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ORIGINAL ARTICLE

Development of the Brazilian Portuguese version of the Social Phobia and Anxiety Inventory (SPAI)

Desarrollo de la versión en portugués del *Social Phobia and Anxiety Inventory* (SPAI)

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ABSTRACT

INTRODUCTION: This study aimed at developing the Portuguese-language version of the Social Phobia and Anxiety Inventory - SPAI, adapted to the Brazilian culture. **METHODS:** After the authors' approval, the following procedures were carried out: a) translation, back translation, discussion between the translators and the American authors to reach a final version of the SPAI in Portuguese; b) face validity by expert evaluation; c) linguistic equivalence by test-retest reliability of the scores of the versions in Portuguese and English in a sample of 18 bilingual volunteers, using both genders and d) feasibility study (acceptability) and utility (applicability) of the Portuguese-language SPAI by adherence rates and inappropriate filling out of the form in a population sample of 365 college students of both genders. **RESULTS:** The final version of the Portuguese language SPAI presents linguistic, semantic and technical equivalences, and a perfectly acceptable face validity. The linguistic equivalence was demonstrated by the Pearson and intraclass correlation coefficients for the differential (total) score of 0.87 (CI 95% 0.64-0.96) and 0.87 (CI 95% 0.63-0.95), respectively ($p < 0.0001$). The percentage of adherence to the Portuguese language SPAI was 95.7% of the sample studied (n = 365). Among the participants (n = 347), the rate of inappropriate filling of the form

was 4%, 14 individuals. **CONCLUSIONS:** The suitability of the translation into Portuguese of the SPAI has been demonstrated. The Portuguese language SPAI presents a perfectly acceptable face validity. The feasibility and utility results recommend its use as a screening scale for social phobia in Brazilian samples with a good level of education, after validation studies in Brazilian samples.

Keywords: Social phobia, social anxiety disorder, Social Phobia and Anxiety Inventory, SPAI, screening scales, rating scales.

RESUMEN

OBJETIVO: El objetivo del estudio ha sido desarrollar la versión en portugués, adaptada a la cultura brasileña, del *Social Phobia and Anxiety Inventory* (SPAI). **MÉTODOS:** Tras aprobación de sus autores, se realizaron: a) la traducción, retrotraducción y discusión entre los traductores y autores estadounidenses para elaboración de la versión final del SPAI Portugués; b) validez de cara por evaluación de peritos; c) equivalencia lingüística a través de estudio de la correlación entre la prueba y la reprueba de los escores de las versiones en portugués e inglés, aplicados alternadamente, en muestra de 18 voluntarios bilingües de ambos géneros y d) estudio de practicidad (aceptabilidad) y utilidad (aplicabilidad) del SPAI Portugués a través de las tasas de adhesión y de llenado adecuado en muestra poblacional de 365 universitarios de ambos géneros. **RESULTADOS:** La versión final del SPAI Portugués presenta equivalencia lingüística, semántica y técnica, y validez de cara plenamente satisfactoria. La equivalencia lingüística hay sido probada a través de los coeficientes de correlación de Pearson e intraclase para el escore diferencial (total) de 0,87 (IC 95% 0,64-0,96) 0,87 (IC 95% 0,63-0,95), respectivamente ($p < 0,0001$). El porcentaje de adhesión al SPAI Portugués fue de 95,7% de la muestra estudiada (n = 365). Entre los que contestaron (n = 347), la tasa de llenado inadecuado fue de 4%, 14 individuos. **CONCLUSIONES:** Se demostró la adecuación de la traducción para el portugués del SPAI. La validez de cara del SPAI Portugués fue considerada plenamente satisfactoria. Los resultados de practicidad y utilidad recomiendan su uso como escala de rastreo de fobia social en muestras brasileñas de buen nivel educacional, después de estudios de validación en muestras brasileñas.

Palabras clave: Fobia social, trastorno de ansiedad social, Inventario de Ansiedad y Fobia Social, SPAI, escalas de rastreo, escalas de severidad.

