Spanish adaptation and validation of the situational feature recognition test 2 (SFRT-2) in patients with schizophrenia and healthy controls

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ABSTRACT

The main purpose of the present study was to adapt and validate the social perception measure "Situational Feature Recognition Test 2″ (SFRT-2) in Spanish psychiatric and non-psychiatric population. One hundred and one patients with schizophrenia and 100 healthy controls (HC) were assessed. Test's reliability was studied by Cronbach's alpha coefficients. Concurrent validity was assessed using Spearman's correlations. Discriminant validity was studied by comparing schizophrenia and HC groups by means of the ROC curve analysis. Internal consistency indexes of the test ranged from alpha = 0.66 to alpha = 0.90 in both groups. The SFRT-2 scores correlated with scores obtained in other social cognition measures such as Theory of Mind. The ROC curve analysis showed that the composite score including both actions and goals scores of the SFRT-2 discriminate well between patients and HC (AUC = 0.81). The Spanish adaptation and validation of the SFRT-2 showed good psychometric properties in both patients with schizophrenia and HC. To our knowledge, this is the first adaptation and validation of an existing social perception measure in native Spanish-speaking patients with schizophrenia. Results further support the use of the SFRT-2 as social perception measure in clinical practice and research.

1. Introduction

Social cognition refers to "those psychological processes that are involved in the perception, encoding, storage, retrieval and regulation of information about other people and ourselves" (Green et al., 2015). Social cognition has become a major focus of attention in the study of cognitive impairment in patients with schizophrenia As is well known, patients with schizophrenia suffer from cognitive alterations that affect many cognitive domains such as processing speed, memory, executive functions or attention (Fatouros-Bergman et al., 2014; Heinrichs and Zakzanis, 1998; Keefe and Harvey, 2012; Schaefer et al., 2013). However, it is only in the last two decades that social cognition in schizophrenia has attracted the interest of researchers (Pinkham, 2014). Both neuro and social cognition have been related to functional outcome in patients with schizophrenia and they have been demonstrated to be linked to community functioning, social behaviour, social problem solving or social skills (Fett et al., 2011; Keefe and Harvey, 2012). In fact, social cognition appears to be related to functional outcomes in a stronger way than neurocognition (Fett et al., 2011).

One of the greatest drawbacks when studying social cognition impairment in patients with schizophrenia is the lack of standardization and psychometric validation of social cognitive measures (Green et al., 2008; Pinkham et al., 2013; Savla et al., 2012). Moreover, some practices such as using social cognition measures without adapting and validating them on patients with schizophrenia might compromise the assessment and findings obtained when studying social cognition in psychopathology. Consequently, some initiatives such as the Social Cognition Psychometric Evaluation (SCOPE) study have been developed to address these obstacles, trying to achieve a consensus among experts in the field (Pinkham et al., 2013). In addition, due to the fact that social cognitive measures are generally designed for native speakers of English, Spanish adaptations and validations of these instruments are still lacking. Given the complexity of a psychological construct such as social cognition, this situation might lead to many difficulties and errors when using these measures with native speakers of Spanish. Thus, it is important to address cultural differences that may affect the comprehension of the task and consequently, the subject's performance in it, especially when adapting social cognition measures (Hambleton and Patsula, 1998).

It has been proposed that social cognition can be understood and assessed as formed by four main domains: a) theory of mind; b) social perception; c) attributional style; and, d) emotion processing (Pinkham, 2014). Although these four subdomains are usually separately described in psychiatric research, the boundaries between them are not always clear, and some domains such as social perception, emotion processing and Theory of Mind are often interrelated, leading to a possible overlap between these components (Grant et al., 2017; Green et al., 2008). As shown in a recent meta-analysis, social perception and Theory of Mind present the greatest differences when comparing social cognition performance between patients with schizophrenia and HC (Savla et al., 2012). However, despite the well described alterations in social perception and Theory of Mind in schizophrenia, some domains such as social perception need further research, as it has been less studied than others. Especially, social perception has been highly related to social knowledge, since the two concepts make reference to a person's ability to identify and be aware of the roles, rules and goals that are present in a social context or situation (Green et al., 2008; Savla et al., 2012). Both domains usually overlap, and some authors have considered social knowledge to be a component of social perception (McCleery et al., 2014). In addition, and along with Theory of Mind, social perception has been proven to be especially related to functioning in patients with schizophrenia (Fett et al., 2011), emphasizing the importance of this social cognition domain in this pathology.

