NÖRO PSİKİYATRİ ARŞİVİ
ARCHIVES OF NEUROPSYCHIATRY

RESEARCH ARTICLE

Article No: 15

Arch Neuropsychiatry 2026;63:90–100
https://doi.org/10.29399/npa.29072

Psychometric Properties of the Turkish Version of the Screen for Cognitive Impairment in Psychiatry (SCIP-TR)

Şükrü Alperen KORKMAZ[1], Fatmagül Eda KÖKSALAN[1], Sevinç SÜRÜCÜ[1], Murat İlhan ATAGÜN[1]

[1] Department of Psychiatry, Faculty of Medicine, Çanakkale Onsekiz Mart University, Çanakkale, Türkiye

ABSTRACT

Introduction: Given the critical significance of cognitive functions in daily life and social interactions, the Screen for Cognitive Impairment in Psychiatry (SCIP) scale is particularly important in clinical practice. It can be administered quickly and offers alternative forms, avoiding issues with lengthy administration or a lack of parallel forms. This study examined the psychometric properties of the Turkish version of the SCIP scale (SCIP-TR), which enables rapid and practical assessment of cognitive impairment in psychiatric settings.

Methods: This study involved 137 healthy students and hospital staff aged 18–45. Three alternative forms of the SCIP scale were adapted into Turkish using direct and reverse translation methods, and experts approved them to ensure content validity. Participants were administered one of the three alternative forms of the SCIP-TR and the Brief Cognitive Assessment Tool for Schizophrenia (B-CATS), the Standardized Mini-Mental State Examination (SMMSE), and the Cognitive Failures Questionnaire (CFQ) scales. Test-retest reliability was evaluated using different forms of the SCIP-TR at 2–7 day intervals. The feasibility, reliability, and validity of the SCIP-TR forms were examined.

Results: The analysis showed no significant differences between the three forms in total scores. Cronbach's alpha (0.715–0.750) and omega coefficients (0.709–0.784) demonstrated that the scale had acceptable internal consistency. Correlation coefficients confirmed the scale's test-retest reliability. The exploratory factor analysis unveiled a single-factor structure that accounted for 50.2% of the total variance. The moderate correlation of SCIP-TR with B-CATS, which measures similar cognitive domains, supports convergent validity.

Conclusions: Findings demonstrate the validity and reliability of the Turkish version of the SCIP as a simple and practical tool for screening cognitive impairment in the general population. Its simplicity, brevity, and lack of need for a technological platform make it suitable for integration into clinical practice. Further research on SCIP-TR is needed in a more diverse demographic, including those with mental health disorders.

Keywords: cognition, reliability, SCIP, screening, Turkish version, validity.

Cite this article as: Korkmaz ŞA, Köksalan FE, Sürücü S, Atagün Mİ. Psychometric Properties of the Turkish Version of the Screen for Cognitive Impairment in Psychiatry (SCIP-TR). Arch Neuropsychiatry 2026;**63**:90–100. doi: 10.29399/npa.29072

INTRODUCTION

Cognition refers to the mental processes through which individuals understand, interpret, and adapt to their environment; these form basic mental functions (1). The importance of cognitive functions extends into both the individual and social domains of human life. A person's ability to think and engage in daily social interactions is often associated with the efficiency of these processes. The basic cognitive functions include attention, memory processing, problem-solving, information processing, language use, knowledge acquisition, reasoning, decision-making, and executive function (2,3). While brain structures and neurotransmitter systems are central to shaping cognitive functions, individual genetic factors, environmental conditions, and personal life events also influence these processes (4). Importantly, changes in cognitive functions are common symptoms of various mental disorders and often impact an individual's quality of life (5). Cognitive impairment is additionally linked to disease progression, treatment response, adherence, self-care, and daily living outcomes (6,7). Cognitive impairment was previously thought to be specific to severe mental illnesses such as schizophrenia and bipolar disorders, but it is now recognized as broadly distributed among various mental illnesses (8,9). For example, it is well established that individuals with schizophrenia and bipolar disorder exhibit impairments in verbal or visual memory, as well as processing speed, attention, and social cognition. Those with major depressive disorder demonstrate deficits in attention, memory, learning, executive functions, and psychomotor processing. In contrast, individuals with obsessive-compulsive disorder

Highlights

- **No validated Turkish short cognitive test for mental disorders is available.**
- **SCIP offers easy training that takes under 15 minutes and requires minimal materials.**
- **The Turkish version of the SCIP is as reliable and valid as the original.**
- **All three SCIP-TR forms achieved cultural adaptability and language equivalence.**
- **SCIP-TR effectively detects cognitive impairments in clinical practice.**

Correspondence Address: Murat İlhan Atagün, Department of Psychiatry, Faculty of Medicine, Çanakkale Onsekiz Mart University, 17010, Çanakkale, Türkiye • **E-mail:** muratilhanatagun@gmail.com
Received: 26.02.2025, **Accepted:** 02.05.2025, **Available Online Date:** 29.11.2025

face challenges in cognitive flexibility, visuospatial memory, response inhibition, and goal-directed behavior (5,10–12). Additionally, while attention, executive function, and memory deficits are observed in autism spectrum disorder, many cognitive areas are impaired in post-traumatic stress disorder (13,14). Cognitive impairment, at least to some extent, is associated with any mental disorder.

Cognitive impairment is associated with reduced functioning and quality of life for individuals diagnosed with mental disorders. However, cognitive performance evaluation has not yet been integrated into standard clinical practices within psychiatric settings. The major challenges in assessing cognitive performance include the time-consuming process of administering and scoring a complete test battery, the associated costs, and the training and expertise required to use the battery effectively. The Measurement and Treatment Research to Improve Cognition in Schizophrenia (MATRICS), designed specifically for cognitive assessment in individuals with schizophrenia, takes about 60 to 120 minutes to be administered by a trained neuropsychologist, even though it evaluates multiple cognitive domains. While the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS), the Neuropsychological Assessment Battery, the Brief Assessment of Cognition in Schizophrenia (BACS), and the Woodcock-Johnson III Cognitive Abilities Test (WJ III COG) are shorter than MATRICS, they still require approximately 35 to 40 minutes for administration. The Mini-Mental State Examination (SMMSE) and the Montreal Cognitive Assessment (MoCA) are commonly used tests for cognitive impairment in clinical practice, known for their ease of administration and shorter time requirements. However, these assessments mainly screen for dementia and are not suitable for thorough cognitive evaluation in general psychiatric settings. Therefore, there is a significant need for practical scales to assess cognitive functioning that can be easily implemented for all patients with psychiatric disorders.

