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Research article

Investigating environmental parameters involved in psychosis etiopathology: Translation and test-retest reliability of four scales

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ABSTRACT

First Episode Psychosis (FEP) emergence and the clinical outcome might be attributed to various parameters, wherein –gene-environment interaction plays a pivotal role. Four specified psychometric tools, that have been used for the evaluation of possible environmental, social, and psychological parameters involved in the etiopathology and clinical course of psychosis are the following: Social Environment Assessment Tool (SEAT), Discrimination (DISC), Brief Core-Schema Scales (BCSS) and Life-Threatening Events-Brief Life-Events Questionnaire (LTE-Q). These tools were used in the Athens-FEP Study assessment schedule, which investigates the gene-environment interaction among patients presenting with FEP. The goal of the present study is to present them in regard to their content, their use in international literature, their translation in Greek, and their test-retest reliability. SEAT, DISC, and BCSS were provided to the Athens FEP Study by the European Network of National Schizophrenia Network studying Gene-Environment interactions (EUGEI) research project. LTE-Q was already translated into Greek and was selected as befitting the purposes of the FEP study. The EUGEI instruments were translated into the Greek language by two independent translators for each instrument. All translators were qualified in the administration of the English version of the scales after being trained online through a comprehensive work-package training set provided by the EUGEI. The principal investigator of the Athens-FEP project checked and approved the final versions of the questionnaires. The four tools were administered to 32 subjects, all diagnosed with FEP, participating in the Athens-FEP project. Intraclass correlation coefficients (ICCs) were used to assess the agreement between the scores of the four questionnaires after the first and second administrations. The scales were administered to our subjects twice, with an intermediate period of three weeks between the first and second administrations, by three qualified researchers. There was a statistically significant agreement for almost all measurements of the four questionnaires, except for the frequency dimension of DISC. Agreement between those measurements was very high (ICCs>0.8). Our study is an indication that the Greek versions of the psychometric tools are reliable, although a more thorough test of their psychometric properties is needed. All four questionnaires have unique properties that differentiate them from other similar tools. Moreover, the DISC is the only discrimination scale translated into Greek. More importantly, the translated questionnaires are part of a broad, well-established research package of psychometric tools, suitable for the evaluation of environmental risk factors potentially involved in early psychosis, which might represent a valuable scientific resource in the Greek research field.

KEYWORDS: Psychosis, psychometric tools, social environment, discrimination, core schemas, life-events, reliability.

Introduction

Psychotic disorders are characterized by severe and persistent psychopathology, affecting all higher cognitive functions, such as perception, cognition, thinking, emotion, and volition, that are primarily outlined by a substantial disruption of reality testing.[1,2] There is ongoing research in the field of psychosis, focusing on potential genetic and environmental factors that might underlie the etiopathology of the disease. It has been suggested that, FEP emergence and the clinical out-

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come might be attributed to various parameters and that –gene-environment interaction plays a pivotal role in it. The necessity of a psychometric test battery involving tools for the investigation of environmental and genetic associations with FEP, that can specifically address the distinctive characteristics of patients with early psychosis, is of particular importance. A large-scale study representing a substantial reference point in this research field is the European Network of National Schizophrenia Networks Studying Gene-Environment Interactions (EUGEI).[3] This international multi-center study has organized and employed multidisciplinary work packages, involving psychometric tools for the evaluation of environmental, clinical, and genetic determinants. In Greece, research in the field of early psychosis has been further substantiated recently through the longitudinal prospective Athens FEP Study,[4] which resonates with the international paradigm by addressing gene–environment interaction in early psychosis. The psychometric tools of the Athens FEP study have been considered based on the working package that has been provided by and in collaboration with the EUGEI research network.

Regarding environmental risk factors, some specified psychometric instruments that have been used for the evaluation of social and psychological parameters potentially involved in early psychosis are the following: (a) Social Environment Assessment Tool (SEAT), (b) Discrimination (DISC), c) Brief Core Schema Scale (BCSS) and d) List of Threatening Experiences Questionnaire (LTE-Q). Specifically, SEAT investigates parameters of the wider social milieu of an individual, such as civic order, social cohesion, and community participation, which might be linked to the development of mental health disorders.[5,6] DISC examines the impact of major experiences of unfair treatment, such as discrimination by friends, family, neighbors, education systems, mental health services, court systems, police, employers etc, which have often been reported by individuals with mental health disorders.[5,7] BCSS on the other hand evaluates the inner core beliefs about the self and others,[5,8] which might represent a maladaptive appraisal of personal and interpersonal schemata that could be involved in psychosis. Finally, LTE-Q assesses both the number and the emotional impact of life stressors, involving moderate or long-term threats[5,9] that are likely to enhance psychotic onset. These 4 psychometric scales have been part of the Athens-FEP Study assessment schedule.