As far as the authors are aware, there is only one assessment tool available to assess the social perception domain for Spanish speakers [The Social Perception Scale (SPS), (García et al., 2003)]. However, this instrument has been designed to assess social perception changes after a specific rehabilitation program of this domain, and therefore its use is limited. This lack of social perception measures available in Spanish points to the need for instruments that have been adapted and validated for the assessment of this domain in the native speakers of Spanish. The Situational Feature Recognition Test (SFRT) (Corrigan and Green, 1993; Corrigan et al., 1996) is a well-known social perception task designed for patients with schizophrenia. Although it has been used with English-speaking pathological and non-pathological populations (Gutiérrez Ruiz, 2013; Savla et al., 2012), this test has not yet been adapted and validated in Spanish. In addition, the SCOPE study has not assessed the psychometric properties of the SFRT-2, because this test was not selected as the final social perception measure included in the project. In fact, the social perception measure selected by the SCOPE showed less consistent psychometric properties than the other social cognition measures and was removed from further consideration, leaving the social perception domain unrepresented. This, added to the lack of studies assessing the psychometric properties of the SFRT-2 in other languages or cultures than English, reinforces the necessity of translating and validating this test into other languages. The SFRT-2 presents different familiar or non-familiar social situations along with a list of related and non-related actions and a list of related and non-related goals for each situation. Actions' list presents actions that might or might not be carried out in the given situation, whereas goals' list presents possible or not possible goals that people try to achieve in the given situation (see Fig. 1 for a sample item). The aim of this study was to adapt and validate the SFRT by using a sample of both native Spanish-speaking patients with schizophrenia and healthy controls (HC). The reliability of this Spanish adaptation for use with both pathological and non-pathological samples will be examined and the concurrent validity will be studied in the schizophrenia group. The discriminant validity of the adapted version when comparing patients with schizophrenia and HC was also assessed.

2. Methods

2.1. Participants

One hundred and one native Spanish-speaking patients with

schizophrenia were recruited from the Osakidetza Public Mental Health Services in Bizkaia (Spain). Patients were involved in a project which assessed the efficacy of the REHACOP cognitive rehabilitation program for psychosis (Peña et al., 2016) and were assessed with an exhaustive neuropsychological battery, including measures of social cognition. For the purpose of this study, only those scores obtained before the intervention were used. Patients were diagnosed with schizophrenia based on the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (American Psychiatric Association, 2000), using the Structured Clinical Interview for DSM-IV (SCID-I) (First et al., 1997) and excluded in case of: 1) having evidence of alcohol or drug abuse in the previous 30 days; 2) having a previous episode of loss of consciousness; 3) mental retardation; 4) substance dependence; or 5) having any relevant neurological or medical condition. Twenty eight were women and 73 were men, ranging in age from 19 to 65 years ($M = 39.66$; SD = 9.74) and with a mean of 10.02 years of education. In addition, 100 native Spanish-speaking HC were recruited by word of mouth, with ages ranging from 16 to 80 years old ($M = 37.82$; SD = 17.68) and a mean of 14.56 years of education. For the purposes previously mentioned, HC were assessed only by using the SFRT. However, one participant did not complete one of the situations and 10 HC declined having their personal data reported, and were therefore excluded from the statistical analyses. The investigation was carried out in accordance with the latest version of the Declaration of Helsinki. The study design was reviewed and approved by the Ethics Committee at the Health Department of the Basque Mental Health System in Spain and the Ethics Committee of the University of Deusto. Participants gave their informed consent before taking part in the study and after the nature of the procedures had been fully explained.

2.2. Procedure

The SFRT version 2 (SFRT-2) (Corrigan et al., 1996) was designed to assess the capability of patients with schizophrenia to identify a situation's features. In contrast to the first version of the SFRT (Corrigan and Green, 1993), the SFRT-2 manipulates familiarity of social situations and includes both familiar and unfamiliar situations. For each of the situations, one list of concrete (actions) and one list of abstract (goals) features are presented (see supplementary material in order to access the complete test). This assessment tool consists of nine situations (five familiar and four unfamiliar) with 14 options for related or non-related actions and goals (six correct responses and eight distractor items for each feature). The participant is given a description of a specific situation using as few words as possible (usually no more than four words) and a list of possible options for related actions and goals. Once the situation has been read and understood, the participant is asked to indicate and mark the actions or goals that are usually associated with the situation in their opinion. Each option list presents both situation related (hits in case of being selected by the participant) and nonrelated (false positives in case of being selected by the participant) options. False positives presence might indicate that participants are attributing features not generally considered as characteristic of a specific situation and so, they present difficulties identifying features of social situations. Before going ahead with the nine situations, participant is asked to perform a practice example (see Fig 1 and supplementary material). The psychometric properties of the original version (English) of the SFRT-2 have shown to have high internal consistency indexes for both patients with schizophrenia and HC. In addition, internal consistency was shown not to be affected by the educational level of the participants (Corrigan et al., 1996).

In order to adapt and validate the SFRT-2 for use with the native speakers of Spanish, the English version of the test was forward and backward translated into Spanish. In addition, one of the situations, as well as the corresponding actions and goals, were modified to take into account the country's culture, habits and traditions. The situation