [www.elsevier.com/locate/psychres](http://www.elsevier.com/locate/psychres)

## The Beliefs about Voices Questionnaire – Revised: A factor structure from 450 participants



Clara Strauss<sup>a,b,\*</sup>, Kenneth Hugdahl<sup>c,d,e</sup>, Flavie Waters<sup>f,g</sup>, Mark Hayward<sup>a,b</sup>, Josef J. Bless<sup>c,e</sup>, Liv E. Falkenberg<sup>c,e</sup>, Bodil Kråkvik<sup>h</sup>, Arve Egil Asbjørnsen<sup>c</sup>, Erik Johnsen<sup>d,e,i</sup>, Igne Sinkeviciute<sup>d,e,j</sup>, Rune A. Kroken<sup>d,e,i</sup>, Else-Marie Løberg<sup>d,e,i,k,l</sup>, Neil Thomas<sup>m,n</sup>

<sup>a</sup> School of Psychology, University of Sussex, Brighton BN1 9QH, UK

<sup>b</sup> Sussex Partnership NHS Foundation Trust, Hove, UK

<sup>c</sup> Department of Biological and Medical Psychology, University of Bergen, Norway

<sup>d</sup> Division of Psychiatry, Haukeland University Hospital, Bergen, Norway

<sup>e</sup> NORMENT Center of Excellence, University of Oslo, Norway

<sup>f</sup> Clinical Research Centre, North Metro Health Service, Graylands Hospital, Perth, Australia

<sup>g</sup> School of Psychiatry and Clinical Neurosciences, University of Western Australia, Australia

<sup>h</sup> Nidaros District Psychiatric Center, Department of Research and Development, St. Olavs University Hospital, Trondheim, Norway

<sup>i</sup> Department of Clinical Medicine (KI), University of Bergen, Norway

<sup>j</sup> Centre for Research and Education in Forensic Psychiatry, Haukeland University Hospital, Bergen, Norway

<sup>k</sup> Department of Addiction Medicine, Haukeland University Hospital, Bergen, Norway

<sup>l</sup> Department of Clinical Psychology, University of Bergen, Norway

<sup>m</sup> Centre for Mental Health, Swinburne University of Technology, Melbourne, Australia

<sup>n</sup> Voices Clinic, Monash Alfred Psychiatry Research Centre, Alfred Hospital and Monash University Central Clinical School, Melbourne, Australia

### ARTICLE INFO

#### Keywords:

Hallucinations

Hearing voices

BAVQ

Beliefs about voices

Omnipotence

Malevolence

### ABSTRACT

Hallucinated voices are common across psychiatric and non-clinical groups. The predominant cognitive theory about the impact of voices posits that beliefs about voice power ('Omnipotence') and voice intent ('Malevolence'/'Benevolence') play a key role in determining emotional and behavioral reactions. The revised Beliefs about Voices Questionnaire (BAVQ-R) was designed to assess these constructs, together with two styles of responding (Engagement and Resistance). The BAVQ-R is widely used in clinical and research settings, yet it has not received validation of its constructs and factor structure. This study examined the factor structure of the BAVQ-R by combining datasets from five study centers, comprising 450 participants (belief constructs) and 269 participants (response styles), and using confirmatory and exploratory factor analysis. Findings failed to support a three factor belief model, instead showing a two-factor structure ('Persecutory beliefs' combining Omnipotence and Malevolence constructs, and a Benevolent construct). Emotional and behavioral items did not separate. Overall, results showed that (i) a two-factor model of beliefs (Persecutory and Benevolent beliefs) provides a better fit to the data than a three-factor model, and (ii) emotional and behavioral modes of responding items should not be separated. Theoretical implications of this finding are discussed in relation to the research and therapy.

