

Evaluation of auditory hallucinations: the PSYRATS scale

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La evaluación de las alucinaciones auditivas: la escala PSYRATS

Summary

Objective. Translate and adapt the PSYRATS scale for evaluation of auditory hallucinations to Spanish and study the psychometric behavior.

Method. After being translated into Spanish, the scale was applied to a sample of 80 patients. All had a history of auditory hallucinations, 71 with Schizophrenia and 9 with schizoaffective disorder according to DSM-IV diagnostic criteria. Demographic and clinical data were collected by a semi-structured interview, tape recording the sessions for every patient. For the reliability study, 27 patients of the sample were evaluated independently by the first four authors of this paper. For the study of concurrent validity the results of this scale were compared with those of the Krawiecka scale in 60 patients of the sample.

Results. In the Spanish version, the 11 items were conserved with slight modifications in two of them. The scale showed high reliability with coefficients in the 11 items higher than 0.85. The concurrent validity showed high association between the hallucination item of the Krawiecka scale and the PSYRATS. In the factorial analysis four factors that explained 62% of the variance were obtained.

Conclusions. The Spanish version of the PSYRATS (for hallucinations) is, to our knowledge, the first scale adapted to Spanish for the study of auditory hallucinations, showing excellent psychometric properties.

Key words: Auditory hallucinations. Schizophrenia. Scale. PSYRATS. Reliability. Validity.

Resumen

Objetivo. Traducir, adaptar al castellano y estudiar el comportamiento psicométrico de la escala PSYRATS para la evaluación de las alucinaciones auditivas.

Método. Después de adaptar al castellano se aplica dicha escala a una muestra de 80 pacientes. Todos ellos con historia de alucinaciones auditivas, 71 con el diagnóstico de esquizofrenia y nueve con T. esquizoafectivo según criterios DSM-IV. Se recogieron datos demográficos y clínicos a través de una entrevista semiestructurada, grabándose a cada paciente en cinta magnetofónica. Para el estudio de la fiabilidad interexaminadores 27 pacientes de la muestra fueron evaluados de forma independiente por los cuatro primeros autores de este artículo. Para el estudio de la validez concurrente se comparó los resultados de esta escala con los de la escala Krawiecka en 60 pacientes de la muestra.

Resultados. En la versión castellana se conservaron los 11 ítems con ligeras modificaciones en dos de ellos. La escala mostró una alta fiabilidad interexaminadores con coeficientes de fiabilidad en los 11 ítems mayores de 0,85. La validez concurrente mostró asimismo una alta asociación entre el ítem de alucinaciones de la escala Krawiecka y la PSYRATS. En el análisis factorial se obtuvieron cuatro factores que explicaron el 62% de la varianza.

Conclusiones. La versión castellana de la PSYRATS es la primera escala adaptada al castellano para el estudio de las alucinaciones auditivas, mostrando excelentes propiedades psicométricas.

Palabras clave: Alucinaciones auditivas. Esquizofrenia. Escalas. PSYRATS. Fiabilidad. Validez.

INTRODUCTION

Hallucinations make up one of the central themes in the history of psychopathology¹, auditory hallucinations

being one of the most frequent and characteristic symptoms of patients with schizophrenia². In recent years, there has been growing interest in auditory hallucinations for several reasons. In the first place, it has been possible to «capture» this symptom with neuroimaging techniques^{3,4}. In the second place, several scales have been designed to carefully measure the phenomenological characteristics of these hallucinations^{5,8}. In the third place, new models have been proposed to understand its origin, models based on neural networks and neurodevelopment⁹, on neuropsychological approaches^{10,11} or on social functionality¹². Finally, interesting studies begin to appear on the

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possibility of a specific cognitive therapy for patients with auditory hallucinations^{13,14}. At present, auditory hallucinations are considered as the paradigm of positive symptoms. In general, they are usually assessed as the presence or absence of the symptom whether measured by global scales or according to schizophrenia diagnostic criteria (DSM-IV). However, some proposals defend the theory that hallucinations, as deliriums, should not be conceived as unidimensional and discreet phenomena but rather as points of a functional continuum that goes from normal to clearly psychotic behavior. This consideration, the dimensional one, is based on the data of studies in general population. These have found variable frequency of hallucinations in subjects without psychiatric diagnosis. Thus, Ohayon et al¹⁵ find an 0.6% prevalence while this value increases up to 25% in other studies¹⁶.

