

# Beliefs About Voices Questionnaire (BAVQ): Spanish translation and psychometric properties

R. Robles García, F. Páez Agraz, O. Zúñiga Partida, A. Rizo Méndez and E. Hernández Villanueva

<sup>a</sup> Instituto Jalisciense de Salud Mental. <sup>b</sup> Instituto Tecnológico de Estudios Superiores de Occidente

## Estudio de traducción al español y propiedades psicométricas del cuestionario de creencias acerca de las voces (BAVQ)

### Summary

**Introduction.** *The objective of this study was to translate into Spanish and to determine the inner reliability and consistency of the Beliefs About Voices Questionnaire (BAVQ) in a sample of Mexican patients diagnosed of schizophrenia and/or schizoaffective disorder under the DSM-IV criteria.*

**Method.** *In order to do this, a diagnosis confirmation based on the semistructured interview format SCID was applied. The Spanish version of the BAVQ and Beck's anxiety and depression inventories were also implemented with a total of 55 persons, including males and females between 18 and 65 years old consecutively referred by the Mental Health Care Centers belonging to Mental Health Institute of Jalisco which forms a part of the governmental Health Care System in Mexico.*

**Results.** *The inner consistency indicators from the Spanish version ranged from 0.74 to 0.88, similar to those reported in the original version reviewed. The total score in the Malevolence and Resistance subscales were positively correlated and were statistically significant with depressive symptoms evaluated with the Beck Depression Inventory (BDI) ( $r = 0.29, p = 0.04$ ;  $r = 0.35, p = 0.01$ , respectively), as well as the «omnipotence» subscale with the presence of anxiety symptoms according to the Beck Anxiety Inventory (BAI) ( $r = 0.35; p = 0.01$ ). The factorial structure was similar to that reported for the original version of the instrument reviewed.*

**Conclusions.** *The Spanish version of the BAVQ is a valid and reliable instrument to evaluate beliefs about identity, power, purpose, and consequences of obeying auditory hallucinations or «voices» in the Spanish speaking population.*

**Key words:** Schizophrenia. Cognition. Hallucinations. Evaluation. BAVQ.

### Resumen

**Introducción.** *El objetivo del presente estudio fue traducir al español y determinar la consistencia interna y validez de constructo del Cuestionario de creencias acerca de las voces (BAVQ) en una muestra de pacientes mexicanos con diagnóstico de esquizofrenia o trastorno esquizoafectivo de acuerdo a los criterios del DSM-IV.*

**Método.** *Para ello se confirmó el diagnóstico con base en la entrevista semiestructurada SCID y se aplicó la versión en español del BAVQ y los inventarios de ansiedad y depresión de Beck a un total de 55 personas de ambos sexos y entre 18 y 65 años, referidas de forma consecutiva por los Centros de Atención Integral en Salud Mental del Instituto Jalisciense de Salud Mental, Secretaría de Salud, Jalisco.*

**Resultados.** *Los índices de consistencia interna de la versión en español fueron de 0,74 a 0,88 y resultaron similares a los reportados para la versión original revisada. El total de las subescalas de malevolencia y resistencia se correlacionaron de forma positiva y estadísticamente significativa con la sintomatología depresiva evaluada con el Inventario de Depresión de Beck (BDI) ( $r = 0,29, p = 0,04$ ;  $r = 0,35, p = 0,01$ , respectivamente), al igual que la «omnipotencia» con la presencia de sintomatología ansiosa según el Inventario de Ansiedad de Beck (BAI) ( $r = 0,35; p = 0,01$ ), y la estructura factorial fue similar a la reportada para la versión original y revisada del instrumento.*

**Conclusiones.** *La versión en castellano del BAVQ es un instrumento válido y fiable para evaluar las creencias acerca de la identidad, poder, propósito y consecuencias por obedecer de las alucinaciones auditivas o «voces» en población de habla hispana.*

**Palabras clave:** Esquizofrenia. Cognición. Alucinaciones. Evaluación. BAVQ.

### Correspondence:

Rebeca Robles García  
Departamento de Investigación  
Subdirección de Calidad y Desarrollo Institucional  
Instituto Jalisciense de Salud Mental  
Av. Zoquipan, 1000-A. Col. Zoquipan  
Zapopan, Jalisco 45170. México  
E-mail: reberobles@hotmail.com

### INTRODUCTION

The term schizophrenia indicates a serious and prolonged mental disorder that is manifested by a wide range of thought, language and behavior disorders, whose essential positive symptoms are delusions and hallucinations, the auditory ones standing out among the latter<sup>1</sup>.