INTRODUCTION

Occasional social anxiety is a normal emotional reaction that most people have already experienced at some point in life.[1] Nevertheless, the so-called social anxiety disorder usually manifests when the individual is in social settings and in the company of others. It usually increases with the degree of formality of certain situations and with the possibility of being scrutinized by others. The disorder is also followed by a desire to avoid or escape from this kind of situation.[2]

Social phobia today is defined as a marked or persistent fear of being exposed to either unfamiliar people or to the possible scrutiny by others. The individual is afraid of demonstrating his anxiety and consequently being humiliated or constrained for that.[3]

The social anxiety disorder, widely known as social phobia, is a recent diagnostic category, very prevalent, chronic, incapacitating and that has high co-morbidity rates. Social phobia affects very young individuals, with the peak of incidence at the age of 15, and the lifetime prevalence estimated in 2.4 to 16% in studies performed with North-American and European populations.[4-9]

Patients have high morbidity and must be managed as soon as the diagnosis is known. Screening and diagnosing social phobia cases is of paramount importance once treatments available today can be very efficient. The number of positive changes in the life of social-phobic people, including familial, educational, social, occupational, and affective-sexual aspects of life justify this approach.[4,10] Valid and reliable instruments are required for the screening of possible cases of social phobia and measurement of social anxiety symptoms in a clinical or research environment.[11-13]

Although it is a tradition in psychiatry to highlight measurements performed by clinical evaluators, screening measures and assessment of patient's self-report of symptoms are more widely employed and more extensively validated in the cases of social anxiety disorders. These measures are more conservative and show higher scores as compared to those scales filled by clinicians.[14]

Today, some self-report scales specially developed for measuring anxiety and social phobia are available. In general, they have acceptable psychometric profiles and are tested on clinical samples. They are also used as instruments for screening and to evaluate symptoms severity in studies about therapeutic effectiveness. Among them, we highlight the Social Phobia and Anxiety Inventory (SPAI), developed by Turner et al.[15]

The SPAI has some advantages over other scales: it is the more extensively studied self-report instrument and has an excellent psychometric profile; it has proven capacity of assessing the improvement of patients after treatment; it was validated with clinical and population samples (adult and adolescent samples); it has a subscale for agoraphobia, a disorder that is usually difficult to differentiate from social phobia; it requires 20 to 30 minutes to be completed and at least 6 years schooling, and was translated into at least 10 languages.[1,15,16]

An increasing number of measurement instruments has been used in psychiatry and psychology research and clinical environments, and, in some countries, they are used also for planning, development and assessment of health policies. Feasibility, utility and goals for their use must be taken into account in the choice for these instruments,[16-19] as well as their psychometric properties and adaptation to different contexts and cultures.[20-22]

There is a lack of self-report instruments that can screening cases and measure anxiety and social phobia symptoms adapted to the Brazilian Portuguese language and to the Brazilian culture. We have chosen the SPAI for the reasons we mentioned above. Validating the SPAI in Brazil yields the comparison of studies carried out with Brazilian samples against those developed in other countries, with other populations and within other cultural environments.

The overall aim of the present study is to report the development of the SPAI Brazilian Portuguese (SPAI Portuguese) version adapted to the Brazilian culture. This adaptation comprised the following phases: translation, back translation, face validity study of the Portuguese version, quantitative study of the linguistic equivalence between the English and Portuguese versions, and assessment of feasibility and utility of the SPAI Portuguese version in a population sample.

INSTRUMENT: SOCIAL PHOBIA AND ANXIETY INVENTORY (SPAI)

The SPAI[23,24] was empirically developed by Turner et al., in 1989, for specific assessment of social phobia as defined in the DSM-III. It comprises somatic, behavioral, and cognitive aspects of this construct.[15,25] The development of SPAI was compliant to technical standards followed by the American Psychological Association, the American Educational Research Association and the National Council on Measurement in Education. Detailed description of its elaboration process and content validation are described in the SPAI manual.[23]