Recently, attention has shifted to developing tools that do not require supplementary materials for administration, offer interchangeable versions, are user-friendly, and provide a convenient and manageable administration timeframe in clinical settings. The Screen for Cognitive Impairment in Psychiatry (SCIP) (23) is one of the few scales that meets these criteria and has good psychometric properties. Until the advent of these tools, there were very few instruments designed to detect cognitive deficits in mental disorders quickly. The SCIP, which requires minimal training and no additional equipment other than a score sheet, a pen, and a stopwatch, has been validated in several languages. The original English (Purdon, 2005), Spanish (SCIP-S), German (SCIP-G), Japanese (SCIP-J), Italian (SCIP-I), French (SCIP-F), and Danish versions of SCIP each have three alternative forms and demonstrate good validity and reliability (16,23–28). It consists of five subscales, each requiring approximately two to three minutes to administer. It estimates working memory, immediate verbal learning, delayed verbal learning, verbal fluency, and psychomotor speed.

Currently, there is no Turkish-validated short-term battery for assessing cognitive functions and impairments in general psychiatric settings. Therefore, this study aims to develop Turkish versions of the SCIP and evaluate their psychometric properties among healthy subjects, including: a) factor structure, b) reliability of scales, c) convergent validity based on SCIP-TR and B-CATS correlations, and d) test-retest reliability.

METHODS

Participants and Procedure

A total of 137 participants were included in the study conducted from June 2024 to January 2025. The researchers provided the participants with information about the survey, and recruitment took place at Çanakkale Onsekiz Mart University Hospital. The sample comprised hospital staff, medical faculty students, and their family members, with recruitment facilitated through social media platforms and student organizations. All participants were required to be at least 18 years old, free from neurological diseases or substance use disorders (excluding tobacco use), and proficient in the Turkish language. Participants ranged in age from 18 to 45 years.

To develop the Turkish versions of the SCIP, we thoroughly translated all forms into Turkish using both direct and reverse translation methodologies. Initially, we secured consent from the author of the original SCIP (23). Subsequently, two researchers (ŞAK and MIA) independently translated the SCIP-TR forms into Turkish. These translations underwent a comprehensive review conducted by two psychiatrists who were not involved in the study and were proficient in both English and Turkish. The translated forms were then discussed, and necessary adjustments were made regarding meaning, cultural appropriateness, and grammatical accuracy, ultimately consolidating the translations into a single document. Following this, the consolidated forms were translated back into English by an expert who was blind to the original forms, creating a back-translation document. Subsequently, another English expert evaluated the translation and back-translation documents to ascertain their linguistic equivalence. Finally, a group of psychiatrists appraised the content and validity of the Turkish version, which was deemed satisfactory. The completed translation and back translation documents were then electronically transmitted to the author responsible for developing the scales, and he reviewed and gave approval to the incorporation of the necessary revisions.

All participants completed one version of the SCIP and B-CATS assessments, along with the Standardized Mini-Mental Examination (SMMSE) and the Cognitive Failures Questionnaire (CFQ) (at Time 1, T1). Some participants were given an alternative form of the SCIP and B-CATS two to seven days later as part of the re-test procedure (at Time 2, T2). At T2, participants administered one of the two SCIP forms that had not been administered at the first session. For example, based on the SCIP administration, the subgroups were formed as follows: Form 1 and Form 2 (Group A), Form 1 and Form 3 (Group B), and Form 2 and Form 3 (Group C).

The study adhered to the guidelines of the Declaration of Helsinki and received approval from the Faculty of Medicine Ethics Committee at Çanakkale Onsekiz Mart University Faculty of Medicine. Informed consent was obtained from all participants, and their sociodemographic data were properly documented.

Measures

The Screen for Cognitive Impairment in Psychiatry (SCIP)

The SCIP is designed to detect cognitive impairment in various patients with mental disorders. It can be administered without additional equipment (just a pen and paper) and takes approximately 15 minutes (23). The SCIP includes assessments of five cognitive domains, namely verbal learning, working memory, verbal fluency, delayed recall, and psychomotor speed. In evaluating these domains, the tests include a Verbal Learning Test-Immediate (VLT-I), a Working Memory Test (WMT), a Verbal Fluency Test (VFT), a Verbal Learning Test-Delayed, and a Processing Speed Test (PST), respectively (Table 1). The three alternative scales of the SCIP (Forms 1, 2, and 3) facilitate repeated testing while minimizing learning effects because the content of the questions in each form is different. The VLT-I comprises three trials involving ten items, where the principal outcome measure is the total number of items recalled immediately, yielding a maximum score of 30. Conversely, the WMT encompasses eight recall trials involving three consonants. Recalls may be conducted either

immediately or following a delay necessitated by counting backwards aloud (serving as a distraction). The principal outcome measure in this instance is the total number of letters recalled, with a maximum achievable score of 24. In the VFT, participants complete two 30-second trials in which they are presented with a letter and instructed to generate words that commence with each letter while refraining from producing numerical values or proper names. The primary performance measure is the total quantity of words that adhere to the stipulated criteria. The VLT-D involves an additional recall trial of the verbal list derived from the VLT-I, administered after the WMT and VFT. The principal outcome measure is the total count of correct items recalled, with a maximum attainable score of 10. The PST closely resembles the digit-symbol test. Initially, the examinee is given an illustration of six letters along with their corresponding Morse code, which is composed of dots and dashes. Subsequently, a four-row matrix containing nine boxes, each holding a single letter, is presented, and the examinee must draw the appropriate Morse code equivalent. The first six boxes serve as a practice exercise before the examinee is allotted 30 seconds to complete the remaining 30 letters, the total of which yields the primary outcome measure. A maximum score of 30 points is obtainable from this assessment. Purdon (2005) suggests that a SCIP Total Score above 74 is within normal limits, but scores lower than 75, 65, or 55 may indicate mild, moderate, or severe limitations, respectively. Rojo et al. (2010) found that a total score of 70 or higher corresponded to normal cognitive functioning (29).

The Brief Cognitive Assessment Tool for Schizophrenia (B-CATS)

The B-CATS, developed by Bell et al. (2005), is designed to provide a succinct and effective measure of cognitive functions that are typically assessed using more extensive test batteries (30). The B-CATS comprises four assessments: the Digit Symbol Substitution Test (DSST), Trail Making Test (TMT) Part A, Trail Making Test (TMT) Part B, and Animal Fluency (Table 1). It evaluates domains including attention, working memory, learning, executive functions, visual scanning, processing, motor speed, verbal fluency, and language skills (31,32). The DSST consists of a page featuring a nine-item key that correlates digits 1–9 with distinct symbols alongside rows of numbers with blank squares beneath them. Participants must match as many digits as possible to their corresponding symbols within a 120-second time limit. The total number of correct number-symbol pairs ascertains the test score. In TMT Part A, individuals are presented with a sheet containing scattered circles that encompass numbers, and they are instructed to draw a 'trail' from number to number (1–2–3, etc.) sequentially up to the number 25 without lifting the writing instrument from the paper. Trail Making Test Part B involves a similar sheet, but it includes circles with either letters or numbers, requiring the participant to draw a 'trail' from number to letter (1-A-2-B, etc.), concluding with number 13, again without lifting the pen. The total time to complete TMT Part A and TMT Part B ultimately defines their respective scores. In the animal fluency task, participants verbally enumerate as many animals as possible within a 60-second period, with their responses meticulously recorded. The evaluation is based on the quantity of unique and appropriate responses provided. The resulting scores reflect the overall level of cognitive functioning or specific impairments in designated areas, typically requiring an average of 10 minutes for administration, rendering it practically useful in clinical environments. It has been established that the scores derived from B-CATS exhibit a strong correlation with those obtained from SCIP among healthy individuals (33). The SCIP, B-CATS, and related cognitive domain tests are summarised in Table 1.