It has recently been suggested that reactions to auditory hallucinations or «voices» are mediated by beliefs on

identity, power, purpose and consequences of obeying them or not<sup>2,3</sup>, so that the patients may be favored by cognitive interventions<sup>4</sup>.

Thus, from this perspective, the emotional and behavior responses which a patient has in regards to his/her hallucinations are not only determined by their form and content but also by the meaning given to them.

The Beliefs About Voices Questionnaire (BAVQ) is considered to be the only instrument aimed at obtaining essential data on the cognitive formulation of the voices<sup>5</sup>.

In this sense, this study aims to both translate and determine the BAVQ psychometric properties (internal consistency, construct validity) in a Mexican sample of schizophrenia patients.

## METHODS

### Subjects

The study sample was made up of subjects from both genders, between 18 and 65 years of age, with chronic auditory hallucinations (in the last two years) who fulfilled the American Psychiatry Association diagnostic criteria for schizophrenia or schizoaffective disorder<sup>6</sup>. They were consecutively referred from the out-patient and hospitalization services of the Integral Mental Health Care Centers of the Jalisco Secretary of Health Instituto Jaliscoense of Mental Health.

### Variables and instruments

The sociodemographic and clinical variables subject to study include: gender, schooling, civil status, occupation, disease course time, disease onset age, relapse number, time from last relapse. These were evaluated by interview and clinical record.

The psychiatric diagnosis was established based on the DMS-IV sections corresponding to the Structured Clinical Interview for Mental Disorders (SCID). The SCID is a semi-structured interview designed by Spitzer and Williams (1983) to evaluate the presence of Axis I mental disorders according to the American Psychiatry Association diagnostic criteria<sup>7</sup>, that has adequate validity and reliability.

Beliefs in «the voices» is a self-reporting measurement on the way in which the persons understand and respond to the voices. It is made up of four scales, with six items to evaluate «malevolence», six for «benevolence», eight for «engagement», nine for «resistance» and one to evaluate the power of the voices or «omnipotence». Chadwick and Birchwood (1995), authors of the original and revised English version demonstrated that it is an instrument characterized by high temporal stability (test-retest coefficient: 0.89), high internal consistency (Cronbach's Alpha: 0.85) and construct validity.

The depressive and anxious symptoms were evaluated based on Beck's depression and anxiety inventories. The

Beck depression inventory (BDI) was designed to evaluate the intensity of depressive symptoms that an individual has. The instrument is self-applicable and has 21 items, each one with four statements that describe the severity spectrum of the symptom and behavioral category evaluated. In every case, the first statement has an 0 value, that indicates absence of the symptom, the second 1 point, the third 2 points and the fourth 3 points, that makes up the maximum severity of the symptom. The instrument has been shown to have acceptable validity and reliability for its use in clinical practice and investigation and the Spanish version used in this study has behaved similarly to the original version<sup>9-11</sup>.

On its part, Beck's Anxiety Inventory (BAI) was designed to evaluate anxious symptom intensity present in an individual. The BAI is a self-applicable scale that is made up of 21 items that determine the severity that symptomatic and behavior categories evaluated have. Evaluation of symptom severity is done with a 0 to 3 point scale, in which 0 indicates absence of symptom and 3 its maximum severity. The studies of the BAI psychometric properties in clinical and normal adolescent and adult population have demonstrated that the scale is characterized by high internal consistency (alphas greater than 0.90), moderate divergent validity (correlations less than 0.60) and adequate convergent validity (correlations greater than 0.50)<sup>12-16</sup>. The factorial analyses have obtained four main factors, that have been called: subjective, neurophysiological, autonomic and panic<sup>17-18</sup>. The BAI Spanish version is considered valid and reliable to evaluate the Mexican population<sup>19</sup>.