The SPAI is composed of 45 items, divided into two subscales: social phobia (items 1 to 32) and agoraphobia (33 to 45). These items make a quantitative assessment of social anxiety and agoraphobia symptoms severity through the Likert 7-point scale (0 = never; 1 = very infrequent; 2 = infrequent; 3 = sometimes; 4 = frequent; 5 = very frequent; and 6 = always).[23] The agoraphobia subscale assesses classic anxiety symptoms associated to agoraphobic situations, and also allows to make a distinction between the diagnosis of social phobia and panic disorder, and agoraphobia. The social phobia subscale of the SPAI inventory innovates in the investigation of anxiety in different social events (items 9 to 25), taking into consideration four different types of audiences assessed by sub-items: strangers, authorities, opposed sex and general people.[1,24,26] Social phobia and agoraphobia subscales are measured in separate. The total score of agoraphobia is given by the sum of the agoraphobia subscale items; and the total score of social phobia is given by the sum of the five subscores of social phobia. The calculation of subscores and the differential (total) score is not damaged if up to three items were not answered (or sub-items in the social phobia scale), because

the recalculation is foreseen in the manual. The maximum scores are 192 and 78 for social phobia and agoraphobia subscales, respectively. The differential score, earlier referred to as total score, is the difference between the total score for social phobia and the total score for agoraphobia.[23] The differential (total) score has been empirically validated as a measure of "pure" social phobia. It is considered as the most precise measure for the discrimination between cases and non-cases of probable social phobia in clinical and non-clinical studies, helping decrease the number of false positive or negative results.[1,27]

After scores calculation, an individual can be classified for screening purposes as: a) possible panic disorder or unlikely panic disorder (total score of agoraphobia); b) probable social phobia, possible social phobia, possible mild social phobia or unlikely social phobia (differential or total score).[23]

The cut-off score for maximum discriminative performance of the SPAI is equal or higher than 80 for the identification of probable social phobia cases.[28] The isolated application of the SPAI inventory must not be used to confirm a definitive diagnosis of social phobia, further clinical evaluation is required.[23]

The psychometric properties of the English original version of the SPAI have been extensively investigated with population and clinic samples composed of North-American adults and adolescents.[16,29] The SPAI inventory has an optimal internal consistency with Cronbach's alpha ranging from 0.95 to 0.96 in the social phobia subscale and from 0.85 to 0.95 in the agoraphobia subscale, with no significant difference between genders. The test-retest reliability of the differential (total) score measured by the Pearson's correlation coefficient was $r = 0.86$. The exploratory factor analysis of university students and clinical samples showed a two factor structure: social phobia and agoraphobia subscales.[16,23]

The use of the original SPAI has been recommended for individuals from 14 years-old on, but it was tested with adolescents ranging from 12 to 18 years-old.[29]

MATERIAL AND METHODS

The adaptation of the Brazilian Portuguese translation of the SPAI for later validation with Brazilian samples comprised three stages: 1) translation, back translation[16,20] and face validity;[30] 2) quantitative test to measure the linguistic equivalence between the Brazilian Portuguese (SPAI Portuguese) and the English versions;[31] and 3) study of the feasibility and utility of the inventory in a population sample, by assessing acceptability and applicability rates.[17,19]

The project was approved by the Ethics Committee of Hospital São Lucas at Pontifícia Universidade Católica do Rio Grande do Sul. The research protocols were not identified to ensure data confidentiality.

Statistical analysis

After double entry, data were compared in the Epi-Info 6.04d software (Validate module 2001). The following software were used in the statistical analyses: SPSS 10.0 (2000), STATA 7.0 (2001) and PEPI 3.0 (1999). In the descriptive analysis, we assessed frequencies, means and standard deviation. Total scores for social phobia and agoraphobia, and the differential (total) score of the SPAI Portuguese were calculated with SPSS 10.0 (2000).

The quantitative evaluation of linguistic equivalence for the two versions was based on the correlation measures for the total scores of the social phobia and agoraphobia subscales and for the differential (total) SPAI score obtained through the comparison of test and retest results of the English and Brazilian Portuguese versions of the inventory, applied by turns . For that, Pearson and intraclass correlation coefficients with 95% confidence intervals (95% CI) were calculated.[21,32]

Age means were compared with the Student's t test. Bivariate analysis was made with the chi-square test and Fisher's exact test, when appropriate.