### 1. Introduction

Hearing voices ('Auditory Verbal Hallucinations') is commonly reported by people diagnosed with psychiatric conditions such as schizophrenia (Slade and Bentall, 1988), mood disorders (Toh et al., 2015), borderline personality disorder (Slotema et al., 2012), and post-traumatic stress disorder (Butler et al., 1996), as well as in the general (non-clinical) population (Honig et al., 1998). The featural properties of

voice hearing (e.g. form, content, impact) appears similar across population groups (Daalman et al., 2011; Slotema et al., 2012), although the emotional and behavioral responses to such experiences vary considerably (Chadwick and Birchwood, 1994; Honig et al., 1998).

Voice content (especially negative content) might not be the only source of individual differences in emotional and behavioral responses to voices (van der Gaag et al., 2003). In their influential cognitive theory, Chadwick and Birchwood (1994) suggested that *beliefs* held

\* Corresponding author at: School of Psychology, University of Sussex, Brighton BN1 9QH, UK.  
E-mail address: [c.y.strauss@sussex.ac.uk](mailto:c.y.strauss@sussex.ac.uk) (C. Strauss).

<http://dx.doi.org/10.1016/j.psychres.2017.09.089>

Received 24 February 2017; Received in revised form 31 August 2017; Accepted 30 September 2017

Available online 05 October 2017

0165-1781/ © 2017 The Authors. Published by Elsevier Ireland Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

about the purpose and intent of voices play a critical role in determining how people respond and cope with these experiences. In particular, they suggested that beliefs about voice omnipotence (i.e. the perceived power of voices) and voice intent (i.e. perceived malevolent or benevolent intentions of voices) can explain the way that voices are responded to, acted on, and complied with (Birchwood and Chadwick (1997), Chadwick and Birchwood (1994)). Specifically, they specified two broad forms of emotional and behavioral responding; Engagement and Resistance. Whilst some people willingly and actively engage with voices, others attempt to resist voices through arguing, shouting or non-compliance (Chadwick and Birchwood, 1994). Evidence presented in support shows that engagement and resistance appear to have differential associations with distress. Engagement is associated with reduced levels of depression and anxiety whilst resistance is positively associated with these variables (Chadwick et al., 2000).

The 30-item Beliefs about Voices Questionnaire (BAVQ) (Chadwick and Birchwood, 1995) and the subsequent 35-item revised version (BAVQ-R) (Chadwick et al., 2000) were designed to measure these key aspects of the voice hearing experience. The BAVQ-R has three belief subscales: one measuring beliefs about Omnipotence, and two intended to measure beliefs about voice intent – Malevolent beliefs (beliefs about negative intent) and Benevolent beliefs (beliefs about positive intent). There are two further subscales designed to measure Engagement and Resistance response styles, each further subdivided into emotional and behavioral modes of expression.

A factor analysis for the original 30-item BAVQ scale was conducted with 60 participants (Chadwick and Birchwood, 1995), but the factor structure of the 35-item BAVQ-R has not yet been examined despite its wide usage in research and clinical settings (Peters et al., 2012; Shawyer et al., 2012; Thomas et al., 2015). If we are to further understand individual differences in emotional and behavioral responding to voices, and the mediating role of beliefs, empirical evidence is needed to confirm the separation and distinctiveness of the constructs being measured. Furthermore, a better understanding of the factor structure of the BAVQ-R is crucial in order to advance scientific enquiry in the field and design more effective therapies. Clearly delineated constructs can be used to refine psychological interventions to specifically target these constructs and to seek out mechanisms that maintain distress.

The aim of the paper was to establish, for the first time, the factor structure of the BAVQ-R using confirmatory factor analysis and principal component analysis in a large sample comprising data from 450 participants from five study centers.

## 2. Method

### 2.1. Design

The study pooled anonymized and de-identified BAVQ-R data from eight independent studies from five study centers providing an adequately sized sample for factor analysis. Each individual study had received ethical approval from their respective ethics committee. Pooling of data from the different studies into the current sample was done by the second author (KH at the University of Bergen, Norway), and was subsequently approved by the Regional Ethical Committee of Western Norway (REK-Vest #2016/576).