The goal of this study is to present the Greek versions of the above-mentioned questionnaires, on the basis of their content, their use in international research, their translation in Greek, and their test-retest reliability.

Materials and Method

Participants and procedure

The three English versions of DISC, SEAT, and BCSS were provided to the primary investigator of the Athens-FEP project and through him to our team by the EUGEI and its official web-based training area GET-THERE (Gene Environment Tools-Training Home Education Reliability Europe).[5,10] The researchers were considered qualified in the administration of the English versions of the various questionnaires after being trained with an enclosed training word package and after assessing acceptable scores for inter-rater reliability measurement videos.

The fourth tool, the LTE-Q was selected as fitting for the purposes of the Athens-FEP project by our primary investigator and was already translated into Greek.

The three questionnaires were translated by two independent translators in Greek who reached an agreement, after their initial translation, in repeated meetings. The principal investigator checked the final version of the questionnaires. Subsequently, the FEP-project researchers administered the three translated questionnaires and the fourth, which was already translated, to three patients, in group sessions. Then it was checked if there was agreement in their answers and if the translated tools were comprehensible and handy (see Supplemental Material for the translation of the three EUGEI tools in Greek).

The reliability of the Greek versions of the four psychometric tools was tested with the test-retest method. The three EUGEI tools were administered by three qualified researchers in our group. The four translated questionnaires were administered to our subjects twice, with an intermediate period of three weeks between the first and the second administration. The four questionnaires were administered to 32 patients with FEP by three qualified researchers. Twenty-four of them were recruited from the Early Psychosis Intervention Outpatient Service[11,12] of the first Department of Psychiatry of the National and Kapodistrian University of Athens in Eginition Hospital and eight of them from the Psychiatric Clinic of the Sismanoglion General Hospital. All of them participated in the Athens-FEP research project.

Their sociodemographic characteristics and final diagnoses, after one year of follow-up, are presented in table 1.

Informed consent was obtained from all patients. The Ethics committee and the Institutional Review Board at Eginition University Hospital approved the study protocol.

Table 1. Participants' sociodemographic characteristics, diagnoses (N=32).

	%
Gender	
Males	19 (59.4)
Age (years), mean (SD)	26.2 (7.7)
Age of Onset(years), mean (SD)	23.7 (7.7)
Years of education, mean (SD)	13.6 (2.4)
Ever Employed	22 (68.7)
Migration	3 (9.4)
Final ICD-10 diagnoses	
Schizophrenia (F20)	16 (50%)
Acute and transient psychotic disorders (F23)	4 (12.5%)
Persistent Delusional disorders (F22)	1 (3.1%)
Schizoaffective disorders (F25)	1 (3.1%)
Other nonorganic psychotic disorders (F28)	1 (3.1%)
Unspecified nonorganic psychosis (F29)	1 (3.1%)
Severe Depressive episode with psychotic symptoms (F32.3)	2 (6.3%)
Bipolar Affective disorder (F31)	3 (9.4%)
Psychotic disorder due to use of cannabinoids (F12.5)	2 (6.3%)

Psychometric Tools

As for the four psychometric tools, information about their origin, scoring, and psychometric properties of their English versions are presented in the following paragraphs:

1. *Social Environment Assessment Tool* (*SEAT*): The SEAT was defined by eight theoretical constructs, relating to different dimensions of social capital: civic disorder, the impact of civic disorder, informal social control, social cohesion and trust, ethnic diversity, physical disorder, and individual community participation.[5,6,10]

The SEAT used by the EUCEI was the Tool version 0.2-Alpha and was included in the Schedules for the Assessment of Social Context and Experiences of the EU-GEI project. It includes six dimensions relevant to conditions met in our country. Provisional unpublished instructions for its scoring were provided to our team by its author (Kirkbride JB, 13/4/2016).[6]

The constructs that were retained in the final version of SEAT scoring were: Civic Disorder (CD), Impact of Civic Disorder (ICD), Informal Social Control (ISC), Social Cohesion & Trust (SCT), overall social capital assessed via the Social Environment Assessment Tool (SEAT).