Study 1: Translation, back translation and face validity

The SPAI was translated into Brazilian Portuguese under the authors' consent, and authorization by the *Multi-Health Systems Incorporation*, the copyright owner.[33]

Two bilingual psychiatrists, the first authors of the present article, translated the inventory in separate. Both final documents were then compared and each item was discussed until a consensus on linguistic and semantic aspects was found. The back translation to English was performed by a bilingual psychiatrist who was not familiar with the original version of the SPAI. All bilingual psychiatrists involved in this process have large clinical experience. The translators and the North American authors compared the back translation with the original version in English. Semantic and conceptual differences were discussed with the original's authors by electronic mail and corrected in the final version of the text.[34] The translators also examined some issues concerning the understanding of each of the 45 items by the Brazilian population (see example in the annex).

Five Brazilian psychiatrists and a Brazilian psychologist, all of them with at least 10-years experience in clinical psychiatry and psychology, assessed the final version of the SPAI Portuguese.[30] Their evaluation focused on items adequacy as for the attributes they intended to assess, and language.[30] They were unanimous in their opinion that both the form and concepts of social phobia and agoraphobia expressed in the SPAI Portuguese were intelligible and reflected the usual semantic understanding of the Brazilian population.[31] Therefore, the Brazilian Portuguese version of the SPAI was shown to have acceptable face validity and then can be applied to Brazilian adult samples.[16,30,31]

After the subjective study of linguistic and semantic equivalence and face validity, the SPAI Portuguese kept the same 45 items of the original version divided into two subscales: social phobia and agoraphobia.[33]

Study 2: Test of linguistic equivalence between the Brazilian Portuguese and English versions of SPAI

Sample

The linguistic equivalence between the Brazilian Portuguese and the English versions of the inventory was assessed through test and retest in a cross-sectional study composed of a non-random sample of 18 Brazilian volunteers, bilingual, both genders, ages varying between 17 and 42 years, and with high school and undergraduate degrees.[35]

Procedures

After signing an informed consent, the English and Brazilian Portuguese versions of the SPAI were applied alternately, within an interval that ranged from 14 to 23 days.[21] In the test phase, we applied seven SPAI Portuguese and 11 SPAI English; and the opposite in the retest.

Results

The sample's mean age was 25.6 years (SD = 6), and 12 (66.7%) were female. The mean interval between test and retest was 15 days (SD = 3.2).

The Pearson's correlation coefficient of social phobia and agoraphobia total scores and the differential (total) score between both versions were 0.88 (CI 95% 0.67-0.96); 0.84 (CI 95% 0.61-0.94) and 0.87 (CI 95% 0.64-0.96), respectively. The intraclass correlation coefficients of the three scores between both versions were: 0.88 (CI 95% 0.67-0.96) for the total score of social phobia; 0.82 (CI 95% 0.58-0.93) for the total score of agoraphobia ; and 0.87 (CI 95% 0.63-0.95) for the differential (total) score. All coefficients were significant ($p < 0.0001$).

Study 3: Feasibility and utility

Population and sample

The study population was composed of university students from the Law School at Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS).[36] Of the 26 groups in the first and final year of the program, seven were selected by lot: four from the morning shift and three from the afternoon shift. The sample was composed of 414 male and female individuals. Of the 414 undergraduates, 49 (11.8%) were not included in the sample because they were not in the classroom when the protocol was applied. The final sample was composed of 365 undergraduates.

Procedures

The students were invited to take part in the study after their academic activities period. The research protocol, which included a demographic data form, an informed consent, and the SPAI Portuguese, was distributed to the students who were in class and who agreed to take part in the study. After signing the informed consent, the students were given general instructions on how to fill the SPAI Portuguese. They were advised to make an effort to answer all items, and were reminded that there were no wrong or right answers. Researchers did not interfere in their answers.

The compliance rate, understood as desire or willingness to take part in the project as a volunteer, was used to measure the acceptability of the SPAI Portuguese. The acceptability rate was measured after the informed consent was signed, as students were then already familiar with the inventory. Applicability, which is an item of utility, of the SPAI Portuguese was measured by the rate of inventories filled with mistakes during the test. If 4 or more items or sub-items were not filled, the social phobia and agoraphobia total scores and the differential (total) score calculation could not be accomplished.

RESULTS

Of the 414 undergraduates selected at random, 365 composed the sample, accounting for 88.2% of the study population. Of these, 18 refused to take part in the study (4.3%), the final sample being then composed of 347 participants. The acceptability percentage (compliance) of the SPAI Portuguese was 95.7% of the sample studied.