### 2.2. Participants

Table 1 gives detailed information about the participants in this study. There was a combined total of 450 participants contributing data for the belief subscales, with a mean age of 36.88 years ( $sd = 11.74$ ) and 46% were female. There were 269 participants contributing data

for the response subscales. Participants were resident in the UK, Norway, Australia, the USA, Canada or New Zealand. Diagnosis was not an eligibility criterion given the transdiagnostic nature of voice-hearing and the similarity in form, content and characteristics across diagnostic groups (Daalman et al., 2011).

### 2.3. Measures

#### 2.3.1. Beliefs about Voices Questionnaire – Revised (BAVQ-R) (Chadwick et al., 2000)

The BAVQ-R is a 35 item measure with items rated on a four-point scale from ‘disagree’ (= 0) to ‘strongly agree’ (= 3). Items 1–18 are intended to measure Omnipotence (6 items e.g. “my voice is very powerful”), Malevolence (6 items e.g. “my voice is evil”) and Benevolence (6 items e.g. “my voice wants to protect me”). Items 19–35 are intended to measure responses to voices: Emotional Resistance (4 items e.g. “my voice frightens me”); Behavioral Resistance (5 items e.g. “I tell it to leave me alone”); Emotional Engagement (4 items e.g. “my voice reassures me”) and Behavioral Engagement (4 items e.g. “I listen to it because I want to”). In the original psychometric paper, subscale totals are presented. However, we have chosen to present subscale mean scores (0–3) to allow greater ease of comparison between subscales given that different subscales have different numbers of items.

### 2.4. Data analyses

Data were available from all 450 participants for the three belief subscales (Omnipotence, Malevolence and Benevolence), and from 269 participants for the two response subscales (Resistance and Engagement). We tested the data set for suitability for factor analyses by doing a Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy test. The KMO returned a value of 0.89, showing our sample is adequate for factor analyses. Separate analyses were conducted with the belief items (analysis 1) and the response items (analysis 2) using normalized varimax rotation of the extracted factors and applying Monte Carlo PCA (parallel criteria analysis) to determine the critical eigenvalue for significant factors (Watkins, 2000). We used AMOS 23.0.0 (build 1607) to conduct confirmatory factor analyses (CFA) to test the models derived from the theory and achieved by the principal component analyses.

For CFA, rules of thumb suggest that the comparative fit index (CFI) should be greater than or close to 0.95 to indicate acceptable fit (Hu and Bentler, 1999). A root mean square error of approximation (RMSEA) value of 0.05 or less is considered a good fit, .08 indicates acceptable fit, and 0.10 or more a poor fit (Browne and Cudeck, 1993). Good fit is also indicated by relative chi-square values ( $\chi^2/df$ ) of less than or equal to 2 and acceptable fit is indicated by values between 2 and 3 (Schermelleh-Engel et al., 2003), although this method lacks robustness to e.g. large sample sizes, non-normality and large correlations between variables (Kline, 2011). The CFA analyses were performed with Maximum Likelihood estimation. We performed Bollen-Stine bootstrapping to control for non-normality in the data and used differences in  $\chi^2$  together with the associated difference in degrees of freedom to compare the different models. This is a recommended approach as the compared models are nested.

Finally, derived factors were explored to ascertain differences between women and men (*t*-tests), relationship with age (Pearson's correlation), differences between study centers (one-way ANOVA with Bonferroni corrected pairwise comparisons) and differences between studies recruiting only participants with a confirmed diagnosis of a schizophrenia spectrum condition and those studies recruiting mixed diagnostic groups (one-way ANOVA with Bonferroni corrected pairwise comparisons).

Download English Version:

<https://daneshyari.com/en/article/4933007>

Download Persian Version:

<https://daneshyari.com/article/4933007>

[Daneshyari.com](https://daneshyari.com)