The following steps should be taken to score the four subdomains (CD, ICD, ISC, SCT) and one main domain (SEAT) of the tool at the individual level: (i) All items should be coded from 1 to 5, (ii) Items 2a to 2d and Items 3a to 3d should be reverse coded prior to scoring so that higher scores indicated less civic disorder and less impact of civic disorder, respectively, (iii) For each participant, scores should be summed (1 to 5) for each subdomain. This leads to the following theoretical minimum and maximum scores for each participant on each subdomain which are: a. CD: Min=4, Max=20 - b. ICD: Min=4, Max=20 c. ISC: Min=4,Max=20- d. SCT: Min=11, Max=55, (iv) Sum- scores for each subdomain should be z-standardized to have a mean of 0 and standard deviation of 1. These new variables should be referred to as zCD, zICD, zISC, zSCT, v) Overall SEAT social capital score: A weighted sum of the z- scores for each subdomain should be created to produce an overall social capital score for each participant. Weighting is based on the factor loadings between each subdomain and the second- order factor ("SEAT"), reported from the above model. The formula to use is as follows: SEAT social capital score = zCD + (0.51*zICD) + (1.6*zISC) + zSCT

The total social capital score and all z- standardized subdomains can be treated as continuous variables in analyses or people can be divided into tertiles of each variable (i.e., high, medium, low). It is up to the end-user to define how to treat these variables for further analysis.

2. *Discrimination* (*DISC*): The Discrimination questionnaire (DISC) sent by EUCEI was included in the Schedules for the Assessment of the Social Context and Experiences of the EU-GEI project. It is a modified 12-item version of the Major Experiences of Discrimination Questionnaire (MED-Q).[7] It includes the 9 items of MED-Q and three more: item 4 ("Stopped, questioned, threatened by police"), item 7 ("Prevented from buying, renting flat or house"), and item 11 ("Treated when getting medical care"). It also differs from the MED-Q version because it does not include among the main reasons for discrimination for each item the following: Height, Weight, Physical Appearance, Education, or Income Level. Instead of them, it includes only a general description of "Other" reasons and "Identify It". The version used in EUGEI includes among the main reasons of discrimination for each item: "Psychiatric disorder" which is not included in the MED-Q version. Regarding dating and frequency of the discrimination events, the MED-Q version includes a graduation of the following type: "Past week", "past month", "more than a year ago" and "How many times", while the EUGEI version includes only: "Yes", "No", "Number of Times", "Age (of the first time)".

In order to measure discrimination after delivering the DISC, the EUGEI recommends the calculation of three dimensions from the raw scoring: The total number of discrimination events, the total frequency of all kinds of discrimination events, and age during the first-ever discrimination event.

3. *Brief Core Schema Scale* (*BCSS*): The BCSS is a self-report questionnaire that assesses the schemas about the self and others. It consists of 24 items, which are graded on a five-point (0-4) Likert scale. More specifically, each individual is asked first to indicate through a binary variable (Yes or No), whether he holds the present belief or not, and in case he answers positively, then he is asked to indicate the degree to which he embraces the present belief. According to the initial study, four components emerged and each of them consisted of 6 items: (1) Negative Self (NS), (2) Positive Self (PS), (3) Negative Others (NO), and 4) Positive Others (PO).[8]

NS component assesses the degree to which an individual holds negative beliefs about oneself (e.g. "I am worthless"), while PS measures the degree to which a person evaluates oneself positively ("I am valuable"). NO factor evaluates the degree to which a person holds negative beliefs about others ("Other people are insidious) and PO evaluates the person's positive assessments of others ("Other people are good").

Moreover, the internal consistency of BCSS in 252 psychotic patients and 757 students for the four factors was found to be high.[8] Test-retest reliability in the non-clinical sample with Pearson's r and the results were satisfactory.

For the evaluation of concurrent validity, correlation analyses with Spearman Rho coefficient were taken in the non-clinical sample, between the BCSS subscales and the Rosenberg Self-Esteem Questionnaire (RSES), the Young's Schema Questionnaire and the Depression Anxiety Stress Scales-DASS.[8] BCSS subscales were found to have moderate to strong correlations with the RSES, and the YSQ. In the psychosis sample, the NS and PS subscales had a moderate to strong correlation with the RSES.