The 347 students that filled the SPAI Portuguese accounted for 83.7% of the study population. Within the sample (n = 347), ages varied from 17 to 53 years, mean 22.6 years (SD = 5.7); 197 (58.2%) were women and no significant difference was found in the mean age of both genders ($p = 0.38$). The applicability of the SPAI Portuguese, which was measured by the possibility of calculating the social phobia and agoraphobia total scores and the differential (total) score , was damaged in 14 (4%) individuals, whose mean age was 22.9 years (SD = 4.6). No significant difference was found as compared to the uneventful group (Student's t test $F = 0.256$; $df = 1$; $p = 0.614$); five participants were women and nine were men and no significant difference was found between groups (exact Fisher's test 3.036; $df = 1$; $p = 0.10$).

DISCUSSION

Translation, back translation and face validity

The goal of the translation and back translation processes was to reach a consensus on the adaptation of the Brazilian Portuguese version of the SPAI to the Brazilian culture, taking into account linguistic, semantic and conceptual aspects.[30,31,37] The literature sometimes points out some imperfections in the use of translation and back translation as a way of adapting an instrument to different cultures, however, this is still the most commonly employed methodology. Significant cultural or social differences that may affect subjective information provided by the sample must always be assumed from the beginning, and only an empirical analysis should modify this assertion.[16,20] These differences must be handled and minimized by means of linguistic and semantic adaptations to the new culture.

In order to ensure that the same instrument will work effectively in different cultures, people involved in the translation and back translation must have expertise both on psychiatry diagnosis and on cultural differences that may appear in the expression of symptoms. In the validation process, the replication of data must be set as a goal, always taking into account some limitations to the generalization of the results.[16]

The back translation process ensures that concepts were not modified during the translation process at a conceptual point of view, thus configuring a key process in the establishment of a semantic equivalence between original and translated instruments.[38]

Cultural differences in the expression of psychiatric symptoms must always be considered. Even though the processes of translation, back translation and face validity are very subjective, cultural aspects were taken into account in the validation of the SPAI Portuguese.[16,21,38] Acceptable linguistic and semantic equivalence of the SPAI Portuguese are considered to be achieved by translators and experts.

Good face validity increases the chances of respondents having a good acceptance of the SPAI Portuguese. However, reliability and validity studies need to be performed with the population that will answer the inventory, to ensure that the psychometric properties of a translated version are going to be preserved. The adaptation requires the same steps as the development of the original version: hard and careful work. The application of translated instruments can lead to different findings in different cultures. The remaining doubt is if these differences are due to cultural aspects or if they reflect subtle variations resulting from the translation process. Both different and similar findings must be carefully interpreted.[21]

Test of linguistic equivalence between the English and Brazilian Portuguese versions of the SPAI

The goal of assessing both English and Brazilian Portuguese versions of the SPAI was to make a quantitative examination of their equivalence in terms of how Brazilian-Portuguese speakers understand and express symptoms.

The literature recommends the interval of time between the test and retest should not be as brief as to allow a bias for respondents remembering the test answers, nor as long as the answers can be different because the psychopathologic conditions or symptoms have already changed.[12,18]

The translation of an inventory poses some specific problems because terms describe subjective emotional states, and there are subtleties in sentences that are very difficult to convey in a language other than the original.[31] Even though the self-report scales allow users to express their symptoms in private and are less costly, they require linguistic fluency and good understanding of each item's meaning.[16]

The linguistic equivalence between the translated version and the original version of the SPAI were assessed through a test and retest correlation of the total scores for social phobia and agoraphobia, and differential (total) score. Results were shown to be perfectly acceptable. The cultural differences between the North-American samples and the bilingual Brazilian samples were not marked concerning the understanding of the different items and the expression of social anxiety symptoms. The correlation coefficients strengthen quantitatively the subjective impression about the linguistic and semantic equivalence of the SPAI Portuguese as compared to the original version in English and the adequacy of the translation into Brazilian Portuguese.[31]

The generalization of results concerning linguistic equivalence may not be adequate because our sample is composed of individuals with higher education level than the average Brazilian population. However, it is not possible to test the linguistic equivalence with individuals that do not master the English Language, even if they have good schooling.