The possibility of auditory hallucinations in the general population is in agreement with the investigators who defend the hypothesis that these hallucinations are an intrinsic phenomenon of the human being and that they should not be understood as a pathological phenomenon¹⁷.

Several instruments of compared psychometric quality are being used to specifically assess auditory hallucinations, studying these symptoms much more carefully than that done by the global scales of psychosis. In the following, we are going to review the general characteristics of these scales and then we will focus on the Spanish version of PSYRATS (appendix D).

REVIEW OF THE INSTRUMENTS TO ASSESS HALLUCINATIONS

The characteristics of the principal scales to measure auditory hallucinations are seen in table 1.

In the year 1973, Lowe¹⁸ made the first attempt to specifically assess hallucinations with the scale to measure phenomenological characteristics of hallucinations. This is a semistructured interview divided into various phases that looks for data that discriminates hallucination types and characteristics. The advantages of this instrument can be summarized in the fact that it was developed for differential diagnosis and is thus adequate not only for schizophrenia but also for other hallucinatory psychosis. Another advantage is that it assesses hallucinations in all its modalities. Among its disadvantages is the fact that this interview is too long and that it has not been studied psychometrically.

Years later, Miller, O'Connor and Di Pasquale¹⁹ added several items to the Lower scale and developed the scale for estimation of the hallucinations phenomenology. The items added were related with the disposition of the patients towards their hallucinations. The clinical relevance of this instrument arises, according to the authors, because the previous attitude can help to predict response to treatment. In spite of its theoretical interest in the clinical symptoms and signs, this instrument has been hardly used, both in the practice as well as in later investigation.

Junginger and Frame²⁰ constructed a self-applied scale, the scale for frequency and phenomenology of verbal hallucinations. It assesses different characteristics of auditory hallucinations, trying to give a global idea of the severity of the hallucinations with items such as frequency, intensity, clarity and reality of the hallucinations. Its principal advantage is that it is a rapid method of assessment and that it gives us an idea of the improvement of the hallucinations with time. However, it evaluates fewer parameters of these symptoms if we compare it with other instruments.

The scale used most for epidemiological investigations in the general population is probably the Launay and Slade (LSHS) Scale of hallucinations²¹. This scale has been changed since its original version (1981). Bentall and Slade²² changed the score to an ordinal system and reformulated the questions from negative to positive. It is a self-applied scale made up of 12 items, starting with the hypothesis that hallucinatory experiences form a continuum with the normal psychological function. The advantage of this instrument is that it supposes a simple method to measure prevalence of abnormalities in perception in the general population. Its greatest disadvantage is that there is a lack of comparative studies on psychometric validation and relevance of its data in the clinical aspects.

Hustig and Hafner²³ formulated the scale for topographic measurement of voices. It was designed as a clinically useful instrument to measure auditory hallucinations and deliriums. It is made up of 13 items that are collected in a self-applied way, measuring frequency, intensity, clarity, anxiety and intrusivity. It is adequate to study the long term effects of treatment and could be used as coadjuvant of cognitive psychotherapy. It also permits the study of the relationship between hallucinations, deliriums and mood. There is no evidence, however, of its psychometric adaptation.

Another one of the specific hallucination instruments is that proposed by Oulis et al²⁴. These authors elaborated the scale for estimation of the clinical characteristics of auditory hallucinations. It is made up of 25 items examined through a semistructured interview. Even though it supplies a detailed description of the auditory hallucinations, it is oriented exclusively towards patients with schizophrenia and schizophreniform disorder. We know of no validation studies for this scale.