4. *The List of Threatening Events-Brief Life Events Questionnaire* (*LTE-Q*): LTE-Q was developed by Brugha and Cragg in 1990.[9] The LTE-Q assesses both the number and the emotional impact of life stressors involving moderate or long-term threats. It contains 12 items, describing threatening events in the last six months. The respondent answers "Yes" or "No" for each item, and if the answer is positive, he adds the event date. The severity of the threat is scored on a 3-point Lykert type scale. It is particularly recommended for use in psychiatric, psychological, and social studies in which other intervening variables such as social support, coping, and cognitive variables are of interest, and resources do not allow for the use of extensive interview measures of stress.

The LTE-Q was shown to have high test-retest reliability and good agreement with informant information. Concurrent validity, based on the criterion of independently rated adversity derived from a semi-structured life events interview, making use of the Bedford College Life Events and Difficulties Scales (LEDS) method developed by Brown & Harris, showed both high specificity and sensitivity.[13] For events in the 6 months prior to data collection, the sensitivity of the questionnaire was 0.89 and the specificity was 0.74. The inter-rater agreement (also estimated by means of kappa) for the presence of at least one event was 0.96 for the previous 6 months.

Data analysis

Statistical analyses of our data were conducted using SPSS statistical software (version 22.0) and significance was set at 0.05. Intraclass correlation coefficients (ICCs) were used to investigate agreement between scores of the first and second administration of the four questionnaires. An agreement was considered low when ICC is up to 0.4, mediocre when its range is between 0.41 and 0.6, high when it fluctuates between 0.61 and 0.890, and very high when it is higher than 0.8.

Results

There was a statistically significant agreement between the two measurements in the six dimensions of SEAT, the four constructs of BCSS, the total and events score of LTE-Q, and the two dimensions of DISC. There was not a statistically significant agreement between the two measurements in the frequency dimension of DISC. Agreement for all measurements, except for the frequency dimension of DISC, was very high since the ICCs for the four questionnaires were higher than 0.8. (table 2).

Discussion

In the international literature, there are other psychometric tools focusing on factors that SEAT, DISC, BCSS, and LTE-Q are exploring and only a few of them are translated into Greek. BCSS and LTE-Q have been used in non-psychotic samples. EUGEI findings have been reported for SEAT and DISC. In more detail:

Two psychometric tools used in research and focusing on the effect of social environment on human psychology, as SEAT does, are the Modified Social Environment

Table 2. Test-retest results estimated by intraclass correlation coefficients (ICCs) investigating agreement between scores of the first and second administration of SEAT, DISC, BCSS and LTE-Q.

	ICC	95% CI	p
Social Environment Assessment Tool			
Crime and civic disorder	0.99	0.97–1.00	<0.001
Impact of crime and civic disorder	0.99	0.98–1.00	<0.001
Community action and intervention	0.93	0.82–0.97	<0.001
Neighbourhood identity	0.99	0.97–1.00	<0.001
Deprime urban area	0.98	0.96–0.99	<0.001
Personal engagement	0.91	0.80–0.96	<0.001
Discrimination			
Discrimination Events	0.97	0.94–0.99	<0.001
Discrimination Frequency	0.20	0.00–0.82	0.379
Discrimination Age	1.00	1.00–1.00	<0.001
Brief Core Scheme scales			
Negative self	0.99	0.99–1.00	<0.001
Positive self	0.98	0.95–0.99	<0.001
Negative others	0.99	0.99–1.00	<0.001
Positive others	0.96	0.91–0.98	<0.001
Life Threatening Events-Brief Life Events Questionnaire			
Total score	0.98	0.96–0.99	<0.001
Score events	0.98	0.94–0.99	<0.001

Questionnaire[14] and the Perceived Neighborhood Social Cohesion Questionnaire.[15] Those questionnaires have not been translated into Greek. Two psychometric tools that have been used in Greece, exploring similar factors as SEAT are the WHO-Quol-BREF for the quality of life,[16] which includes some questions about natural and social/urban environment, and the Social Capital Questionnaire, searching for "social capital" and sentiments of security and social connection of the individual.[17] The SEAT version of the EUGEI, translated in our study, has not been used in non-psychotic samples and differs from other tools used in the Greek research field since it is designed specifically for and addressed to patients presenting psychosis. In a paper with results regarding the use of SEAT, derived from the EUGEI study, it was found that when investigating the independent effects of psychosocial stressors on subclinical psychosis, lower social capital scores were associated with higher scores on negative and depressive dimensions.[18]