### Procedure and statistical analysis

First of all, translation to Spanish and back translation to English was performed to resolve divergences between two independent translators with total command of both languages, one of whom is a psychologist. Then an experienced psychiatrist was charged with a second review to correct the terms that he considered difficult to understand for a low school level Mexican population. Afterwards, this corrected version was applied to five persons with schizophrenia to carry out the final corrections and obtain a final version in Spanish. Then one of two previously trained second year psychiatry residents applied the SCID interview to verify the psychiatric diagnosis of schizophrenia or schizoaffective disorder of all the patients who accepted to participate voluntarily in the study. Those who fulfilled the inclusion criteria completed the final Spanish version of the BAVQ, BDI and BAI. The subjects who heard more than one voice filled out the BAVQ ONLY for the dominant voice. Finally, the sample description was performed using mean and standard deviations for continuous variables and frequencies for the categorical ones. Internal consistency of the BAVQ was calculated by means of Cronbach's Alpha, the construct validity was calculated based on Pearson's correlations between BAVQ, BDI and

**TABLE 1. Sociodemographic and clinical characteristics of the sample**

Gender male	n = 38 (52%)
Age	33.42 ± 11.41 (15-63)
Schooling	7.57 ± 3.72 (0-16)
Civil status: simple	n = 42 (76.4%)
Diagnosis	
Malevolence schizophrenia	n = 31 (56.3%)
Schizoaffective disorder	n = 12 (21.8%)
Catatonic, disorganized, undifferentiated	10.9% (6), 9.1% (5), 1.9% (1)
Onset age	22.77 ± 7.39 (12-47)
Evolution time	11.26 ± 8.78 (1-33)
Relapses	5.17 ± 4.07 (0-20)
Voice scale (BAVQ)	
Malevolence subscale	12.20 ± 5.12 (6-24)
Benevolence subscale	12.92 ± 5.67 (6-24)
Omnipotence subscale	3.13 ± 0.96 (1-4)
Resistance subscale	19.37 ± 6.53 (10-35)
Engagement subscale	15.41 ± 6.68 (8-31)
Depression (BDI)	16.46 ± 8.66 (2-39)
Anxiety (BAI)	27.97 ± 4.80 (11-40)

BAI, with a factorial analysis of main components with varimax rotation for four of the BAVQ scales (the omnipotence one was not analyzed since it only includes one item).

## RESULTS

The total sample was made up of 55 persons table 1 shows the sociodemographic and clinical variables subjected to study as well as the average score and standard deviation of the different BAVQ subscales and of the BAI and BDI.

### Internal consistency

Table 2 shows the Cronbach Alpha coefficients for each one of the subscales both in the original BAVQ revised English version as well as that translated to Spanish. As can be observed, the Spanish version internal consistency indexes go from 0.74 to 0.88. They are similar to those reported for the original revised version (that includes 6 items for the decrease of omnipotence, on the contrary to the original one).

### Construct validity

The total for the «Malevolence» and «Resistance» subscales correlated positively and with statistical significance with the depressive symptoms reported in the BDI ( $r = 0.29$ ,  $p = 0.04$ ;  $r = 0.35$ ,  $p = 0.01$ , respectively). On its part, «omnipotence» of «the voices» related positively and with statistical significance with the presence of anxious symptoms according to the BAI ( $r = 0.35$ ;  $p = 0.01$ ). Finally, table 3 shows the rotated matrix that indicates the factorial structure of the BAVQ Spanish version, product of the forced solution to four factors. The variance percentage explained for all the factors was 69.62%, and for each one was benevolence: 22.24%; malevolence: 21.59%; omnipotence: 11.83%; engagement: 9.7%, and resistance: 4.25%.