Carter et al²⁵ elaborated an instrument to evaluate the auditory form of hallucinatory experiences in the completest way possible. The MUPS (*The Mental Health Research Institute Unusual Perceptions Scale*), is a scale that includes a semistructured interview with 365 questions divided into 7 areas. The principal sections are: 1) physical characteristics; 2) personal characteristics; 3) relationship with voices; 4) form and content of the voices; 5) cognitive processes; 6) perceptions of the experience of hearing voices, and 7) psychosocial events related with the voices. Undoubtedly, this scale is completest instrument to evaluate auditory hallucinations. It could be useful for those clinicians interested in qualitative in-

Appendix I. PSYRATS scale

Auditory hallucinations

Frequency of appearance

0. Voices not present or present less than once a week.
1. Voices that occur at least once a week.
2. Voices that occur at least once a day.
3. Voices that occur at least once per hour.
4. Voices that continuously occur or almost continuously, i.e. they stop only seconds or minutes.

Duration

0. Voices not present.
1. Voices that last a few seconds, fleeting.
2. Voices that last some minutes.
3. Voices that last at least 1 hour.
4. Voices that last hours.

Location

0. Voices not present.
1. Voices that are only heard within the head.
2. Voices outside of the head, but specific to hearing or to the head. They can also be heard inside the head.
3. Voices that are heard as within or near the ears and outside the head, distant from the ears.
4. Voices that are heard only outside the head.

Intensity (volume)

0. Voices not present
1. Lower or more silent than our own voice, whisper.
2. Similar to our own voice.
3. Stronger than our own voice.
4. Extremely strong, shouting.

Degree of belief on the origin of the voices

0. Voices not present
1. Voices generated only internally and related with oneself.
2. Some belief that the voices are originated by external causes.
3. Strong belief that the voices arise from external causes.
4. The voices are only due to external causes (100% belief).

Amount of negative content of the voices

0. Non-existence of negative content of the voices.
1. Occasional unpleasant content (<10%).
2. The minor part of the content of the voices is unpleasant or negative (<50%).
3. Most of the content of the voices is unpleasant or negative (>50%).
4. All the content of the voices is unpleasant or negative.

Frequency of negative content of the voices

0. Not unpleasant or negative.
1. Some degree of unpleasant or negative content, but not related with oneself or family, i.e. swearing or comments not aimed at oneself: «the milkman is ugly».
2. Personal insults, comments on behavior, i.e.: «you shouldn't do or say that».

3. Personal insults related with personal self-evaluation, i.e. you are lazy, you are bad, perverted.
4. Personal threats: i.e. threats of harming of him/her or his/her family, orders to injury oneself or others.

Frequency with which they cause anxiety

0. The voices do not cause anxiety.
1. They only cause anxiety occasionally.
2. They only cause anxiety sometimes.
3. They cause anxiety most of the times.
4. They always cause anxiety.

Intensity of anxiety

0. The voices do not cause anxiety.
1. The voices cause little anxiety.
2. The voices cause a moderate degree of anxiety.
3. The voices cause much anxiety, although the subject can remain calm.
4. The voices cause extreme anxiety, the subject feeling very bad.

Repercussion on daily life caused by the voices

0. There is no repercussion, the subject can maintain social and family relationships.
1. The voices cause minimum repercussion in the subject's life: i.e. interference in concentration although he is capable of maintaining daily activity: have social and family relationships and be capable of maintaining independence without support.
2. The voices cause moderate repercussion, causing some alteration in the daily activity and in the family or social activities. The patient is not hospitalized although he can live in psychiatric half-way houses or receive additional help in the development of daily skills.
3. The voices cause severe repercussion, so that hospitalization is necessary. The patient is capable of maintaining some daily activities, taking care of him or herself and relating in the hospital. They could also be in halfway houses, but experience important disorders in terms of activities, development of skills and/or relationships.
4. The voices cause a complete alteration in the daily life, requiring hospitalization. The patient is incapable of maintaining any daily activity or of having relationships. Self-cares are also severely altered.

