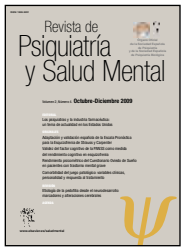
Rev Psiquiatr Salud Ment (Barc.) 2009;**2(4)**:150-159

Revista de Psiquiatría y Salud Mental

www.elsevier.es/saludmental



ORIGINAL

Spanish Adaptation and Validation of the Strauss-Carpenter Outcome Scale for Schizophrenia

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Received on 20 July 2009; accepted on 30 October 2009

KEYWORDS
Strauss-Carpenter Scale;
Schizophrenia;
Prognosis;
Validation;
Evaluation

Abstract
Introduction: The aim of this study was to validate the Spanish version of the Strauss and Carpenter Prognostic Scale for Schizophrenia (Strauss and Carpenter, 1977).
Method: We performed a multicenter, longitudinal, descriptive study. Forward and backtranslation of the original scale was performed. The sample was composed of persons diagnosed with schizophrenia aged between 18 and 65 years. We calculated interrater reliability, construct validity according to the Global Assessment Scale (GAS), Satisfaction with Life Domains Scale (SLDS), the Global Clinical Impression-Schizophrenia (GCI) scale, The World Health. Organization Short Disability Assessment Schedule (WHO-DAS) and the Positive and Negative Syndrome Scale (PANSS), and predictive validity at the 1-year follow-up using three criterion measures of the GCI, WHO-DAS and GAS scales.
Results: The internal consistency coefficient (Cronbach's alpha) was 0.70. The intra-class correlation coefficient ranged from 0.54 to 0.99, except for item 5 (resources for

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the current treatment), which was –0.13. The correlation between the distinct scales (measuring construct validity) was significant, with a p-value of < 0.01, except for the SLDS, which showed a higher p-value (p < 0.05). The Strauss-Carpenter score correlated with all three scores at 1 year (GCI, GAS and WHO-DAS) with an alpha of less than 0.01, showing good predictive validity.
Conclusions: The Spanish adaptation of the Strauss and Carpenter prognostic scale is reliable and valid and allows a more severe disease course to be predicted.

PALABRAS CLAVE
Escala Strauss-Carpenter;
Esquizofrenia;
Pronóstico;
Validación;
Evaluación

Adaptación y validación española de la Escala Pronóstica para la Esquizofrenia de Strauss y Carpenter

Resumen
Introducción: El objetivo del estudio fue adaptar y validar en castellano la Escala Pronóstica para la Esquizofrenia de Strauss y Carpenter (Strauss y Carpenter, 1977).
Método: Se trata de un estudio multicéntrico, longitudinal y descriptivo. Se realizó una traducción y una retrotraducción de la escala. La muestra se compuso de sujetos de 18-65 años diagnosticados de esquizofrenia. Se calculó la fiabilidad entre evaluadores, la validez de constructo con las escalas EEAG, SLDS, ICG, WHO-DAS y PANSS, y la validez predictiva respecto a 3 variables criterio al año medidas con las escalas ICG, EEAG y WHO-DAS.
Resultados: El coeficiente de consistencia interna (alfa de Cronbach) fue 0,70. El coeficiente de correlación intraclase osciló entre 0,54 y 0,99, excepto en el ítem 5 (Recursos para el tratamiento utilizados actualmente), que fue —0,13. Respecto a la validez de constructo, la correlación fue significativa entre las diferentes escalas, con una p < 0,01, excepto con la escala SLDS, donde la correlación fue igualmente significativa, pero con un valor mayor (p < 0,05). Respecto a la validez predictiva, la puntuación total de la Strauss-Carpenter correlaciona con un alfa < 0,01 con las tres puntuaciones criterio al año (ICG, EEAG y WHO-DAS).
Conclusiones: La adaptación española de la escala pronóstica de esquizofrenia de Strauss-Carpenter es fiable, válida y permite predecir un curso deteriorado de la enfermedad.