## CONCLUSIONS

In general terms, the BAVQ Spanish version showed reliability and validity data in the Mexican population. Its Cronbach alpha internal consistency indexes were high and frankly similar to those reported for the original english version. As was hypothesized, according to the previous hypothesis and findings of Chadwick and Richwood<sup>20</sup>, the anxious symptom was related positively, moderately and with statistical significance with the belief of «omnipotence» of hallucinations and depression with the grade of «malevolence» and «resistance» of it. High relationships were not expected since the depressive and anxious symptoms are different constructs (although related) from the beliefs on the voices. In addition, the large majority of items that correspond to each one of the BAVQ Spanish version subscales were grouped into a single factor, as occurs in the instrument's original and revised version.

Thus, it is possible to conclude that the BAVQ Spanish version is a valid and reliable instrument to evaluate beliefs on identity, power, purpose and consequences of obeying the auditory hallucinations or «voices» in Spanish speaking persons. Nonetheless, future studies on temporal stability, predictive validity and sensitivity to changes of the measurement are desirable in order to determine its utility to evaluate the effectiveness of therapeutic interventions for these patients. This implies certain methodological barriers, and it is aimed to resolve at least one of them in the instrument's revised version<sup>20</sup>,

**TABLE 2. Cronbach Alpha coefficients of BAVQ original version and Spanish version**

	<i>Malevolence</i>		<i>Benevolence</i>		<i>Omnipotence</i>		<i>Resistance</i>		<i>Engagement</i>	
	<i>Spanish</i>	<i>Original R</i>	<i>Spanish</i>	<i>Original R</i>	<i>Spanish</i>	<i>Original R</i>	<i>Spanish</i>	<i>Original R</i>	<i>Spanish</i>	<i>Original R</i>
Item number	6		6		1		9		8	
Cronbach $\alpha$	0.87	0.84	0.88	0.88	0.74 (6 item version)		0.89	0.85	0.90	0.87

**TABLE 3. Factorial loads of the BAVQ-Spanish items\***

BAVQ items	Malevolence (B)	Benevolence (M)	Engagement (I)	Resistance (R)
A2 (B)	0.817			
A4 (B)	0.740			
A6 (B)	0.715			
A8 (B)	0.314		0.531	
A10 (B)	0.799			
A12 (B)	0.468			
A1 (M)		0.488		
A3 (M)		0.566		
A5 (M)		0.698		
A7 (M)		0.655		
A9 (M)		0.559		
A11 (M)		0.631		
A15 (R)				0.499
A17 (R)				0.646
A18 (R)		0.610		0.436
A20 (R)				0.785
A22 (R)		0.849		
A23 (R)		0.760		0.394
A24 (R)		0.758		0.298
A25 (R)		0.767		
A26 (R)		0.626		
A14 (I)	0.738		0.318	
A16 (I)	0.663		0.423	
A19 (I)			0.583	
A21 (I)	0.682		0.316	
A27 (I)			0.548	
A28 (I)			0.598	
A29 (I)			0.683	
A30 (I)	0.668		0.298	
A13 omnipotence			0.618	

\*Rotated matrix product of factorial analysis with forced solution to four factors.

which, as that of the present study, dimensionally describes each item, on a four point Lickert type scale. The original version did so categorically (with «yes or no»).

It can be stated that Chadwick and Birchwood<sup>20</sup> have already suggested the inclusion of more items for the evaluation of «omnipotence». As previously mentioned, the original BAVQ only contained one item to evaluate this cognitive dimension, and the revised version includes, namely: *a)* my voices seem to know all about me; *b)* my voices govern my life; *c)* my voices make me do things that I really do not want to do; *d)* my voices would harm me or kill me if I disobey them or resist them, and *e)* I cannot control my voices. Unfortunately, the present study did not include these items, so that the suggestion of their psychometric properties in our population is obviated.

Finally it should be mentioned that the heuristic value of the present study will be determined by its probable contribution for the study and understanding of the role that cognitions or beliefs play in severe and persistent mental disease in the Spanish speaking population. Hav-

ing a valid and reliable measurements of the constructs subject to study is undoubtedly the first step for its adequate understanding.

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