Control on the voices

0. The patients believe that they can control the voices, attracting or dissipating them (rejecting them).
1. The subject believes that he/she can have some control over the voices in most of the times.
2. Control of the voices half of the time approximately.
3. The subject believes that he/she has control over the voices, but only occasionally, most of the time the subject experiences voices that cannot be controlled.
4. The subject has no control over the voices and cannot reject or attract them.

TABLE 1. Principal scales for the evaluation of hallucinations

<i>Author/year</i>	<i>N.º ítems</i>	<i>Study population</i>	<i>Comments</i>
Lowe, 1973	12	Patients with some type of psychosis	Semistructured interview on phenomenological characteristics of the hallucinations
Junginger, 1985	10	Patients with some type of psychiatric disorder with hallucinations	Self-applied scale that measures the severity of the hallucinations
Launay (LHSH), 1985	12	Patients with some type of psychiatric disorder and healthy population	Dimensional scale. It scores true or false to the vulnerability of the hallucination
Hustig, 1990	13	Schizophrenic patients with chronic auditory hallucinations	Self-applied scale that scores with ordinal numbers (0 to 5). Adequate for the evaluation of long term treatment
Miller, 1993	23	Psychiatric patients with hallucinations	Semistructured interview of the hallucinations. It relates previous dispositions towards hallucinations with response to the treatment
Oulis, 1995	25	Psychotic patients with auditory hallucinations	Semistructured interview that evaluates 25 different characteristics of auditory hallucinations
Carter (MUPS), 1995	365	Patients with some type of psychiatric disorder with auditory hallucinations	Scale developed for the determination and characterization of the auditory hallucinations
Chen, 1996	11	Patients with some type of psychiatric disorder with auditory hallucinations	Multidimensional scale. Adequate for biological investigation
Chouinard (RSPS), 1999	18	Psychotic patients	Dimensional scale that measures perceptual disorders (illusions and hallucinations)
Bunney (SIAPA), 1999	15	Schizophrenic patients and healthy population	Structured interview to measure perceptual anomalies and to differentiate them from hallucinations
Haddock (PSYRATS), 1999	11	Psychotic patients	Dimensional scale, approached for cognitive treatment
Chadwick (BAVQ-R), 2000	35	Psychiatric patients with chronic auditory hallucinations	Scale on beliefs, emotions and behaviour towards the auditory hallucinations

vestigation. Its principal problem is that its excessive extension makes it difficult to use in both the clinical practice as well as in investigation.

More recently, two authors, Chen and Berríos⁵ proposed a multidimensional model of 11 items on auditory hallucinations. The authors began with the theoretical construct that one cerebral zone corresponds to each symptom. This model is very useful in biological investigation if we assume that the structure of the symptom is probably isomorphic with the cerebral region in which the signal is generated.

Bunney et al⁷ designed the SIAPA (*Structured Interview for Assessing Perceptual Anomalies*). The scale tries to measure the perceptual anomalies and to distinguish phenomenological differences between them. The axis of the theoretical base proposed by these authors is found in the classical hypothesis of the deficit in the attentional filter of schizophrenic patients. It is one of the few investigation studies that estimate the proportion of perceptual anomalies in schizophrenic patients, comparing them with healthy individuals. No psychometric studies have been made as of yet with this scale.

Chouinard et al²⁶ made a scale to evaluate psychotic symptoms, the RSPS (*The Rating Scale for Psychotic Symptoms*), based on neurobiological concepts related with award and attention. It is divided into 3 parts: perception symptoms (illusions and deliriums), distraction symptoms (passivity and catatonic experiences) and deliriums. Seven illusions and 11 hallucinations are asses-

sed. We know of no psychometric studies on this scale.

Chadwick et al²⁷ elaborated an instrument that was useful in the cognitive treatment of hallucinations, the BAVQ-R (*The revised Beliefs About Voices Questionnaire*). It is a self-applied questionnaire on beliefs, emotions and behaviors on auditory hallucinations. This scale is made up of 35 items divided into 5 subscales related with several beliefs: malevolence, benevolence, omnipotence, resistance and obedience. As the most significant advantages, we emphasize that it can facilitate communication between patients, investigators and therapists and that the nature of its questions makes it understandable and easy to fill out. In addition, it is useful as an aid for cognitive therapy in psychotic patients. Its principal limitation is that it does not assess frequency, clarity, characteristics, or content of the voices, focusing, perhaps excessively, on the individual beliefs of the patients.