Introduction

Schizophrenia is a serious mental disorder which affects 1.1% of the population and exhibits aetiological, physiopathological and clinical heterogeneity.[1] It is regarded by the WHO as one of the most disabling disorders and a priority healthcare issue of this century. It is a disease which affects behaviour, perception, cognition and emotional makeup, and it produces a deterioration of different aspects of normal functioning. The severity and chronic nature of schizophrenia have acted as a stimulus to research on the socio-demographic and clinical variables, which could serve as predictors of long-term functioning.[2]

Patients with schizophrenia show heterogeneous outcomes.[3] 10 years after the onset of the disease, 25% of patients have recovered, 25% have improved considerably, 25% have improved but need social support, 15% have been hospitalized and fail to improve, and the remaining 10% have died.[4,5] These highly significant differences in prognosis mean that there is a need for research on predictors, which indicate how the disease will progress, so that validated instruments, that can reliably predict its prognosis, are made available. Thus, it is important to determine predictors of level of function in schizophrenia, so that we can analyze the processes which affect the development of the disease and evaluate the efficacy of treatments.[6] If we have robust prognostic predictors, it will be possible to diversify treatment.[7] The identification of patients with a poor outcome, who will require a greater degree of intervention on the part of the community, is crucial in order to design effective health care plans.[8]

Strauss and Carpenter developed and published a scale which aim is to predict the prognosis for schizophrenia patients more effectively.[9] The instrument was developed as a result of a 5-year longitudinal study and it includes variables which predict how the disease will progress.[6] The

scale consists of 17 items, which are awarded scores from 0 to 4 by Likert type scales. When the total score for the items is added up, it enables a total prognostic score to be obtained, with higher scores corresponding to a better prognosis.

Although the Strauss-Carpenter scale has been widely used to evaluate the prognosis of schizophrenia patients, few studies have investigated its psychometric properties. Gaebel et al.[10] (1987) found that the Strauss-Carpenter scale was better than other prognostic scales used in their study in terms of prognostic validity.

In this study we show that the Spanish adaptation of the Strauss-Carpenter Scale for predicting schizophrenia outcome is a reliable and valid instrument for measuring both current level of function and the prognosis for schizophrenia patients.

Methodology

Design

This is a multi-centre, longitudinal, descriptive study which aims to validate the Strauss-Carpenter Outcome Scale for Schizophrenia by analyzing its inter-assessor reliability, its validity as a construct by analyzing its convergent validity and its empirical predictive validity by correlating its scores with three criterion variables of level of function after one year.

Subjects

The study includes 137 patients diagnosed with schizophrenia and receiving treatment at four centres: Hospital Clínic of Barcelona, Hospital of Mataró, Psychiatric University Hospital Pere Mata Institute of Reus and Sant Joan de Déu-SSM in Barcelona. The inclusion criteria were: age from 18 to 65 years; DSM-IV-TR diagnosis of schizophrenia and residence in the area covered by the healthcare service. Exclusion criteria included current hospitalization in a medium or long-stay unit and comorbidity in which the disease was associated with learning difficulties. All the subjects gave their informed consent in writing.

Procedure

The original scale was independently translated from English into Spanish by two different native translators who were specialized in the field of mental health. On the basis of the translation and its backtranslation, the authors of this article reached a consensus on the clinical content of the items. During this phase of the study, the phrasing of item 4 on the scale was changed, substituting the original adjective "heterosexual" for "intimate", given that homosexuality is no longer included as a disorder in the DSM-IV-TR. Once a consensus was reached about the content, the version which was obtained was backtranslated again by the native translators.

Prior to the definitive study, a pilot test was conducted on a group of subjects with schizophrenia to ensure that the scale could be understood. This test demonstrated that the scale was properly adapted and comprehensible.