The Standardised Mini-Mental State Examination (SMMSE)

The SMMSE is a widely used neuropsychological assessment tool designed to quickly evaluate individuals' cognitive capabilities (34). It is a standardized adaptation of the Mini-Mental State Examination, providing a more accurate measure of cognitive functioning (35,36). The assessment covers various cognitive domains, including temporal and spatial orientation, memory (both immediate and delayed recall), attention and calculation, language abilities (such as naming, repetition, and comprehension), and visual-spatial skills (37). A score between 24 and 30 points indicates normal cognitive status (38).

The Cognitive Failures Questionnaire (CFQ)

The CFQ is a self-administered assessment tool used to evaluate impairments in perception, memory, and motor functions that occur in daily life (39). This questionnaire consists of 25 items, with participants responding to each item using a five-point scale ranging from "never" to "always". The response options are categorized as follows: never (0), very rarely (1), occasionally (2), quite often (3), and very often (4). The scale includes three subscales: a) Forgetfulness, defined as "the tendency to forget something known or planned, such as names, intentions, appointments, and words"; b) Distractibility, characterized as "being absent-minded or easily distracted from focused attention, especially in social contexts or during interactions with others"; c) False Triggering, described as "disruption in the processing of cognitive and motor action sequences" (40). Cognitive Failures Questionnaire scores range from 0 to 100, with higher scores indicating a greater propensity for cognitive failure. Completing the CFQ typically takes an average of 5 to 10 minutes and it is applies in various clinical settings and among normative populations (40).

Statistical Analyses

Data were analyzed using the IBM Statistical Package for Social Sciences (SPSS) program version 27.0 and JAMOVI version 2.5.6. The significance level was set at α=0.05, and all tests were two-tailed.

The study examined the psychometric properties, including reliability and validity, of the Turkish versions of the SCIP-TR:

I) Differences between the scores of the parallel forms (SCIP-TR Form 1, 2, and 3) were compared.

II) Cronbach's alpha and McDonald's ω coefficients were computed to assess the SCIP-TR's internal consistency (reliability).

III) To evaluate test-retest reliability, Intraclass Correlation (ICC, using a two-way mixed model) and Pearson's correlation coefficients (Pearson's *r*-values) between total and subtest scores at Time 1 and Time 2 were analyzed.

Table 1. Tests in SCIP, B-CATS, and related cognitive domains

	SCIP	B-CATS
Cognitive domains	**Tests**	
Motor and processing speed and attention	Processing speed test (PST)	Digit symbol substitution test (DSST) Trail-making test– part A (TMT A)
Verbal memory and learning	Verbal learning test – immediate (VLT-I) Verbal learning test – delayed (VLT-D)	
Fluency	Verbal fluency test (VFT)	Animal fluency
Executive functioning and set-shifting	Working memory test (WMT)	Trail-making test– Part B (TMT B)

IV) A two-way ANCOVA was performed to examine the effect of educational level and gender (men vs. women) as between-subject variables on scale scores, controlling for age.

V) To examine the internal structure of the SCIP-TR, we performed an exploratory factor analysis with Varimax rotation on the five subtest scores (combined and for each form) at Time 1. Factors with eigenvalues greater than 1 were retained, and we also calculated the Kaiser-Meyer-Olkin (KMO) index and explained the variance.

VI) The construct validity of the SCIP-TR was assessed by Pearson correlation coefficients between the SCIP-TR total and subtest scores and the scores obtained from the B-CATS and SMMSE (convergent validity).

RESULTS

Table 2 presents the characteristics of the sample. All participants provided complete data at T1. At T1, 41 participants completed SCIP Form 1, 53 completed Form 2, and 42 completed Form 3. In addition to T1, another SCIP form was administered to 48.9% of the participants (n=67) at T2.

Table 2. Description of the sample

Descriptive	N=137
Gender, women (%)	68 (49.6%)
Age, mean (SD)	26.37 (6.89)
Marital status, single (%) [a]	124 (90.5%)
Years of education, mean (SD)	15.58 (3.64)
Smoking, n (%)	76 (55.5%)
Family history of psychiatric illness, n (%)	13 (9.5%)
Presence of medical illness, n (%)	21 (15.3%)
Right-handed, n (%)	125 (91.2%)

[a] Boşanmışlar dâhil; SS: Standart sapma.

The total scores for SCIP Form 1, SCIP Form 2, and SCIP Form 3 were 74.68±9.39, 77.68±9.94, and 73.67±9.07, respectively. No significant differences were found in the total scores among the forms ($F(2,134)=2.728$, $p=0.076$) when conducting a one-way ANOVA. Furthermore, there were no significant differences in VLT-I ($F(2,134)=2.872$, $p=0.056$), WMT ($F(2,134)=0.023$, $p=0.993$), VLT-D ($F(2,134)=0.818$, $p=0.586$), and PST ($F(2,134)=0.203$, $p=0.838$) at T1 across the three SCIP forms, except for VFT ($F(2,134)=5.321$, $p=0.006$). The Bonferroni post-hoc test showed a significant difference between Form 2 and Form 3 for VFT. These results indicate that the parallel forms are sufficiently equivalent.

Reliability and Correlates

The omega (ω) and Cronbach's alpha (α) coefficients for the total score of three distinct forms of the SCIP (SCIP Forms 1–3) were calculated for the entire sample (*N*=137) at T1. Accordingly, the ω and α values were 0.740 and 0.715, respectively, at T1. The ω values for SCIP Form 1 (*N*=41), Form 2 (*N*=53), and Form 3 (*N*=42) were 0.759, 0.784, and 0.709, respectively, indicating acceptable internal consistency. The Cronbach's alpha values were calculated as 0.715, 0.750, and 0.640 for SCIP Forms 1 to 3, respectively.

The test-retest reliability of the SCIP subscale and total scores was assessed by analyzing the correlations between the scores at Time 1 (T1) and Time 2 (T2). The Pearson correlation coefficient between the SCIP Total scores at T1 and T2 for Group A (Form 1–2 or vice versa) was 0.681 ($p<0.001$). The Pearson correlation coefficients for SCIP Total were 0.816 ($p<0.001$) for Group B (Form 1–3 or vice versa) and 0.726 ($p<0.05$) for Group C (Form 2–3 or vice versa).