Feasibility and utility

A self-report scale must not only be valid but well accepted and understood by respondents.

The third study assessed the individual's willingness to fill the form and how relevant information was supplied, such aspects can partially evaluate the SPAI Portuguese feasibility and utility as an screening instrument. Scale feasibility and utility can be assessed as for acceptability, need for help to answer questions,[16,13] applicability, filling time, interpretation of data, type of scores calculation, costs and others.[17,19]

There are many advantages associated with the use of self-report scales in clinical and research settings: they are easy to apply and are not costly, they do not need technical training, and data collected are easy to compare in different moments and among different patients.[39] However, as scales that assess symptoms severity (rating scales), the self-report scales have some problems. Only cooperative patients or subjects that have a high education level can use them. Respondents can not have mental disorders such as mental retardation or a dementia status, because their understanding can be damaged; they should not present a high risk of giving false answers, as in legal cases, nor bias for trying to please the test's researcher.[11,17]

The acceptability rate that measured the students' compliance to the study and their motivation to participate was high, and only 4.3% of the sample refused to fill the SPAI Portuguese after reading it. Even though the individuals were given total autonomy to take part in the study or not, and the sample was not composed of psychology and medical students, the fact that they were university students was relevant, as they were more motivated to take part in research projects as volunteers.[40] Moreover, we understand that these students have a better understanding of items that compose the instrument, favoring compliance.

The applicability rate was also very high, demonstrating that the SPAI Portuguese presents good results as a screening instrument of social phobia cases when applied to an undergraduate's population. Only 4.0% of the sample faced difficulties in filling four or more items or sub-items, which would not validate the scores calculation.

If the answers were given orally, the number of items omitted would probably decrease. The interviewer could interfere in the data collection by stimulating the respondent, identifying linguistic understanding problems, limited intelligence, concentration difficulties, low schooling, limitation for written language understanding, or boredom (low motivation). The interviewer could help by repeating the question, reformulating the sentence or explaining a misunderstood term or word.[21] It is worth stressing that the sample reported in the present study did not count on the interviewer's help.

The findings concerning acceptability and applicability may not be generalized because our sample had a high educational level, and we must remember that the accuracy of information given by volunteers may occasionally be damaged.[11] However, feasibility and utility of self-report scales also depend on motivated people, with a good educational level and who are able to concentrate.[18]

Misunderstanding, fake answers and desire to cooperate with the interviewer are some difficulties found in clinical samples of self-report scales, however, in this study, they were partially managed with an heterogeneous and representative sample of the study population that came from general population.[40] Further studies with a clinical sample composed of individuals with different education level are required for a more complete appraisal and the confirmation of their utility not only as a screening scale but also as an apparatus for social anxiety symptoms evaluation. A study with a sample of lower schooling would check for data intelligibility from the semantic point of view.[34]

The acceptability (compliance) and applicability rates (problems to fill the inventory) should be lower in individuals with lower educational level or in clinical samples. The complexity of the SPAI Portuguese, which presents sub-items to evaluate social anxiety in different settings, requires specific attention as for compliance and application in clinical and lower schooling samples.

Technical equivalence[38] was demonstrated by reproduction of the SPAI Portuguese application in a Brazilian university student's sample. A similar approach was given to the validation of the original version, which was carried out with a sample composed of North-American undergraduate students, as they describe in the manual[23] Low refusal and mistake rates of the SPAI Portuguese confirm its technical equivalence.

The technical equivalence can be better assessed through concurrent validity studies, for example, by comparing different forms of data collection, self-report and assisted form filling, or the application in a clinical sample and an evaluation of tendentious answers.[38]

Nevertheless, the findings of the present study suggest that the technical equivalence of the SPAI Portuguese as a screening instrument for individuals with a good educational level was achieved successfully.

CONCLUSIONS

The development of the Brazilian Portuguese version of the SPAI reached the goals proposed. Linguistic and semantic equivalence regarding the items and sub-items used in the original instrument for the assessment of the different dimensions of social phobia and agoraphobia constructs were considered successfully achieved. Besides, the SPAI Portuguese has acceptable face validity.