A data collection protocol prepared specifically for the study was applied. The patients were independently assessed by two investigators. One of them collected the socio-demographic data of the patients, and then administered the following scales:

—The Strauss-Carpenter Outcome Scale for Schizophrenia.[6] By adding up the item scores a total prognostic score can be obtained. The higher the score, the better the prognosis.
—The Positive and Negative Syndrome Score (PANSS) for Schizophrenia developed by Kay et al.,[11] and translated and validated by Peralta and Cuesta.[12] It evaluates positive and negative symptoms and general psychopathology. The higher the score, the more severe the symptoms.
—The Global Clinical Impression Scale (GCI).[13] It evaluates the severity of the clinical symptoms. The higher the score, the more serious the disease.
—The Global Assessment Scale (GAS).[14] It evaluates the level of function of people with mental disease. The higher the score, the better the level of activity.
—The Abbreviated version of the Disability Assessment Scale (WHO-DAS).[15] It evaluates the impact of the state of a person's health on his/her level of function, which enables his/her limitations or disability to be assessed. The higher the score, the greater the disability.
—The Satisfaction with Life Scale (SWLS).[16] It assesses personal satisfaction in 15 areas. The higher the score, the higher the level of satisfaction.

The second assessor only administered the Strauss-Carpenter scale, without knowing the scores obtained by the other investigator.

To investigate the predictive validity of the scale, a further assessor who was unfamiliar with the results from the previous year, performed a second assessment of the patients one year later.

Statistical Analysis

The normality of the distributions was compared using the combined skewness-kurtosis test. The homogeneity of the scale items (internal consistency) was evaluated by calculating Cronbach's alpha coefficient. The intraclass correlation coefficient was used to calculate inter-assessor reliability. To investigate the convergent construct validity of the scale, Pearson's correlation of the Strauss-Carpenter scale with the scores from the first GCI, PANSS, GAS, WHO-DAS and SWLS scale assessment was calculated, based on the following hypotheses: patients expected to show good functioning in the long term, measured on the Strauss-Carpenter scale, present a currently less severe clinical state (measured by GCI scores), with fewer symptoms (PANSS), a better level of function (GAS and WHO-DAS) and greater satisfaction with life (SWLS).

In order to investigate predictive validity, two calculations were made, one of the total on the Strauss-Carpenter scale compared to the criterion scores, in which Pearson's correlation was used (given that the total scores, which

are quantitative, were recorded), and another comparing the scores for each of the Strauss-Carpenter items and the same criterion scores, in which Spearman's correlation was used (given that the scores for the Strauss-Carpenter scale items were scored in ranking order). The criteria scores were taken from the WHO-DAS, GCI and GAS scales one year after the initial Strauss-Carpenter assessment.

In the case of lost values, these were assigned depending on the rest of the responses to the items on the scale.

All the analyses were performed using the Statistical Package for Social Sciences (SPSS) program (version 14.0). $p < 0.05$ values were treated as significant.

Results

Socio-demographic Variables

27.7% of the 137 patients who made up the sample were female and 72.3% were male. The average age was 36.9 ± 10.26 years. 80.9% were single, 13.2% had a partner and 5.9% were separated or divorced. 21.9% were working, 3.6% did housework, 2.2% were students and 63.5% were disabled and unable to work.

The average age of onset of the disease was 23 ± 7.18 years; the calculation of the 90th percentile of the distribution indicates that 90% of the values accumulate after 33 years. With respect to the subtype of schizophrenia, 77.2% had been diagnosed with paranoia; 10.3% with undifferentiated schizophrenia; 8.8% with residual schizophrenia and 0.7% with catatonic schizophrenia. 47.45% had a family history of psychiatric disease. 8.76% of the patients had failed to finish their studies, 46.72% had completed their primary education and 36.5% their secondary education, and 8.03% had higher educational qualifications (table 1).

The skewness-kurtosis test indicated that the instrument presents a homogeneous and normal distribution (0.2; $p = 0.90$).