From our point of view, the instrument that evaluates the clinical characteristics of auditory hallucinations most adequately is the *Scale to measure dimensions of hallucinations* (PSYRATS). Haddock, McCarron, Tarrier and Faragher⁸ created this scale as an adequate instrument to measure the dimensions of hallucinations in an easy and understandable way to administer. It is an 11 item scale, each one of which is scored with ordinal numbers (from 0 to 5). The authors elaborated this instrument together with a 6 item delirium scale, in order to assess their dimensionality. Adequate psychometric

data have been communicated in regards to the concurrent validity with the KGV and interrater reliability⁸. This instrument is suitable, not only because of its easy management, but also because its variations in scores could be reflecting treatment results, and this would serve to optimize it according to the each patient's needs.

Of all the instruments mentioned, only general scales of assessment of psychotic symptoms are translated and adapted to Spanish and we do not have any knowledge that any adaptation to Spanish has been made for some of the specific scales reviewed herein. This present study aims to validate the Spanish version of the Hallucinations Rating Scale (PSYRATS).

METHOD

Sample

The demographic and clinical characteristics of the patients are shown in [table 2](#).

The sample was made up of 80 patients, 55 of whom were men and 25 women, whose ages ranged from 18 to 65 years (mean: 37.7). All the patients had suffered or presently reported auditory hallucinations and all complied with the DSM-IV criteria for the diagnosis of psychosis: 71 schizophrenia and 9 schizoaffective disorder. All of them were under treatment with antipsychotics at the time of evaluation and came to the psychiatric visit in different health care centers of the number 4 health care area of Valencia. All the patients were asked for their informed consent to participate in the investigation.

Exclusion criteria established were thought incoherence and/or incapacity for basic understanding of the questions to be formulated.

Of a cohort of 80 patients, 27 were selected randomly to perform interrater reliability, there being no significant differences in the demographic and clinical characteristics between this subgroup and the rest of the sample. Concurrent validity was done in a subsample of 60 patients.

Procedure

In the first place, the English version of the PSYRATS subscale was translated. To do so, informed consent was

TABLE 2. Sociodemographic and clinical characteristics of the sample (n = 80)

	Mean (N)	Standard deviation (%)
Age	37.7	10.8
Age at onset	24.6	8.4
Gender		
Man	55	68.8
Woman	25	31.3
DSM-IV diagnosis		
Schizophrenia	71	88.8
Schizoaffective disorder	9	11.2

requested from the first author (G. Haddock). Once this permission was obtained, the initial version was made after a double translation. To assess the understanding of the Spanish version, it was initially applied to a group of 8 patients. The final version was elaborated on the basis of the problems found in understanding the questions.

Before using the scale, all of the patients underwent a semistructured interview in which clinical, demographical data and those related to treatment were gathered. Before administering the scale, the patients were also asked to spontaneously describe the contents of the voices as well as the emotions they provoked. After, they were asked the questions related to the PSYRATS subscale.

All of this part of the interview (free discussion and PSYRATS subscale) was recorded on magnetophonic recording tapes for all the patients. These recordings made it possible to discuss the doubtful cases, also facilitating the possibility of a qualitative analysis of the discussion of the interviewed subjects.

To analyze inter-rater reliability, a subpopulation of 27 patients was chosen and they were assessed independently by the first four authors. The reliability model considered is based on the Cronbach's alpha statistics.

To estimate concurrent validity, the PSYRATS scale scores were compared with the Spanish version of the Krawiecka scale²⁸, following the same procedure as the authors of the original version, and using the Spearman correlation coefficient.

A factorial analysis was performed on the items that made up the scale in order to identify their underlying factors, and to obtain a more reduced dimensionality model. The factor extraction method was performed using the principal components, and the selection criterion was that the values were greater than the unit. Finally, a varimax rotation of the factors extracted was considered.