Table 3. SCIP-TR subtests and total score values and correlations at T1 and T2

Domains (subtests)	Time 1 mean (SD) (N=137, combined)	Time 2 mean (SD) (N=67, combined)	Pearson's r/ICC
VLT-I	23.07 (3.26)	24.57 (2.69)	0.405** 0.524**
WMT	21.95 (2.04)	22.46 (1.82)	0.430** 0.526**
VFT	9.97 (3.51)	10.83 (3.46)	0.405** 0.542**
VLT-D	7.66 (1.70)	7.70 (1.79)	0.461** 0.618**
PST	12.65 (3.04)	14.01 (3.28)	0.424** 0.575**
SCIP-TR Total	75.16 (9.70)	79.61 (7.15)	0.515** 0.653**
Domains (Subtests)	**Group A (Form 1–2 and 2–1) Pearson's r/ICC**	**Group B (Form 1–3 and 3–1) Pearson's r/ICC**	**Group C (Form 2–3 and 3–2) Pearson's r/ICC**
VLT-I	0.409* 0.537*	0.718** 0.719**	0.469* 0.579*
WMT	0.234 0.191	0.797** 0.797**	0.443* 0.493*
VFT	0.254 0.465	0.610** 0.607*	0.576** 0.608*
VLT-D	0.451* 0.680*	0.724** 0.805**	0.403* 0.559*
PST	0.570** 0.601**	0.569* 0.709**	0.195 0.281
SCIP-TR Total	0.681** 0.777**	0.816** 0.821**	0.521** 0.726**

* p<0.05; ** p<0.001; ICC: intraclass correlation; VLT-I: verbal learning test – immediate; WMT: working memory test; VFT: verbal fluency test; VLT-D: verbal learning test – delayed; PST: processing speed test.

The test-retest reliability of the SCIP subscale and total scores was assessed by analyzing Pearson's correlations between the scores at Time 1 and Time 2 for the sample. The inter-session correlation value for the SCIP total score was the highest at 0.515. Correlations for the subtest scores varied, with a low value of 0.405 observed for VLT-I and VFT and a higher value of 0.461 for VLT-D, as presented in Table 3. The ICC coefficient was calculated to evaluate the test-retest reliability of the VLT-I subtest, yielding an ICC of 0.52 (95% CI: 0.34–0.71, p <0.001). For the WMT, the ICC coefficient was 0.53 (95% CI: 0.47–0.72, p=0.001), and for the VFT, the ICC coefficient was 0.54 (95% CI: 0.39–0.79, p<0.001). The ICC coefficient for the VLT-D subtest was 0.618 (95% CI: 0.383–0.763, p<0.001), and for the PST subtest, it was 0.575 (95% CI: 0.321–0.736, p<0.001). Moreover, the ICC coefficient for the SCIP-TR Total score was 0.653 (95% CI: 0.435–0.786, p<0.001).

Additionally, we evaluated test-retest reliability by calculating Pearson's correlations between sessions for each subgroup (Groups A, B, and C) that received the alternative forms (Forms 1–3). Group B exhibited greater inter-session reliability than Groups A and C (Table 3, bottom panel). According to the ICC, the ICC coefficient for Group A's SCIP-TR total score was 0.777 (95% confidence interval: 0.50–0.90, p <0.001), while it was 0.821 (95% CI: 0.18–0.95, p <0.001) for Group B's total score and 0.726 (95% CI: 0.41–0.87, p=0.002) for Group C's total score. These results demonstrate good reliability, especially in Groups A and B, and moderate reliability in Group C (41).

Gender Differences

A two-way ANCOVA was conducted to assess the contributions of gender and years of education to the total SCIP score, controlling for age. No significant interaction effects on the SCIP Total score were found after controlling for age (F=0.907, p=0.343). Furthermore, no significant main effects of gender or years of education were observed (for gender, F=0.674, p=0.413; for education, F=0.103, p=0.902). Similarly, when age was controlled to assess the contributions of gender and year of schooling to the SCIP Total score at T2, no interaction or main effect was found (all p >0.05).

Factor Analysis

Table 4 presents the findings from the exploratory factor analysis (EFA). For all forms of the SCIP considered as a whole, the Kaiser-Meyer-Olkin (KMO) index was 0.713, indicating average sampling adequacy (42). The factor analysis identified a one-factor solution that accounted for 50.2% of the total variance.

The KMO values for SCIP Forms 1 and 3 were reported as 0.616 and 0.620, respectively. Both versions displayed a two-factor structure, with the VLT-I and the VLT-D associated with memory and showing substantial loading on Factor 1. In contrast, the VFT and the PST, which reflect executive functions, demonstrated a stronger loading on Factor 2. Conversely, the KMO value for SCIP Form 2 was 0.742, indicating a single-factor structure, where all subscale scores from SCIP Form 2 are regarded as an integrated whole.

Associations with Neuropsychological Testing (Convergent Validity)

All SCIP forms correlated with all B-CATS tests (Table 5). The total score of all three SCIP versions was also moderately correlated with the B-CATS tests of DSST, TMT-A/B, and animal fluency (all p <0.05). All versions of the PST subtests of the SCIP assessing motor and processing speed and attention showed a moderate positive correlation with the DSST (r values between 0.403 and 0.584) and a mild to moderate negative correlation with the TMT-A (r values between -0.394 and -0.471), which evaluate the same cognitive functions. All three versions of the VFT subtest assessing fluency were significantly correlated with the B-CATS animal fluency test (all p <0.05; r values ranged from 0.322 to 0.589). A significant negative correlation was observed between the WMT subtests of all SCIP forms and TMT-B (all p<0.05; r values ranged from -0.353 to -0.480). Furthermore, the VLT-D subtests of all three SCIP forms showed significant positive correlations with the recall domain of the SMMSE (all p <0.05; r values ranged from 0.356 to 0.381).

Table 4. Factor analysis of the SCIP-TR at Time 1

Kaiser-Meyer-Olkin (KMO)	0.713
Barlett's test of sphericity	<0.001
	Factor 1
VLT-I	0.847
WMT	0.604
VFT	0.553
VLT-D	0.735
PST	0.762
Variance explained	50.15%

VLT-I: verbal learning test – immediate; WMT: working memory test; VFT: verbal fluency test; VLT-D: verbal learning test – delayed; PST: processing speed test.

DISCUSSION

This study aims to evaluate the psychometric properties of the Turkish versions of the SCIP scale. To achieve this goal, the following analyses were conducted: I) the factor structure of the SCIP forms was examined in a Turkish sample; II) the reliability of the SCIP forms was assessed; III) the test-retest reliability of the scale was determined; and IV) the convergent validity of the SCIP was investigated by calculating its correlations with the B-CATS and SMMSE. To the best of our knowledge, this represents the first and only investigation of the psychometric properties of a Turkish translation of the SCIP, with the added benefit of data on all three forms in a normative Turkish sample.