Table 1 Socio-demographic Data of the Sample

Sex	
Males	99 (72.3)
Females	38 (27.7)
Marital status	
Single	110 (80.9)
Married	18 (13.2)
Separated	8 (5.9)
Living Arrangements	
Patient lives alone	12 (8.8)
Patient lives with family of origin	102 (74.5)
Patient lives with own family	16 (11.7)
Other	7 (5)
Occupational status	
Active	30 (21.9)
Disabled	87 (63.5)
Domestic chores	5 (3.6)
Student	3 (2.2)
Other	12 (8.8)
Family history of schizophrenia	
Yes	72 (52.6)
No	65 (47.4)
Age (years)	36.9 ± 10.25
Years of schooling	10.25 ± 2.98
Age of onset of the disease	23.36 ± 7.18
Number of hospital admissions in the previous year	0.45 ± 0.80

The data express n (%) or the average ± standard deviation.

Reliability Analysis

With respect to the calculation of Cronbach's alpha value for the test items, a lost value meant that the test value had to be corrected, the result being that a value of 0.6997 was obtained for a total of 21 items.

Inter-assessor reliability was analyzed in a subsample of 59 of the 137 patients included in the study. The skewness-kurtosis test (0.65; $p = 0.72$) performed on the subsample indicates that normality was maintained and that it was representative of the original sample. Table 2 depicts inter-assessor reliability, showing an intraclass correlation of the total score for the scale of 0.94. With respect to the intraclass correlation of each of the items scored on the scale, it is high for all of the items, except for item 5 ($r = -0.13$) ("Resources currently used for treatment").

Validity Analysis

Table 3 shows Pearson's correlation for the different instruments used to analyze the construct validity of the scale. The correlation is significant and as expected between the different scales, with a $p < 0.01$ for all the instruments, except on the SWLS scale, in which the correlation is equally significant but has a higher p value ($p < 0.05$).

With respect to its predictive validity, table 4 lists two types of information: one is the correlation between the scale total and the criterion scores (GAS, WHO-DAS and GCI) after one year, and another is the correlation between each of the predictor items, taken independently, and the score for the same criterion variables. With respect to the former, the total Strauss-Carpenter score correlates, with an alpha value < 0.01, with the three criterion scores after one year. With respect to the latter, the Strauss-Carpenter items, which showed the highest correlation with the criterion variables (GAS, WHO-DAS and GCI), are the social class of the family of origin (item 2), most frequent intimate relationships in the previous year (item 4) and the length of time since hallucinations or delirium first occurred (item 11a) ($\alpha \leq 0.01$). The items amount of useful work performed in the previous year (item 1a) and usual standard of useful work in the previous year (item 1b) had an alpha value of ≤ 0.05. Items such as previous hospitalizations (item 10), the longest period during which severe psychiatric symptoms have persisted more or less continuously (item 11b), and the longest period in which any significant psychiatric symptom has been present (item 11c), show significant correlations (0.05) with the GAS and GCI scales, but not with the WHO-DAS scale.