The statistical analysis was performed within the SPSS program (V. 10.0).

RESULTS

Inter-rater reliability

The results of the inter-related reliability analysis appear in [table 3](#). As can be observed in that table, the reliability coefficients between the 4 raters for each one of the items was greater than 0.8, which is normally considered optimal.

Concurrent validity

Using the global scores of the Krawiecka scale and the PSYRATS, the correlation coefficient (Spearman) between both is 0.51 (significance 0.0001). The correlation coefficient item by item and degree of significance are shown in [table 4](#). As can be seen in that table, all the items of the PSYRATS correlate very significantly with the Krawiecka items that assess positive symptoms.

TABLE 3. Analysis of interrater reliability of the PSYRA scale (Spanish version) based on the Cronbach's alpha model

Ítem	Interrater differences		
	R ⁴	F	P
Frequency	0.869	0.03	0.992
Duration	0.903	0.05	0.986
Location	0.940	2.90	0.040
Intensity	0.903	0.72	0.543
Belief	0.952	2.09	0.108
Negative content	0.866	1.73	0.167
Negative frequency	0.864	1.45	0.234
Frequency of anxiety	0.943	0.63	0.596
Intensity of anxiety	0.923	0.59	0.622
Repercussion	0.921	2.85	0.04
Degree of control	0.889	0.14	0.934

Factorial analysis: dimensions in hallucinations

The results of the factorial analysis appear in table 5. Of the total, 3 factors present an eigenvalue superior to 1 and the fourth presents an eigenvalue of 0.885. The 4 factors account for 62% of the total variance, which is an acceptable percentage.

Factor 1 explains 29.2% of the total variance and would include items 1, 2, 6, 7, 8, 9. (frequency, duration, amount of negative content, frequency of negative content, frequency of anxiety and intensity of anxiety). This factor groups aspects referring to intensity of the hallucinatory phenomenon and its emotional experience.

Factor 2 accounts for 13.5% of the total variance and would include, essentially, item 11 (degree of control), although intensity of the anxiety, which also appears in the first factor, is added, to a small degree.

Factor 3 accounts for 10.1% of the total variance, and would be related, above all, with item 3 (location of the hallucinations) and secondarily with item 5 (degree of belief).

Finally, factor 4 would account for 9.3% of the variance and would be exclusively associated with item 10 (degree of repercussion).

DISCUSSION

The results obtained in reliability and validity guarantee that the version of this instrument adequately assesses the characteristics of auditory hallucinations as well as the changes produced with treatment. The psychometric properties of the PSYRATS of this Spanish adaptation are comparable to those of the English version⁸.

In relationship with *inter-rater reliability*, the first thing that must be mentioned is that the original version was performed by Haddock et al with a sample of 6 patients evaluated simultaneously by 6 raters. In our study, 27 patients were evaluated by 4 raters. In any event, this study improves, if anything, the coefficients obtained in the original version of this scale, only differing in the items with lower scores. Our results show a slightly lower coefficient in the items that refer to frequency (general and negative content), while in the version of Haddock et al, the items obtaining lower rates are «repercussion in daily life» and «degree of control». The lower score in the frequency items could be related with the difficulties that some patients show when they have to exactly state the frequency (in percentages) of the hallucinations, perhaps because they are more accustomed to responding in a generalized way (for example, much, little, normal), which could make the opinion of the interviewer more important in these questions.