Table 5. Correlations between the total scores of the SCIP-TR and the scores of neuropsychological tests (r-values)

Tests	SCIP-TR Form 1	SCIP-TR Form 2	SCIP-TR Form 3
DSST	0.548**	0.522**	0.392*
TMT-A	-0.489**	-0.403**	-0.344*
TMT-B	-0.369**	-0.501**	-0.612**
Animal fluency	0.732**	0.481**	0.603**
SMMSE (total)	0.128	0.302*	0.543**
CFQ	0.198	0.171	-0.138

DSST: digit symbol substitution test; TMT A: trail making test – part A; TMT B: trail-making test – part B; SMMSE: standardised mini-mental state examination; CFQ: cognitive failures questionnaire.

The findings indicate the feasibility, reliability, and validity of the SCIP-TR when administered to healthy controls. The alternative forms of the SCIP have shown satisfactory test-retest reliability. Furthermore, the internal consistency has been deemed good across all forms of the SCIP-TR. The correlation between SCIP-TR and B-CATS also suggests that both screening instruments assess similar cognitive domains (convergent validity). Significant correlations were found between the PST subtest –evaluating motor and processing speed as well as attention– and the DSST and TMT-A; between the VFT subtest –measuring fluency– and the animal fluency test; and between the WMT subtest –evaluating executive functioning and set-shifting– and TMT-B. Given that the SCIP-TR is concise and easy to administer, it acts as an effective neuropsychological screening tool for assessing cognitive domains. However, a low correlation was noted between the SCIP-TR and the SMMSE. This minimal correlation between the two assessments is likely due to factors such as the differing cognitive domains assessed by each test, variations in measurement methodologies, and ceiling effects. This observation suggests that while both scales serve distinct functions, they may not be entirely comparable in measuring the same construct (43–45).

The SCIP is presented in three alternative forms to evaluate neuropsychological impairments over time while aiming to minimize the learning effects that may arise from practice. This methodology was replicated in the SCIP-TR, where we observed substantial equivalence among the three formats. Notably, the total score and four of the five subtests showed no significant deviation from equivalence. The only exception was a higher score for the VFT on one of the three SCIP-TR formats, a likely coincidental occurrence, given the large number of statistical comparisons conducted for this report. In the original version (23) and the Italian scale adaptation (16), discrepancies were noted in certain subtests among the various forms. These findings suggest that all three forms of the SCIP-TR can be used interchangeably in practical applications.

Acceptable test-retest reliability was observed for all SCIP subtest scores, and significant correlations were found for each subtest and the total score. Learning effects appeared to be limited across all subtests, particularly when considering gender and age-related differences. Nevertheless, when administering the SCIP-TR at Time 2, participants showed higher mean scores for each subtest and the total score. These findings indicate that it remains essential to consider potential practice effects when using the SCIP for multiple assessments within a short period. While implementing alternative forms did not eliminate practical effects, it is reasonable to conclude that such effects were considerably less than those expected from repeating identical test materials. In this context, introducing varied forms is crucial in reducing learning effects during repeated neuropsychological assessments, thereby providing valuable insights into cognitive performance changes over time.

In the Turkish version of the SCIP, the internal consistency of SCIP Form 1 among participants was Cronbach's α=0.715. Internal consistency was higher for SCIP-TR Form 2 (α=0.75). However, internal consistency was lower for SCIP-TR Form 3. The variability in the three estimates of internal consistency may relate to the use of single test scores to assess different cognitive domains, combined with the smaller samples resulting from stratification by SCIP Form (46). The results were consistent with the internal consistency reported in the German, French, Italian, and Spanish validation studies of the SCIP (16,24,26,28,47).

Factor analysis indicated the presence of a single factor that accounts for over fifty percent of the total variance (50.2%). The validation conducted in the Spanish context similarly identified a one-factor solution (47). The correspondence between the findings from this study and those observed in the Spanish version of the SCIP reinforces the construct validity of the Turkish version. Factor analyses conducted on patient samples with schizophrenia and bipolar disorder (47–50) also demonstrated a single factor that accounts for approximately fifty percent of the total variance and significantly loads across all SCIP subtests, reflecting a comprehensive indicator of cognitive impairment, potentially due to reduced relative variability among subtest scores.

The low correlation observed between SCIP-TR and both SMMSE and CFQ can be explained by the inherent differences in the cognitive domains assessed by these tests, as well as the unique characteristics of our sample, which consists of healthy university students. The SMMSE functions as a screening instrument that evaluates orientation and fundamental cognitive abilities; consequently, a ceiling effect is likely to manifest among individuals with high cognitive functioning, such as those in our study (51). In contrast, the CFQ provides a subjective evaluation of cognitive deficits encountered in everyday life; it is well-documented that subjective cognitive complaints often demonstrate a weak correlation with objective test performance in healthy populations. Indeed, the observed low correlations with these two scales in our research may be due to the distinct cognitive areas evaluated by these tests compared to SCIP-TR and the elevated cognitive performance of our participants, rather than indicating any inadequacy of SCIP-TR itself. On the other hand, the robust correlation detected between SCIP-TR and B-CATS suggests that these scales are congruent in their assessments of objective cognitive abilities. The SCIP demonstrates a comprehensive ability to evaluate cognitive skills, including motor speed, attention, verbal memory, executive functions, and fluency (50).

The present study had some limitations that must be acknowledged. First, patients with mental disorders were not included as a separate group; therefore, SCIP-TR has yet to be validated for populations with mental disorders. Second, university students aged 18 to 45 were included in the study. This limits the scale's validity, particularly in older adults and individuals with lower education levels, and may also affect the generalizability of the results to Turkish society or various socioeconomic and cultural groups. Further studies are needed to focus on a broader age and education range and to include a larger sample size. Third, although a different form was used, we retested participants after only 2 to 7 days to highlight even minor practice effects. A longer delay before the second administration would yield cognitive assessments more representative of the clinical context. Fourth, the retest could not be applied to all participants, which may have impacted the test-retest reliability results. Fifth, convergent validity was emphasized, but the study did not include other types of validity, such as discriminant validity, criterion validity, or sensitivity.