Table 2 Inter-assessor Reliability

Strauss-Carpenter Items	First Assessment	Second Assessment	Intraclass Correlation Coefficient
1a. Amount of Useful work performed in the Previous Year	1.15 ± 1.30	1.15 ± 1.34	0.96
1b. Usual standard of useful work in the previous year	1.61 ± 1.34	1.67 ± 1.41	0.90
2. Social class of the family of origin, early years of the patient, age from 1-12 years	1.34 ± 1.21	1.35 ± 1.14	0.95
3a. Number of regular social relationships maintained in the previous year	2.44 ± 1.65	2.42 ± 1.64	0.99
3b. Quality of social relationships	2.14 ± 1.51	2.14 ± 1.51	0.90
4. Most frequent intimate relationships in the previous year	1.14 ± 1.57	1.15 ± 1.61	0.96
5. Resources currently used for treatment	3.86 ± 0.51	3.66 ± 0.76	–0.13
6. Family history of psychiatric hospitalization	3.56 ± 0.88	3.63 ± 0.85	0.56
7. Age of onset of any psychiatric symptom	2.64 ± 1.03	2.51 ± 1.12	0.89
8. Behavioural problems after the age of 12 years	3.66 ± 0.68	3.69 ± 0.72	0.90
9. Deadening or a decrease in the expression of feelings or emotions in the previous month	2.58 ± 1.19	2.42 ± 1.22	0.68
10. Previous hospitalizations	2.12 ± 1.18	2.08 ± 1.19	0.93
11a. Period of time since hallucinations or delirium first occurred	0.27 ± 0.61	0.34 ± 0.68	0.72
11b. What is the longest period in which severe psychiatric symptoms have persisted more or less continuously (at least once a week)?	1.29 ± 1.38	1.25 ± 1.43	0.86
11c. What is the longest period in which any significant psychiatric symptom (including moderate and severe symptoms) has been continuously present (at least once a week)?	0.88 ± 1.19	0.80 ± 1.20	0.78
12. Presence of thought disorders, delirious ideas or hallucinations in the previous year	1.88 ± 1.37	1.88 ± 1.40	0.81
13. Presence of depression, mania or hypomania in the previous year	2.83 ± 1.15	2.76 ± 1.16	0.79
14. Factors which precipitated the most recent psychiatric episode	0.83 ± 1.19	0.81 ± 1.20	0.96
15. Severity of subjective distress reported by the patient in the previous month	0.85 ± 1.13	0.76 ± 0.06	0.92
16. Skills most commonly used for fulfilling basic needs in the previous year (eating alone, keeping oneself clean)	3.51 ± 1.04	3.63 ± 0.81	0.54
17. Most common feeling of satisfaction with life in the previous year	2.36 ± 0.94	2.29 ± 0.93	0.88
Total score	42.93 ± 8.97	44.46 ± 9.02	0.94

The data express the average ± typical deviation of the scores of the two assessors for each Strauss-Carpenter scale item.

Table 3 Construct Validity of the Spanish Version of the Strauss-Carpenter Scale

	Strauss-Carpenter	p
GAS	0.539	< 0.01
GCI	–0.529	< 0.01
WHO-DAS	–0.536	< 0.01
PANSS	–0.607	< 0.01
SWLS	0.217	< 0.05

GAS: Global Assessment Scale; GCI: Global Impression Scale; PANSS: Positive and Negative Syndrome Scale for Schizophrenia; SWLS: Satisfaction with Life Scale; WHO-DAS: Abbreviated version of the Disability Assessment Scale. Pearson's correlation of the Strauss-Carpenter scale with other scales.

Conclusions

The results of this study show that the Spanish adaptation of the Strauss-Carpenter scale is a reliable and valid instrument for measuring both current functioning and the prognosis for schizophrenia patients. This is confirmed by the high level of inter-assessor reliability and also by its high construct and predictive validity.

With respect to its reliability when used by different assessors, the data indicates a high intraclass correlation of the total score for each of the items scored by the scale, with the exception of item 5 ("Resources currently used for treatment"). It would have been interesting to have access to more studies about the psychometric properties of the scale in order to analyze whether the poorer reliability for this item is repeated.

