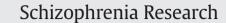
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# Validity and reliability of the Spanish version of the Personal and Social Performance scale in adolescents with schizophrenia



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# ABSTRACT

*Background:* The Personal and Social Performance (PSP) scale is a widely used tool to evaluate adults with schizophrenia; however, more studies are needed regarding its usefulness in the assessment of adolescent patients, since the evaluation of their functioning could require adaptations according to development. *Objective:* To examine construct validity, convergent validity, internal consistency and interrater reliability of the

PSP in a sample of Mexican adolescents with schizophrenia.

*Methods:* A total of 40 patients with a DSM-IV diagnosis of schizophrenia or schizophreniform disorder were evaluated with PSP, CGAS, PANSS and the MATRICS battery. Construct and convergent validity were determined by the correlation between PSP with PANSS factors, MATRICS dimensions and CGAS. In addition, reliability was evaluated with Cronbach's alpha and intraclass correlation coefficients.

*Results:* PSP scores correlated with negative, excitement and cognitive factors of PANSS, CGAS as well as MATRICS domains. The PSP also showed high internal consistency and interrater reliability.

Conclusions: The PSP is a valid and reliable instrument for the assessment of adolescent patients.

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# 1. Introduction

Schizophrenia is a chronic illness associated with poor psychosocial functioning. Although around 30% of cases have onset during adolescence (Kumra et al., 2008), follow-up studies focusing on social functioning of adolescents with schizophrenia are scarce and controversial (Lay et al., 2000; Ropcke and Eggers, 2005; Amminger et al., 2011). This variable has been frequently evaluated using unidimensional scales such as the Children's Global Assessment Scale (CGAS) or the Social and Occupational Functioning Assessment Scale (SOFAS) (Morosini et al., 2000) which use a single summary score to describe overall functional impairment or adaptive malfunctioning, and fail to provide information about specific domains. In order to increase precision, some studies used different various instruments for the assessment of social, occupational and vocational status of the patients (Amminger et al., 2011) or adapted the adult versions of scales, such as the WHO Psychiatric Disability Assessment Schedule (WHO/DAS) (Lay et al., 2000).

Several instruments have been designed to assess the functional outcome in pediatric patients, based on the notion that symptom resolution

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does not necessarily imply functional improvement (Winters et al., 2005). Following this idea, rating scales such as the Columbia Impairment Scale (CIS) (Bird et al., 1993) include four domains of functioning: interpersonal relations, broad psychopathological domains, school or job, and use of leisure time in a brief self-report format. The Scales of Independent Behavior (SIB-R) provide a measure of adaptive functioning compared with age-related norms. Other examples are the Social Adjustment Inventory for Children and Adolescents (SAICA) and the Child and Adolescent Functional Assessment Scale (CAFAS), both of which have been used in service delivery systems to measure areas of impairment that may influence decisions for treatment plans (Winters et al., 2005). However, the scales mentioned above need additional psychometric data and there are few reports in literature, making it difficult to determine their utility in adolescents with schizophrenia.

Among these, the PSP scale is a short instrument with a 100-point, single-item scale for which the lowest score represents lack of autonomy in basic functioning and the highest score reflects excellent functioning. Ratings are based on the assessment of four domains scored according to specific operational definitions (Morosini et al., 2000). This scale has been translated and validated in several languages (Garcia-Portilla et al., 2011; Schaub and Juckel, 2011; Tianmei et al., 2011; Brissos et al., 2012). In Mexico, PSP validity was evaluated in a sample of 100 adult patients, obtaining high internal consistency, a

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positive correlation with the GAF and a negative correlation with the positive, negative and cognitive factors derived from PANSS. The PSP scores showed significant correlations with the severity and improvement CGI subscales at follow-up. In addition, high inter-rater reliability was obtained (Apiquian et al., 2009).

This rating scale also showed positive correlations with the performance on cognitive tests such as WISC IV, MATRICS, Wisconsin Card Sorting Test, Weschler Memory Scale—Revised and the Continuous Performance Test on studies considering a range of functional outcome measures including skill acquisition in psychosocial rehabilitation treatment, interpersonal problem solving and social and occupational functioning (Hsieh et al., 2011; Lin et al., 2013; Pandina et al., 2013; Puig et al., 2012).

Although there is evidence regarding the usefulness of PSP for the evaluation of adult patients with schizophrenia, there are limited data of its psychometric characteristics in adolescents. In particular, it is important to evaluate whether the PSP scores are correlated with symptom severity and cognitive functioning, as it has been shown in adults. Therefore, the present study was designed to examine the PSP construct validity, convergent validity, internal consistency and interrater reliability using a sample of Mexican adolescents with schizophrenia. The authors hypothesized that the scale would show values of validity and interrater reliability similar to those obtained in studies with adult samples.