In conclusion, the SCIP-TR demonstrates robust psychometric properties. Original studies conducted with the SCIP substantiate that various iterations of this scale are suitable for evaluating cognitive impairments in Türkiye. The SCIP-TR can be readily used for screening purposes in psychiatric settings and is likely to play an increasingly important role in clinical practice. The strengths of SCIP include its ease of training and the limited time required for implementation. The SCIP-TR requires minimal materials: a one-page form, a pen or pencil, and a watch or timer. The average administration time is approximately 15 minutes. The availability of different forms for repeated neurocognitive assessment is also a significant advantage of the scale. The SCIP-TR also proved reliable, with limited effects from education and gender, and the total scores for all three forms were very similar to the original SCIP normative results. Of course, the SCIP-TR cannot replace a full and comprehensive neuropsychological examination, nor is it a diagnostic tool. Since the SCIP was developed as a screening tool, it provides a preliminary assessment that may indicate the need for a more comprehensive

neuropsychological evaluation. The SCIP has been validated in multiple languages and contexts and has proven to be reliable and effective in clinical practice. The SCIP-TR is poised for investigation regarding its feasibility in Turkish clinical samples. This study represents a first step toward cognitive assessment using the SCIP-TR in Turkish individuals. The sequential implementation of SCIP-TR Form 1 followed by Form 3, or vice versa, may provide advantages to individuals scheduled for re-evaluation based on the most recent outcomes. Further research is needed to investigate the SCIP-TR in a larger and more diverse population, including patients with mental disorders.

Acknowledgements: We thank Dr. Scot Purdon and PNL Inc. for permission and support in translating the SCIP scale into Turkish.

Ethics Committee Approval: Ethics committee approval was received from Çanakkale Onsekiz Mart University Faculty of Medicine Ethics Committee on 13.12.2023 with the approval number of 2023/16-13.

Informed Consent: All participants were informed about the study, and they provided both verbal and written consent.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept- ŞAK, MİA; Design- ŞAK, MİA; Supervision- MİA; Resource- ŞAK, FEK, SS, MİA; Materials- ŞAK, FEK, SS; Data Collection and/or Processing- ŞAK, FEK, SS; Analysis and/or Interpretation- ŞAK, MİA; Literature Search- ŞAK, FEK, SS, MİA; Writing- ŞAK, MİA; Critical Reviews- ŞAK, MİA.

Conflict of Interest: The authors declared that there is no conflict of interest.

Financial Disclosure: This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

REFERENCES

1. Mihaljević-Peleš A, Bajs Janović M, Šagud M, Živković M, Janović Š, Jevtović S. Cognitive deficit in schizophrenia: an overview. Psychiatr Danub. 2019;31:139-142.
2. Suchy Y. Executive functioning: overview, assessment, and research issues for non- neuropsychologists. Ann Behav Med. 2009;37:106–116. [Crossref]
3. Morozova A, Zorkina Y, Abramova O, Pavlova A, Pavlov K, Soloveva K, et al. Neurobiological highlights of cognitive impairment in psychiatric disorders. Int J Mol Sci. 2022;23:1217. [Crossref]
4. Bratman GN, Hamilton JP, Daily GC. The impacts of nature experience on human cognitive function and mental health. Ann N Y Acad Sci. 2012;1249:118–136. [Crossref]
5. Van Rheenen TE, Lewandowski KE, Bauer IE, Kapczinski F, Miskowiak K, Burdick KE, et al. Current understandings of the trajectory and emerging correlates of cognitive impairment in bipolar disorder: an overview of evidence. Bipolar Disord. 2020;22:13–27. [Crossref]
6. Harvey PD. What is the evidence for changes in cognition and functioning over the lifespan in patients with schizophrenia?. J Clin Psychiatry. 2014;75 Suppl 2:34-38. [Crossref]
7. Semkovska M, Quinlivan L, O'Grady T, Johnson R, Collins A, O'Connor J, et al. Cognitive function following a major depressive episode: a systematic review and meta-analysis. Lancet Psychiatry. 2019;6:851–861. [Crossref]
8. Roosenschoon BJ, Mulder CL, Deen ML, van Weeghel J. Effectiveness of illness management and recovery (IMR) in the Netherlands: a randomised clinical trial. BMC Psychiatry. 2016;16:73. [Crossref]
9. Nakagome K. Cognitive impairment in psychiatric disorders. Psychiatry Clin Neurosci. 2017;71:293. [Crossref]
10. Bora E. Differences in cognitive impairment between schizophrenia and bipolar disorder: considering the role of heterogeneity. Psychiatry Clin Neurosci. 2016;70:424–433. [Crossref]
11. Culpepper L, Lam RW, McIntyre RS. Cognitive impairment in patients with depression: awareness, assessment, and management. J Clin Psychiatry. 2017;78:1383–1394. [Crossref]
12. Jalal B, Chamberlain SR, Sahakian BJ. Obsessive-compulsive disorder: etiology, neuropathology, and cognitive dysfunction. Brain Behav. 2023;13:e3000. [Crossref]
13. Robinson S, Goddard L, Dritschel B, Wisley M, Howlin P. Executive functions in children with autism spectrum disorders. Brain Cogn. 2009;71:362–368. [Crossref]
14. Mann FD, Clouston SAP, Cuevas A, Waszczuk MA, Kuan P-F, Carr MA, et al. Genetic liability, exposure severity, and post-traumatic stress disorder predict cognitive impairment in World Trade Center responders. J Alzheimers Dis. 2023;92:701–712. [Crossref]
15. Bakkour N, Samp J, Akhras K, El Hammi E, Soussi I, Zahra F, et al. Systematic review of appropriate cognitive assessment instruments used in clinical trials of schizophrenia, major depressive disorder and bipolar disorder. Psychiatry Res. 2014;216:291–302. [Crossref]
16. Belvederi Murri M, Folesani F, Costa S, Morelli AC, Scillitani V, Guaiana G, et al. Italian validation of the screen for cognitive impairment in psychiatry. Community Ment Health J. 2020;56:1411–1418. [Crossref]
17. Green MF, Nuechterlein KH, Gold JM, Barch DM, Cohen J, Essock S, et al. Approaching a consensus cognitive battery for clinical trials in schizophrenia: the NIMH-MATRICS conference to select cognitive domains and test criteria. Biol Psychiatry. 2004;56:301–307. [Crossref]
18. Gold JM, Queern C, Iannone VN, Buchanan RW. Repeatable battery for the assessment of neuropsychological status as a screening test in schizophrenia I. sensitivity, reliability, and validity. Am J Psychiatry. 1999;156:1944–1950. [Crossref]
19. Keefe RS, Goldberg TE, Harvey PD, Gold JM, Poe MP, Coughenour L. The brief assessment of cognition in schizophrenia: reliability, sensitivity, and comparison with a standard neurocognitive battery. Schizophr Res. 2004;68:283–297. [Crossref]
20. Schrank FA. Woodcock-Johnson III tests of cognitive abilities. In: Davis AS, editor. Handbook of Pediatric Neuropsychology. New York: Springer; 2010. p. 415-434.
21. Alpert JE, Uebelacker LA, McLean NE, Abraham M, Rosenbaum JF, Fava M. The mini-mental state examination among adult outpatients with major depressive disorder. Psychother Psychosom. 1995;63:207–211. [Crossref]
22. Manning V, Wanigaratne S, Best D, Strathdee G, Schrover I, Gossop M. Screening for cognitive functioning in psychiatric outpatients with schizophrenia, alcohol dependence, and dual diagnosis. Schizophr Res. 2007;91:151–158. [Crossref]
23. Purdon SE, editor. The Screen for Cognitive Impairment in Psychiatry (SCIP): instructions and three alternate forms. Canada: PNL Inc, Edmonton, Alberta; 2005.
24. Pino O, Guilera G, Gómez J, Rojo JE, Vellejo J, Purdon SE. Escala breve para evaluar el deterioro cognitivo en pacientes psiquiátricos [A brief scale to assess cognitive impairment in psychiatric patients]. Psicothema. 2006;18:447–452.
25. Hirabayashi E, Purdon SE, Masuya J, Matsumoto Y, Okada S, Yamashiro N, et al. The Japanese version of the screen for cognitive impairment in psychiatry: a preliminary study. Int Clin Psychopharmacol. 2006;21:A10. [Crossref]
26. Tourjman SV, Beauchamp MH, Djouini A, Neugot-Cerioli M, Gagner C, Baruch P, et al. French validation of the screen for cognitive impairment in psychiatry (SCIP-F). Open J Psychiatry. 2016;06:107–118. [Crossref]
27. Jensen JH, Støttrup MM, Nayberg E, Knorr U, Ullum H, Purdon SE, et al. Optimising screening for cognitive dysfunction in bipolar disorder: validation and evaluation of objective and subjective tools. J Affect Disord. 2015;187:10–19. [Crossref]
28. Sachs G, Lasser I, Purdon SE, Erfurth A. Screening for cognitive impairment in schizophrenia: psychometric properties of the German version of the screen for cognitive impairment in psychiatry (SCIP-G). Schizophr Res Cogn. 2021;25:100197. [Crossref]
29. Rojo E, Pino O, Guilera G, Gomez-Benito J, Purdon SE, Crespo-Facorro B, et al. Neurocognitive diagnosis and cut-off scores of the screen for cognitive impairment in psychiatry (SCIP-S). Schizophr Res. 2010;116:243–251. [Crossref]
30. Bell MD, Bryson GJ, Greig TC, Fiszdon JM, Wexler BE. Neurocognitive enhancement therapy with work therapy: productivity outcomes at 6- and 12-month follow-ups. J Rehabil Res Dev. 2005;42:829–838. [Crossref]
31. Hurford IM, Marder SR, Keefe RS, Reise SP, Bilder RM. A brief cognitive assessment tool for schizophrenia: construction of a tool for clinicians. Schizophr Bull. 2011;37:538–545. [Crossref]
32. Hurford IM, Ventura J, Marder SR, Reise SP, Bilder RM. A 10-minute measure of global cognition: validation of the brief cognitive assessment tool for schizophrenia (B-CATS). Schizophr Res. 2018;195:327–333. [Crossref]
33. Cuesta MJ, Pino O, Guilera G, Rojo JE, Gomez-Benito J, Purdon SE, et al. Brief cognitive assessment instruments in schizophrenia and bipolar patients, and healthy control subjects: a comparison study between the brief cognitive assessment tool for schizophrenia (B-CATS) and the screen for cognitive impairment in psychiatry (SCIP). Schizophr Res. 2011;130:137–142. [Crossref]
34. Folstein MF, Folstein SE, McHugh PR. "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res. 1975;12:189–198. [Crossref]