Table 4 Predictive validity of the Strauss-Carpenter Scale

	GAS		WHO-DAS		GCI	
PREDICTORS	α	p	α	p	α	p
Total Strauss-Carpenter score (Pearson)	0.550	< 0.01	-0.465	< 0.01	-0.548	< 0.01
Strauss-Carpenter Items (Spearman)						
1a. Amount of useful work performed in the previous year[a]	0.623	< 0.01	-0.325	0.03	-0.312	0.04
1b. Usual standard of useful work in the previous year[a]	0.531	< 0.01	-0.360	0.02	-0.420	< 0.01
2. Social class of the family of origin, early years of the patient, age from 1-12 years[b]	0.361	0.01	-0.421	< 0.01	-0.448	< 0.01
3a. Number of regular social relationships in the previous year	0.399	< 0.01	0.006	0.97	−0.035	0.82
3b. Quality of social relationships	0.519	< 0.01	–0.193	0.21	–0.221	0.15
4. Most frequent intimate relationships in the previous year[b]	0.611	< 0.01	-0.424	< 0.01	-0.469	< 0.01
5. Resources currently used for treatment	0.168	0.27	-0.146	0.35	-0.075	0.63
6. Family history of psychiatric hospitalization	0.159	0.30	-0.174	0.26	-0.025	0.87
7. Age of onset of any psychiatric symptom	0.145	0.34	-0.170	0.27	0.140	0.37
8. Behavioural problems after the age of 12 years	0.132	0.39	–0.189	0.22	–0.99	0.53
9. Deadening or a decrease in the expression of feelings or emotions in the previous month	0.390	< 0.01	-0.096	0.54	-0.410	< 0.01
10. Previous hospitalizations	0.357	0.01	-0.245	0.11	-0.387	0.01
11a. Period of time since hallucinations or delirium first occurred[b]	0.376	0.01	-0.389	< 0.01	-0.405	0.01
11b. What is the longest period in which severe psychiatric symptoms have persisted more or less continuously (at least once a week)?	0.568	< 0.01	-0.281	0.06	-0.324	0.03
11c. What is the longest period in which any significant psychiatric symptom (including moderate and severe symptoms) has been continuously present (at least once a week)?	0.539	< 0.01	-0.130	0.40	-0.380	0.01
12. Presence of thought disorders, delirious ideas or hallucinations in the previous year	0.328	0.02	–0.100	0.52	–0.135	0.39
13. Presence of depression, mania or hypomania in the previous year	0.238	0.11	0.065	0.67	0.074	0.64
14. Factors which precipitated the most recent psychiatric episode	0.257	0.93	-0.302	0.05	-0.242	0.12
15. Severity of subjective distress reported by the patient in the previous month	-0.322	0.03	0.307	0.04	0.221	0.15
16. Skills most commonly used for fulfilling basic needs) in the previous year (eating alone, keeping oneself clean	0.265	0.83	-0.293	0.05	-0.392	< 0.01
17. Most common feeling of satisfaction with life in the previous year	0.105	0.49	0.186	0.23	-0.041	0.80

Pearson's correlation between the Strauss-Carpenter scores and the criterion scores measured one year later using the GAS (Global Assessment Scale), WHO-DAS (abbreviated version of the Disability Assessment Scale) and GCI (Global Clinical Assessment) scales.
[a]$p < 0.05$ for all the criterion variables.
[b]$p < 0.01$ for all the criterion variables.

Poirier et al.[17] prepared a French adaptation and validation using an abbreviated version of the Strauss-Carpenter scale. In general, our data coincides with that of Poirier's study, in which a reliability > 0.88 was obtained for each item and 0.98 in the total score. However, we cannot regard the scale Poirier uses as equivalent to the one used in our study because Poirier used an abbreviated and later version of the Strauss-Carpenter scale than ours (SCOCS-R).

As for its validity as a construct, the results support the proposed hypotheses and the scores on the scale correlate as expected with the GCI, WHO-DAS, GAS, PANSS and SWLS scales. The high convergent validity of the Strauss-Carpenter scale with these scales, which also measure the level of function (GCI, WHO-DAS and GAS), indicates that it is adequate for measurement purposes and that its results can be generalized to these scales and vice versa. Again we coincide with Poirier's study with respect to the correlation

of the Strauss-Carpenter scale with the GAS scale, in which a convergent validity of 0.89 ($p < 0.01$) was obtained, this figure being 0.53 ($p < 0.01$) in our case.

As far as predictive validity is concerned, the total score on the Strauss-Carpenter scale correlates, with an alpha value < 0.01, with the GCI, WHO-DAS and GAS criterion scores one year later. With respect to the level of function and the clinical severity of the patients, it can be seen that the items that contribute most to prognosis are the ones which most influence the 3 criterion measurements, these being the social class of the family of origin (item 2), intimate relationships (item 4) and the length of time since hallucinations or delirium first occurred (item 11a).

Therefore, the Spanish adaptation of the Strauss-Carpenter Outcome Scale for Schizophrenia is reliable and valid, and permits a poorer outcome for the disease to be predicted. This can be useful when different interventions based on prognosis are performed, with the aim of preventing the progression of the disease in the most serious cases.