The correlation coefficients in the assessment of the linguistic equivalence of the SPAI translation into BP reached perfectly acceptable indexes, and there were no significant cultural differences between North-American and bilingual Brazilian samples regarding their understanding and expression of social anxiety symptoms. To these results we add the subjective evaluation of translators and experts about the linguistic and semantic equivalence of the SPAI in Brazilian Portuguese and the original version in English.

Feasibility and utility of the SPAI Portuguese, partially assessed through acceptability and applicability rates, were quite good, indicating it can be used as a self-report scale, especially to screening for social phobia cases in Brazilian samples with high educational level. Further studies should be performed in clinical and lower educational level samples. The high rates of compliance and the easiness to fill the document strengthen the SPAI Portuguese technical equivalence to the original version in studies with a population sample.

No item or sub-item was withdrawn from the SPAI Portuguese final version, which was composed of two subscales: social phobia and agoraphobia, with 45 items and sub-items measured through the 7-point Likert scale. In Brazilian Portuguese texts, it is referred to as *Inventário de Ansiedade e Fobia Social*, and the acronym is the same as in English (SPAI). The SPAI Portuguese can be purchased from the Multi-Health Systems Incorporation33 publishing house under the title SPAI - Social Phobia and Anxiety Inventory, by Samuel M. Turner, Constance V. Dancu and Deborah C. Beidel, translated into Portuguese by Patrícia Picon and Gabriel Gauer (1996, 1999).

Restandardization and revalidation of the SPAI Portuguese in studies with different clinical and population samples are fundamental for the generalization of findings and its adequate use as a screening scale of social phobia and measurement of intensity of social anxiety symptoms.

The process that determines the validity of a scale or instrument is usually continuous and can last for years, with the final and definitive validation being reached after a large number of studies has been carried out using different methodological approaches. Therefore, researchers involved in those studies should dedicate their efforts to examine carefully the measurement instruments that already exist, to improve them and compare their psychometric properties.

Validating the translations of instruments developed for North-American and European cultures should be a common practice in order to adapt them to the Brazilian culture.

The psychometric properties of the SPAI Portuguese will be assessed in studies of internal consistency, temporal stability (test-retest reliability), factorial validation in a population's sample and discriminative validation in a clinical sample (manuscripts being prepared).

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Annex

ANNEX – TRANSLATION AND BACK TRANSLATION: EXAMPLE

18. I feel anxious when approaching and/or initiating a conversation with:

strangers	0	1	2	3	4	5	6
authority figures	0	1	2	3	4	5	6
opposite sex	0	1	2	3	4	5	6
people in general	0	1	2	3	4	5	6

Translation 1

18. Eu me sinto ansioso(a) quando me aproximo e/ou inicio uma conversação com:

estranhos	0	1	2	3	4	5	6
figuras de autoridade	0	1	2	3	4	5	6
sexo oposto	0	1	2	3	4	5	6
pessoas em geral	0	1	2	3	4	5	6

Translation 2

18. Eu me sinto ansioso(a) quando me aproximo e/ou inicio uma conversa com:

estranhos	0	1	2	3	4	5	6
figuras de autoridade	0	1	2	3	4	5	6
sexo oposto	0	1	2	3	4	5	6
pessoas em geral	0	1	2	3	4	5	6

Consensual translation

18. Eu me sinto ansioso(a) quando me aproximo e/ou inicio uma conversa com:

estranhos	0	1	2	3	4	5	6
figuras de autoridade	0	1	2	3	4	5	6
sexo oposto	0	1	2	3	4	5	6
pessoas em geral	0	1	2	3	4	5	6

Back translation

18. I feel anxious when I get close or start conversation with:

strangers	0	1	2	3	4	5	6
authority figures	0	1	2	3	4	5	6
opposite sex	0	1	2	3	4	5	6
people in general	0	1	2	3	4	5	6

Final translation

18. Eu me sinto ansioso(a) quando me aproximo e/ou inicio uma conversa com:

estranhos	0	1	2	3	4	5	6
figuras de autoridade	0	1	2	3	4	5	6
sexo oposto	0	1	2	3	4	5	6
pessoas em geral	0	1	2	3	4	5	6

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