35. Molloy DW, Alemayehu E, Roberts R. Reliability of a standardized mini-mental state examination compared with the traditional mini-mental state examination. Am J Psychiatry. 1991;148:102–105. [Crossref]
36. Pangman VC, Sloan J, Guse L. An examination of psychometric properties of the mini- mental state examination and the standardized mini-mental state examination: implications for clinical practice. Appl Nurs Res. 2000;13:209–213. [Crossref]
37. Tombaugh TN, McIntyre NJ. The mini-mental state examination: a comprehensive review. J Am Geriatr Soc. 1992;40:922–935. [Crossref]
38. Güngen C, Ertan T, Eker E, Yaşar R, Engin F. Standardize mini mental testin türk toplumunda hafif demans tanısında geçerlik ve güvenilirliği [Reliability and validity of the standardized mini mental state examination in the diagnosis of mild dementia in Turkish population]. Turk Psikiyatri Derg. 2002;13:273–281.
39. Broadbent DE, Cooper PF, FitzGerald P, Parkes KR. The cognitive failures questionnaire (CFQ) and its correlates. Br J Clin Psychol. 1982;21:1–16. [Crossref]
40. Rast P, Zimprich D, Van Boxtel M, Jolles J. Factor structure and measurement invariance of the cognitive failures questionnaire across the adult life span. Assessment. 2009;16:145–158. [Crossref]
41. Koo TK, Li MY. A guideline of selecting and reporting intraclass correlation coefficients for reliability research. J Chiropr Med. 2016;15:155–163. [Crossref]
42. Kaiser HF. An index of factorial simplicity. Psychometrika. 1974;39:31–36. [Crossref]
43. Alderman CP, Peters PG. Mini-mental state examination alone may not adequately rule out the possibility of cognitive deficit. Med J Aust. 1995;163:53. [Crossref]
44. Jones RN, Gallo JJ. Education bias in the mini-mental state examination. Int Psychogeriatr. 2001;13:299–310. [Crossref]
45. Mitchell AJ. A meta-analysis of the accuracy of the mini-mental state examination in the detection of dementia and mild cognitive impairment. J Psychiatr Res. 2009;43:411–431. [Crossref]
46. Tavakol M, Dennick R. Making sense of Cronbach's alpha. Int J Med Educ. 2011;2:53–55. [Crossref]
47. Pino O, Guilera G, Rojo JE, Gómez-Benito J, Bernardo M, Crespo-Facorro B, et al. Spanish version of the screen for cognitive impairment in psychiatry (SCIP-S): psychometric properties of a brief scale for cognitive evaluation in schizophrenia. Schizophr Res. 2008;99:139–148. [Crossref]
48. Guilera G, Pino O, Gómez-Benito J, Rojo JE, Vieta E, Tabares-Seisdedos R, et al. Clinical usefulness of the screen for cognitive impairment in psychiatry (SCIP-S) scale in patients with type I bipolar disorder. Health Qual Life Outcomes. 2009;7:28. [Crossref]
49. Gómez-Benito J, Guilera G, Pino Ó, Rojo E, Tabares-Seisdedos R, Safont G, et al. The screen for cognitive impairment in psychiatry: diagnostic-specific standardization in psychiatric ill patients. BMC Psychiatry. 2013;13:127. [Crossref]
50. Gómez-Benito J, Guilera G, Pino O, Tabarés-Seisdedos R, Martínez-Arán A. Comparing neurocognitive impairment in schizophrenia and bipolar I disorder using the screen for cognitive impairment in psychiatry scale. Int J Clin Health Psychol. 2014;14:128–136. [Crossref]
51. Brück E, Larsson JW, Lasselin J, Bottai M, Hirvikoski T, Sundman E, et al. Lack of clinically relevant correlation between subjective and objective cognitive function in ICU survivors: a prospective 12-month follow-up study. Crit Care (London, England). 2019;23:253. [Crossref]

SCIP FORM 1

SCREEN FOR COGNITIVE IMPAIRMENT IN PSYCHIATRY (SCIP)
Scot E. Purdon, Ph.D., Clinical Professor of Psychiatry, University of Alberta; spurdon@ualberta.ca

Client Identifiers: _____ Date of SCIP (dd-MON-yy): _____

1. List learning test (Read the word list at roughly 3 seconds per word. Test recall. Repeat 2 more times). At the end of trial 3 let participant know they will be asked to recall the list again later.