Members of the VALIDA Group

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Funding

The study was partly funded by the Regional Government of Catalonia, DURSI (Department of Universities, Research and Information Society) grant (No. 2009SGR1295) and by the Carlos III Health Institute, *Biomedical Research Network Centre of Mental Health* (CIBERSAM).

Prof. (Dr.) M. Bernardo has received funding and has worked as a consultant, adviser or speaker for the following companies: Janssen-Cilag, Eli Lilly, Pfizer, Merck, Almirall and Bristol-Myers Squibb-Otsuka.

Conflict of interest

The authors declare that they have no conflict of interests.

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Annex 1 Strauss-Carpenter Scale

Identification ..... Date.....

1A. Amount of useful work performed in the previous year. (Include as work: paid work, study, domestic chores. Exclude: time spent in hospital. Any hospital admission during the previous year will not reduce the score. Study during an entire academic year scores "4")
- Continuous full-time "work" 4
- "Work" for about 3/4 of the working hours corresponding to a year (e.g. full-time for 9 months) 3
- "Work" for about half of the working hours corresponding to a year (e.g. part-time for the entire year or full-time for 6 months) 2
- "Work" for about 1/4 of the working hours corresponding to a year (e.g. part-time for 6 months) 1
- Patient performs no useful work. 0

1B. Usual standard of useful work during the previous year (Assessed taking into account the age, education, training and opportunities of the patient without considering their psychopathology, evaluating how the patient functions at work in accordance with what would be expected for the level of complexity and competence required)
- Very competent. 4
- Competent 3
- Moderately competent 2
- Marginally competent 1
- Incompetent 0

2. Social class of the family of origin, early years of the patient, age from 1-12 years
- Profession of the head of the family:
- Specify: patient works for an employer or is self-employed:
- Number of employees:

3A. Number of regular social relationships in the previous year. (The patient meets up with friends or takes part in social group activities, goes to the cinema, meetings, etc. Exclude dates or activities patients do on their own with their normal partner/spouse)
- The patient meets up with friends at least once a week on average 4
- The patient meets up with friends once every two weeks 3
- The patient meets up with friends once a month. 2
- Include all acquaintances
- The patient does not meet up with friends, with the exception of relationships with neighbours, work colleagues or fellow students 1
- The patient does not meet up with friends at all 0

3B. Quality of social relationships. (In the relationships described above, indicate what usually applies for the previous year)
- One or more intimate social relationships 4
- One or more close relationships 3
- One or more relatively close relationships 2
- One or more basically superficial relationships 1
- Only very superficial relationships (e.g. only relationships in which the patient says "hello" to neighbours) 0

4. Most frequent intimate relationships in the previous year
- Married or stable partner, not divorced or separated/regular dates. 4
- Married or stable partner with conflicts which lead to brief periods of separation/patient has dates now and again . . . 3
- Single or separated, the patient rarely dates anyone 2
- Single or separated, the patient hardly ever dates anyone 1
- Single or separated, the patient never dates anyone 0

5. Resources currently used for treatment
- Therapeutic resources with a lot of personnel. 4
- Resources with fewer personnel 2
- No treatment 0

(Continues)

Annex 1 Strauss-Carpenter Scale *(continuación)*

6. Family history of psychiatric hospitalization. (Include biological mother, father, siblings and grandparents. Exclude any hospital admission over the age of 65)
   - No close relative has a history of psychiatric hospitalization . . . 4
   - A close relative has a history of psychiatric hospitalization . . . 3
   - Two close relatives have a history of psychiatric hospitalization . . . 2
   - Three close relatives have a history of psychiatric hospitalization . . . 1
   - Four or more close relatives have a history of psychiatric hospitalization . . . 0

7. Age of onset of any psychiatric symptom
   - Over 30 years . . . 4
   - From 21 to 30 . . . 3
   - From 16 to 20 . . . 2
   - From 10 to 15 . . . 1
   - Under 10 . . . 0