#### 2. Methods

#### 2.1. Patients

The sample was recruited from the inpatient and outpatient services of the Child Psychiatric Hospital at Mexico City. Patients were included if they were 12–17 years old, had a DSM-IV diagnosis of schizophrenia or schizophreniform disorder and had not received regular treatment with antipsychotics in the last four weeks, either because they were drug naive or because they had suspended their treatment due to noncompliance. Subjects were excluded from this study if they had a history of neurological disorders, unstable medical conditions (metabolic disorders, cancer, cardiopathies, acute or chronic pulmonary disease, renal disease, etc.) or substance abuse.

## 2.2. Measures

a) The Mini-International Neuropsychiatric Interview: Child and Adolescent Version (MINI KID)

The MINI KID is a brief structured diagnostic interview designed to evaluate child and adolescent psychopathology. It examines 23 psychiatric disorders according to the DSM-IV and ICD-10 diagnostic criteria (Sheehan et al., 1998). This diagnostic interview has been used in studies of epidemiological and clinical samples (Balazs et al., 2014; Chung et al., 2014; Taib and Ahmad, 2014). The Spanish version of MINI KID showed a significant validity and a good inter-rater and temporal reliability (Munguía, 2004).

b) The Positive and Negative Syndrome Scale (PANSS) for schizophrenia

The PANSS evaluates the severity of symptoms by pooling the answers to 30 items scored on a seven point scale (from 1 *absent* to 7 *very severe*) during an interview with the patient and the caretaker. It has been used in several studies evaluating illness severity and treatment response in adolescents (Ropcke and Eggers, 2005; Frazier et al., 2007; Savitz et al., 2015). A Spanish validated version of the scale was used (Peralta Martin and Cuesta Zorita, 1994) and the severity of symptoms was evaluated according to the five factor-dimensional model of

schizophrenic symptoms (positive, negative, excitement, anxiety/ depression and cognitive) (Fresan et al., 2005).

## c) Children's Global Assessment Scale (CGAS)

This scale provides a global measure of social and psychiatric functioning for children and adolescents based on an adaptation of the Global Assessment Scale (CGAS), consisting of a single rating scale with a range of scores from 1 to 100, with anchors at 10-point intervals which include descriptors of functioning and psychopathology for each interval. Scores above 70 are considered to be in the normal range, whereas scores on the low end of the continuum indicate a need for constant supervision (Shaffer et al., 1983). This scale has been used to assess premorbid functioning in patients with early onset schizophrenia (Vyas et al., 2007) and to evaluate psychosocial functioning in psychotic adolescents in a multicentric study (Guo et al., 2010).

d) Personal and Social Performance (PSP) scale

The PSP is a brief instrument which evaluates four objective domains: a) socially useful activities, b) personal and social relationships, c) selfcare and d) disturbing/aggressive behaviors. Each item is rated on a six-point severity scale following specific operational definitions (from 1 *absent* to 6 *very severe*); the first three domains are rated with the same operational definitions, the last domain follows specific definitions and its scores can indicate greater levels of dysfunction. The global functioning score is rated on a 100-point scale in 10-point intervals based on the combination of severity scores on the four domains, for which a score of 1 to 10 represents lack of autonomy in basic functioning and a score of 91 to 100 reflects excellent functioning. The raters can adjust the score within a 10-point interval according to their clinical judgment (Morosini et al., 2000).

#### e) The MATRICS Consensus Cognitive Battery (MCCB)

This evaluates 7 cognitive domains that are dysfunctional in this disorder: Speed of processing, attention-vigilance, working memory, verbal learning, visual learning, reasoning/problem solving and social cognition. The seventh domain, social cognition, was included because of its promising nature as a mediator of neurocognitive effects on functional outcome (Nuechterlein et al., 2008). MCCB performance has been examined in samples of healthy adolescents to determine age-adapted standardization (Nitzburg et al., 2014) as well as to compare the cognitive abilities of psychotic adolescents with those of healthy controls (Holmen et al., 2010; Kelleher et al., 2013a) or to determine the neurocognitive performance of people at high risk for psychosis (Kelleher et al., 2013b).

#### 2.3. Procedure

The study was approved by the Institutional Review Board of the Child Psychiatric Hospital. Written informed consent from the parents or legal guardians and patients' assent were obtained after the procedures were fully explained. The patients were evaluated with their parents during a clinical interview where the rating scales were completed. Afterwards, the MCCB was administered by an independent rater.

#### 2.4. Statistical analysis

Statistical analysis was performed with PASW program, version 18. Descriptive statistics were used for the demographic and clinical characteristics of the sample. Psychometric characteristics of PSP scores included skewness, kurtosis, as well as floor and ceiling effects, which were calculated as the percentage of participants scoring the minimum Download English Version:

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