	Drum	Curtain	Bell	Coffee	School	Parent	Moon	Garden	Hat	Farmer	Σ/10	
Tr. 1												
Tr. 2												
Tr. 3												Σ/30 =

2. Consonant repetition test: Read each set of three letters. Have the subject count backwards from the start # for the seconds under delay for each item, and then recall letters. Any order is fine.

Stimulus	Start #	Delay	Response	Σ	Stimulus	Start #	Delay	Response	Σ	
Q-L-X					F-X-B	53	3			
H-J-T					J-C-N	46	9			
X-C-P	94	18			B-G-Q	117	18			
N-D-J	109	9			K-M-C	48	3			Σ/24 =

3. Verbal fluency test. Allow 30 seconds to say words beginning with each letter (note instructions for 3 rules – no numbers, no capitalized words, no variations on one word – see instructions for wording).

Stimulus	Response	
C		
L		Σ =

4. Delayed list learning: Ask the subject to recall the earlier words; do not repeat the list.

	Drum	Curtain	Bell	Coffee	School	Parent	Moon	Garden	Hat	Farmer	
Tr. 4											Σ/10 =

----------FOLD HERE----------

5. Visuomotor tracking test: After practice items, allow 30 seconds to complete left to right and top to bottom.

A	V	C	U	G	Y
. -	. . . -	- . - .	. . -	- - .	- . - -

Practice						Test			
G	U	C	Y	A	V	C	A	G	
V	Y	U	G	U	A	Y	C	V	
A	C	Y	G	U	V	C	Y	V	
U	G	A	V	C	G	A	V	Y	Σ/30 =

SCIP TOTAL SCORE (Sum of five subtests) =

SCIP FORM 2

SCREEN FOR COGNITIVE IMPAIRMENT IN PSYCHIATRY (SCIP)
Scot E. Purdon, Ph.D., Clinical Professor of Psychiatry, University of Alberta; spurdon@ualberta.ca

Client Identifiers: _____ Date of SCIP (dd-MON-yy): _____

1. List learning test: Read the list of 10 words at 3 seconds per word. Test free recall. Repeat 2 more times. At the end of trial 3 let participant know they will be asked to recall the list again later.

	Nose	Turkey	Colour	House	River	Doll	Mirror	Road	Heart	Music	Σ/10	
Tr. 1												
Tr. 2												
Tr. 3												Σ/30 =

2. Consonant repetition test: Read each set of three letters. Have the subject count backwards from the start # for the seconds under delay for each item, and then recall letters. Any order is fine.

Stimulus	Start #	Delay	Response	Σ	Stimulus	Start #	Delay	Response	Σ	
S-Z-B					M-B-W	38	3			
G-P-W					T-D-H	112	9			
R-X-T	105	18			L-R-P	35	3			
K-F-N	62	9			Z-W-S	147	18			Σ /24 =

3. Verbal fluency test. Allow 30 seconds to say words beginning with each letter (note instructions for 3 rules – no numbers, no capitalized words, no variations on one word – see instructions for wording).

Stimulus	Response	
P		
W		Σ =

4. Delayed list learning: Ask the subject to recall the earlier words; do not repeat the list.

	Nose	Turkey	Colour	House	River	Doll	Mirror	Road	Heart	Music	
Tr. 4											Σ/10 =

----------FOLD HERE----------

5. Visuomotor tracking test: After practice items, allow 30 seconds to complete left to right and top to bottom.

N	B	P	R	K	Q
- .	- . . .	. - - .	. - .	- . -	- - . -

Practice						Test			
K	R	P	Q	N	B	P	N	K	
B	Q	R	K	R	N	Q	P	B	
N	P	Q	K	R	B	P	Q	B	
R	K	N	B	P	K	N	B	Q	Σ/30 =

SCIP TOTAL SCORE (Sum of five subtests) =

SCIP FORM 3

SCREEN FOR COGNITIVE IMPAIRMENT IN PSYCHIATRY (SCIP)
Scot E. Purdon, Ph.D., Clinical Professor of Psychiatry, University of Alberta; spurdon@ualberta.ca

Client Identifiers: _____ Date of SCIP (dd-MON-yy): _____

1. List learning test: Read the list of 10 words at 3 seconds per word. Test free recall. Repeat 2 more times. At the end of trial 3 let participant know they will be asked to recall the list again later.

	Desert	Face	Letter	Bed	Machine	Milk	Helmet	Sailor	Horse	Nail	Σ/10	
Tr. 1												
Tr. 2												
Tr. 3												Σ/30 =

2. Consonant repetition test (Read each set of three letters. Have the subject count backwards from the start # for the seconds under delay for each item, and then recall letters. Any order is fine.

Stimulus	Start #	Delay	Response	Σ	Stimulus	Start #	Delay	Response	Σ	
D-L-H					Z-Q-M	49	3			
M-S-R					B-X-K	67	18			
P-H-Q	39	9			N-F-P	128	9			
X-C-D	177	18			C-T-J	40	3			Σ/24 =

3. Verbal fluency test. Allow 30 seconds to say words beginning with each letter (note instructions for 3 rules – no numbers, no capitalized words, no variations on one word – see instructions for wording).

Stimulus	Response	
F		
R		Σ =

4. Delayed list learning: Ask the subject to recall the earlier words; do not repeat the list.

	Desert	Face	Letter	Bed	Machine	Milk	Helmet	Sailor	Horse	Nail	
Tr. 4											Σ /10 =

----------FOLD HERE----------

5. Visuomotor tracking test: After practice items, allow 30 seconds to complete left to right and top to bottom.

M	F	X	D	W	J
--	..-.	-..-	-..	.--	.---

Practice						Test			
W	D	X	J	M	F	X	M	W	
F	J	D	W	D	M	J	X	F	
M	X	J	W	D	F	X	J	F	
D	W	M	F	X	W	M	F	J	Σ/30=

SCIP TOTAL SCORE (Sum of five subtests) =