8. Behavioural problems after the age of 12. (Include violence, suicide/ homicide attempts or acts, criminal record, etc. Exclude abuse of alcohol or other drugs)
   - None . . . 4
   - Minimal history of the above (e.g. 1 or 2 episodes) . . . 3
   - Some history of the above (e.g. 3-5 episodes) . . . 2
   - Frequent history of the above (e.g. 6-9 episodes) . . . 1
   - Very frequent history of the above (e.g. 10 or more episodes) . . . 0

9. Deadening or a decrease in the expression of feelings or emotions in the previous month
   - None . . . 4
   - Very slight . . . 3
   - Moderate . . . 2
   - Considerable . . . 1
   - Almost total . . . 0

10. Previous hospitalizations (or intense supervision by relatives beyond what we might consider to be normal for the age and sex of the patient)
   - Never . . . 4
   - Up to 1 month . . . 3
   - From 1 to 3 months . . . 2
   - From 3 months to less than 3 years . . . 1
   - 3 or more years altogether . . . 0

11A. Period of time since hallucinations or delirium first occurred
   - The patient has never had any of these symptoms or none until a week ago . . . 4
   - One or more of these symptoms first occurred from a week to 6 months ago . . . 3
   - One or more of these symptoms first occurred from 6 months to 2 years ago . . . 2
   - One or more of these symptoms first occurred from 2 to 5 years ago . . . 1
   - The patient had one or more of these symptoms over 5 years ago . . . 0

11B. What is the longest period in which severe psychiatric symptoms have persisted more or less continuously (at least once a week)?
   - 0-4 weeks . . . 4
   - Over 4 weeks, but less than 6 months . . . 3
   - From 6 months to 1 year . . . 2
   - From 1 to 2 years . . . 1
   - Over 2 years . . . 0

(Continues)

Annex 1 Strauss-Carpenter Scale *(continuance)*

11C. What is the longest period in which any significant psychiatric symptom (including moderate and severe symptoms) has been continuously present (at least once a week)?
- 0-4 weeks . . . 4
- Over 4 weeks, but less than 6 months . . . 3
- From 6 months to 1 year . . . 2
- From 1 to 2 years . . . 1
- Over 2 years . . . 0

12. Presence of thought disorders, delirious ideas or hallucinations in the previous year
- None of the above . . . 4
- Minimal presence of one or all of the above . . . 3
- Moderate presence of one or all of the above . . . 2
- Relative severity and/or continuous presence of one or all of the above . . . 1
- Severity and/or continuous presence of one or all of the above . . . 0

13. Presence of depression, mania or hypomania in the previous year
- None of the above . . . 4
- Minimal presence of one or all of the above . . . 3
- Moderate presence of one or all of the above . . . 2
- Relative severity and/or continuous presence of one or all of the above . . . 1
- Severity and/or continuous presence of one or all of the above . . . 0

14. Factors which precipitated the most recent psychiatric episode (Did any traumatic event occur in the month prior to the onset of the psychiatric symptoms?)
- Obvious and severe precipitating factor (death of a close relation, divorce, bankruptcy) . . . 4
- Important traumatic factor . . . 3
- Moderate or possible precipitating factor (serious disease of a relative, major family quarrels, moderately severe economic problems, problems at work or with studies) . . . 2
- "Traumatic" event of relatively minor importance . . . 1
- No precipitating factor . . . 0

15. Severity of subjective distress reported by the patient in the previous month
- Very severe . . . 4
- Severe . . . 3
- Moderately severe . . . 2
- Minimal subjective distress . . . 1
- Patient reports no subjective distress . . . 0

16. Skills most commonly used for fulfilling basic needs in the previous year (eating alone, keeping oneself clean)
- The patient does not need help to perform these activities . . . 4
- The patient needs little help to perform these activities . . . 3
- The patient needs some help to perform these activities . . . 2
- The patient needs a considerable amount of help to perform these activities . . . 1
- The patient cannot perform any of these activities without help . . . 0

17. Most common feeling of satisfaction with life in the previous year
- Patient has a very full life . . . 4
- Patient has a full life . . . 3
- Patient has a moderately full life . . . 2
- Patient's life feels relatively empty . . . 1
- Patient has a "vegetative" existence . . . 0