In that referring to the concurrent validity, in the English version, the correlation between the item referring to auditory hallucinations in the Krawiecka score and the total score of the PSYRATS is significant, although less than that which we have obtained ($r=0.32$, $p=0.03$). Perhaps what is most interesting in this section in our results is its high significance, not only with the Krawiecka item of hallucinations of (which was to be expected), but also with the item of the deliriums. This reflects the difficulty of dissociating auditory hallucinations from

TABLE 4. Spearman coefficient of correlation between the items of the PSYRATS scale and that of Krawiecka (n = 60)

	Depression	Anxiety	Flattening	Retard.	Delirium	Hallucination	Incoherence	Poverty
Frequency	0.13	0.05	0.07	0.12	0.59**	0.91**	0.06	0.04
Duration	0.15	0.06	0.06	0.11	0.62**	0.92**	0.08	0.02
Location	0.19	0.12	0.05	0.13	0.5**	0.91**	0.03	-0.04
Intensity	0.15	0.02	0.01	0.11	0.60**	0.91**	0.06	-0.05
Belief	0.15	0.07	0.09	0.13	0.65**	0.91**	0.05	-0.04
Negative content	0.20	0.14	-0.01	0.06	0.56**	0.84**	0.05	0.02
Negative frequency	0.23	0.14	-0.04	0.07	0.46**	0.82**	-0.01	-0.01
Frequency of anxiety	0.26	0.23	-0.03	0.11	0.46**	0.80**	0.03	0.03
Intensity of anxiety	0.26	0.24	-0.01	0.13	0.42*	0.77**	0.02	0.09
Repercussion	0.17	0.11	0.02	0.15	0.57*	0.93**	0.10	0.01
Control	0.25	0.09	0.09	0.13	0.56**	0.87**	0.02	-0.04

* Significant correlation at 0.05. ** Significant correlation at 0.01.

TABLE 5. Factorial analysis of the PSYRATS scale (Spanish version). Factor-item correlation matrices

Item	Factors			
	1	2	3	4
Frequency	0.559	—	—	—
Duration	0.590	—	—	—
Location	—	—	0.812	—
Intensity	—	—	—	—
Belief	—	—	0.632	—
Negative content	0.842	—	—	—
Negative frequency	0.826	—	—	—
Frequency distress	0.661	—	—	—
Intensity distress	0.564	0.589	—	—
Repercussion	—	—	—	0.885
Degree of control	—	0.833	—	—
Cumulative % of variance	29.2	42.7	52.8	62.1

delusions in schizophrenic patients, on the contrary to that which occurs with hallucinations secondary to other diseases.

In regards to the results obtained with the performance of factorial analysis, our data differ somewhat from those obtained in the English study (table 6). Haddock et al find three factors that account for 57.4% of the variance. The first factor groups items 6, 7, 8, and 9 (degree and frequency of negative content and degree and frequency of anxiety) which the authors consider emotional items. The second factor, formed by items 1, 2, 3, and 4 (frequency, duration, location and intensity) account for 18.2% of the variance and the authors group it under the name of items of physical characteristics. The third factor is formed by items 3, 5, 10 and 11 (location, belief, degree of repercussion and degree of control) which, according to the

TABLE 6. Factorial analysis of PSYRATS scale (English version). Factors-items correlation matrices. Haddock et al⁸

Item	Factors		
	1	2	3
Frequency	—	0.532	—
Duration	—	0.777	—
Location	—	0.476	0.477
Intensity	—	0.754	—
Belief	—	—	0.750
Negative content	0.870	—	—
Negative frequency	0.725	—	—
Frequency distress	0.885	—	—
Intensity distress	0.770	—	—
Repercussion	—	—	0.529
Degree of control	—	—	0.669
Cumulative % of variance	25.7	43.9	57.4

creators of this scale, could be included as cognitive interpretation factor. These three factors are not confirmed in our study. However, if we stick to the maximum scores, the first factor that groups emotional items appears clearly identified in the factorial analysis that we have performed. The other two factors, physical characteristics and cognitive interpretation, are not identified with our data. These differences can be related with cultural differences in the way of experiencing the hallucinations²⁹ or in their cognitive account. It is possible that they simply reflect the heterogeneity of a complex psychopathological phenomenon such as auditory hallucinations.

In summary, the version of the PSYRATS scale that we present here is the first instrument in Spanish for the specific study of auditory hallucinations, showing an excellent psychometric behavior.

ACKNOWLEDGEMENTS

We wish to thank Luis Prieto and Juan Luis Gómez for their advice and suggestions in the reading of the draft of this article.

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