Various psychometric tools have been proposed to calculate discrimination, except DISC. Among them are: (i) The Everyday Discrimination Scale (EDS) (with the following versions: (a) The original,[7,19,20] a 9-item scale investigating situations in which discrimination took place, their frequency, and the main reason for these experiences, (b) EDS (Short version), a 5-items version,[21] (c) Expanded EDS, a 10-items version[22]). (ii) The Major Experiences of Discrimination (MED) (with the following versions: (a) MED – Q,[22] a 9-item scale, investigating situations in which discrimination took place, the main reason for the experience, the last time the experience took place and the total number of similar experiences, (b) MED (Abbreviated Type), a 5-item version[21]), (iii) Work Discrimination (with two versions: a. Chronic Work Discrimination and Harassment (CWDH),[23,24] a 12-item scale searching for discrimination situations at work in the last 12 months, b. CWDH (Abbreviated), a 6-item version[21]), (iv) Heightened Vigilance Scale (HVS) (with 2 versions:[22–24] (a) HVS, a 6-item scale, (b) HVS (Abbreviated) with 4 items), (v) The Discrimination and Stigma Scale-12 (DISC-12), a 32-item standardized scale, assessing aspects of stigma and discrimination in the past 12 months.[25]

DISC is the only psychometric tool translated into Greek that estimates discrimination and has been used only in samples of patients suffering from psychosis.

DISC has already been used in the EUGEI study, investigating whether social disadvantage, linguistic distance, and discrimination contribute to the increased risk of psychotic disorders of ethnic minority groups

in Western countries. Discrimination was not found to associate with psychosis risk.[26] Self-reported discrimination experiences were associated with higher scores on the positive dimension when investigating the independent effects of psychosocial stressors on subclinical psychosis.[18]

The Young Schema Questionnaire has been translated and validated in Greek.[27] Compared to the YSQ, the BCSS has the advantage, that it is short and takes into consideration a theoretical assumption, that the different assessments which a person makes about himself and others interact with the positive psychotic symptoms he presents.[8] Thus, it is suitable for patients with psychosis.

BCSS has been used in a healthy population, people with psychotic symptoms and ultra-high risk for psychosis.[28–34] The BCSS was translated and given to Japanese undergraduate students.[28] The Japanese translation had satisfactory internal consistency and the structure of the four factors of the questionnaire was confirmed. The regression analysis showed that negative schemas about self and others explain delusions of persecution, while positive schemas about the self explain ideas of greatness. Internal reliability, and concurrent and discriminant validity of the BCSS were investigated in individuals at high risk of developing psychosis. Internal consistency analysis showed satisfactory results. Regarding concurrent validity, high scores in the subscales PS and PO were observed simultaneously with low levels of social isolation, failure, and feelings of fault/shame. High scores in the subscales NS and NO were observed at the same time with high levels of mistrust, social isolation, defectiveness, and failure.[29] The most recent study, conducted in a sample of individuals at high risk of developing psychosis and in a control group, has shown satisfactory levels of reliability in both samples.[30]

A similar scale to LTE-Q, the 10-item Perceived Stress Scale (PSS-10), is validated in Greek.[35] It assesses the degree to which situations in life are perceived as stressful. The advantage of LTE-Q is that it is particularly recommended for use in psychiatric, psychological and social studies in which other intervening variables such as social support, coping, and cognitive variables are of interest and allows stress evaluation without using extensive interview measures of stress. Patients with bipolar disorder, unipolar depression, anxiety disorders, borderline personality disorder, and binge drinking have been evaluated with LTE-Q.[36–43]

In conclusion, the four translated questionnaires present excellent test-retest reliability, except for the frequency dimension of DISC. Our study indicates that the Greek versions are reliable. Among its limitations is the lack of a more thorough test of their psychometric properties, especially validity. All four questionnaires have unique properties that differentiate them from other similar tools and the DISC is the only discrimination scale translated into Greek. More importantly, the translated questionnaires are part of a broad, well-established research package of psychometric tools, specifically addressed to patients with psychosis, which might be used in the Greek research field.

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Ερευνητική εργασία

Διερεύνηση περιβαλλοντικών παραγόντων εμπλεκόμενων στην αιτιοπαθογένεια της ψύχωσης: Μετάφραση και αξιοπιστία επαναληπτικών χορηγήσεων τεσσάρων κλιμάκων

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ΠΕΡΙΛΗΨΗ

Η ανάδυση και η κλινική εκδήλωση ενός Πρώτου Επεισοδίου Ψύχωσης (First Episode Psychosis-FEP) θα μπορούσε να αποδοθεί σε διάφορους παράγοντες και η αλληλεπίδραση γονιδίων και περιβάλλοντος παίζουν κυρίαρχο ρόλο σε αυτό. Τέσσερεις εκδοχές ψυχομετρικών εργαλείων, που χρησιμοποιούνται στην εκτίμηση περιβαλλοντικών κοινωνικών και ψυχολογικών παραμέτρων που εμπλέκονται στην αιτιοπαθογένεια και κλινική πορεία της ψύχωσης, είναι: Το Εργαλείο Εκτίμησης Κοινωνικού Κινδύνου, η Διάκριση, η Βραχεία Κλίμακα Πυρηνικών Σχημάτων και η Λίστα Απειλητικών Γεγονότων-Βραχύ Ερωτηματολόγιο Γεγονότων Ζωής. Στόχος της παρούσας μελέτης είναι η παρουσίαση των τεσσάρων αυτών κλιμάκων, που περιλαμβάνονται στο πακέτο εργαλείων της έρευνας FEP της Αθήνας, αναφορικά με το περιεχόμενό τους, τη χρήση τους στη διεθνή έρευνα, την ελληνική τους μετάφραση και την test-retest αξιοπιστία τους. Τα τρία πρώτα εξ αυτών χορηγήθηκαν στην έρευνα FEP της Αθήνας, που μελετά την αλληλεπίδραση γονιδίων-περιβάλλοντος σε ασθενείς με FEP, από το ερευνητικό σχέδιο European Network of National Schizophrenia Networks studying Gee-Environment interactions (EU-GEI). Το τέταρτο ψυχομετρικό εργαλείο ήταν ήδη μεταφρασμένο στα Ελληνικά και θεωρήθηκε κατάλληλο για τις ανάγκες της έρευνας. Τα τρία ερωτηματολόγια του EUGEI μεταφράστηκαν από δύο ανεξάρτητους μεταφραστές και επανεκτιμήθηκαν συνολικά από τον κύριο ερευνητή της FEP μελέτης της Αθήνας. Τα μεταφρασμένα ερωτηματολόγια χορηγήθηκαν σε 32 άτομα, όλα διαγνωσμένα ως FEP, που συμμετείχαν στη μελέτη FEP της Αθήνας. Για να εκτιμηθεί η συμφωνία στη βαθμολόγηση μεταξύ πρώτης και δεύτερης χορήγησης των τεσσάρων ερωτηματολογίων χρησιμοποιήθηκαν συντελεστές ενδοταξικής συσχέτισης (Intraclass correlation coefficients - ICCs). Τα τέσσερα μεταφρασμένα ερωτηματολόγια, μετά από άσκηση των ερευνητών στη χρήση τους σε τρεις ομαδικές συνεδρίες, δόθηκαν δύο φορές στα υποκείμενα της μελέτης, με ενδιάμεση περίοδο τριών εβδομάδων από την πρώτη ώς τη δεύτερη χορήγηση. Δεν βρέθηκε στατιστικά σημαντική διαφορά στα σκορ μεταξύ των δύο μετρήσεων για καμία από τις μετρήσεις των τεσσάρων ερωτηματολογίων. Η συμφωνία όλων των μετρήσεων, πλην της διάστασης της συχνότητας του ερωτηματολογίου της Διάκρισης, ήταν πολύ υψηλή (ICCs>0,8). Η μελέτη μας αποτελεί μια ένδειξη ότι οι τέσσερεις μεταφράσεις είναι αξιόπιστες, παρότι ένας πιο ολοκληρωμένος έλεγχος των ψυχομετρικών ιδιοτήτων τους είναι απαραίτητος. Και τα τέσσερα εργαλεία έχουν μοναδικές ιδιότητες που τα διαφοροποιούν από άλλα παρόμοια και το ερωτηματολόγιο της Διάκρισης είναι το μόνο μεταφρασμένο στα Ελληνικά. Το κυριότερο είναι ότι θα μπορούσαν να χρησιμοποιηθούν στην Ελλάδα, ως μέρος ενός εκτεταμένου, καλά τεκμηριωμένου ερευνητικού πακέτου ψυχομετρικών εργαλείων, που απευθύνεται σε ασθενείς με ψύχωση.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Ψύχωση, ψυχομετρικά εργαλεία, κοινωνικό περιβάλλον, διάκριση, πυρηνικά σχήματα, γεγονότα ζωής, αξιοπιστία.

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