

Translation and cultural adaptation of the Self-Talk Questionnaire for sports (S-TQ) into Brazilian Portuguese

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Keywords:

Translation;
Cross-cultural
comparison;
Athletic performance;
Sports psychology.

ABSTRACT

The purpose of this study was to translate and culturally adapt the Self-Talk Questionnaire for Sports (S-TQ). The process of its translation and cultural adaptation to the Brazilian Portuguese language was carried out in 4 stages: translation, backtranslation, comprehension test with specialists, and comprehension test with the target audience. After the independent translation process, the two versions were compared, and it was found that translation equality was reached for 93.59% of the text and 85.83% after the backtranslation process. In the subsequent steps, the S-TQ version was considered to have a good level of understanding, and it maintained greater than 90% in this regard. Therefore, it is concluded that the S-TQ for sports is suitable for scale validation processes.

Palavras-chave:

Tradução;
Comparação
transcultural;
Desempenho atlético;
Psicologia do esporte.

RESUMO

O objetivo desse estudo foi traduzir e adaptar culturalmente a escala *Self-Talk Questionnaire for Sports* (S-TQ). O processo de tradução e adaptação cultural para o idioma português do Brasil foi feito em quatro etapas, a saber: tradução, retrotradução, teste de compreensão com especialistas, teste de compreensão com público-alvo. Após o processo de tradução independente, as duas versões foram comparadas e alcançaram uma igualdade de tradução em 93,59% do texto. Após o processo de retrotradução, esse percentual foi de 85,83%. Nas etapas subsequentes, a versão do S-TQ foi considerada com bom nível de compreensão, manteve um percentual acima dos 90% nesse quesito. Diante disso, conclui-se que o S-TQ está apto para os processos de validação da escala.

Palavras Chave:

Traducción;
Comparación
transcultural;
Rendimiento deportivo;
Psicología del deporte.

RESUMEN

El objetivo de este estudio fue traducir y adaptar culturalmente la escala *Self-Talk Questionnaire for Sports* (S-TQ). El proceso de traducción y adaptación cultural al portugués de Brasil se llevó a cabo en 4 etapas, a saber: traducción, retrotraducción, prueba de comprensión de los especialistas y prueba de comprensión del público objetivo. Después del proceso de traducción independiente, se compararon las dos versiones fueron y se alcanzó una igualdad en la traducción del 93,59% del texto y del 85,83% después de la retrotraducción. En las etapas posteriores, se estimó que la versión del S-TQ tenía un buen nivel de comprensión al mantener un porcentaje por encima del 90% en ese aspecto. Por tanto, se concluye que el S-TQ es apto para los procesos de validación de la escala.

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INTRODUCTION

Self-talk is defined as what people say to themselves, either silently or audibly, spontaneously or strategically, in order to stimulate, direct, react, and evaluate events or actions (Hatzigeorgiadis *et al.*, 2014). This strategy has the premise that what we think and say to ourselves is inherently related to what we feel and do (Ellis, 2003). From a functional point of view, two functions can be identified in self-talk: a cognitive one, which refers to the learning and development of sports skills and game strategies, and a motivational one, which is directly related to focus, self-confidence, emotional control, etc. (Hardy *et al.*, 2001).

In sports, self-talk techniques have been used for a long time, but recently, more studies have been published that have sought to systematize and improve methods for evaluating their efficacy (Zervas *et al.*, 2007; Van Raalte *et al.*, 2017; Hatzigeorgiadis *et al.*, 2018). This research has indicated that training in mental strategies that involve the use of words and phrases promotes benefits in the abilities of athletes to focus, learn techniques, correct movements, develop competition plans, change bad habits, create and change attitudes and humor, use positive thinking, have positive expectations, increase motivation, and improve self-esteem and self-confidence. Altogether, this can help them achieve high levels of performance and success (Zinsser *et al.*, 1998; Dias *et al.*, 2005; Díaz-ocejo *et al.*, 2013).

After a broad literary search of validated instruments that allow for the analysis and understanding of self-talk in sports, 6 Likert-type scales were found: the Test of Performance Strategies (TOPS), the Thought Occurrence Questionnaire for Sports (TOQS), the Self-Talk Use Questionnaire (STUQ), the Automatic Self-Talk Questionnaire for Sports (ASTQS), the Functions of Self-Talk Questionnaire (FSTQ), and the Self-Talk Questionnaire for Sports (S-TQ). Of these, only the TOPS has undergone the translation and validation process for Brazilian Portuguese; however, self-talk is only one factor in this scale, and it does not allow for a complete understanding of the use and effects of this strategy.

Among the others, the last four deal specifically with self-conversations; however, none of them have been translated into Brazilian Portuguese. Of all the presented scales, the S-TQ has the greatest ability to be used alone or in conjunction with other scales and is shorter without sacrificing psychometric qualities. It also has the advantage of specifically evaluating the cognitive and motivational aspects of self-talk in sports.

The S-TQ (Zervas *et al.*, 2007) is a Likert-type scale composed of 11 items that seek to evaluate the frequency of self-talk during competitions. The scale is divided into two factors: one that represents the motivational function of self-talk (items 4, 5, 6, 7, 8, 9, and 10) and another that represents the cognitive factors (items 1, 2, 3, and 11). Each item has five response options (1 – never, 2 – rarely, 3 – sometimes, 4 – often, and 5 – always), and the respondent can choose only one of them. Thus, the purpose of this study was to translate and culturally adapt the S-TQ by Zervas *et al.* (2007).

METHODS

Procedures

Following guidelines from other studies (Duarte *et al.*, 2003; Aquino *et al.*, 2011; Costa *et al.*, 2011; Heitor *et al.*, 2015), the process of translating and culturally adapting the scale to the Brazilian Portuguese language was carried out in 4 stages: translation, backtranslation, a comprehension test with experts, and a comprehension test with the target audience. The procedures can be viewed in Figure 1; they were performed as described below.

In the first stage, two translators with good knowledge of the Portuguese and English languages independently translated the original version into Portuguese. Next, the two translators met to compare their translated versions (1st revision committee) and thus to establish the first Portuguese version. At this stage, the emphasis was more on the conceptual and cultural translation rather than on the literal translation. Thus, the use of books, journals, and articles to verify how the terms were used was recommended (Leite *et al.*, 2014).

In the second stage, a backtranslation of the first Portuguese version into the original language (English) was performed by a translator with fluency and proficiency in both languages involved (Portuguese and English) who was residing in a country whose official language is English (the United States of America). After the completion of the backtranslation, a second revision committee was created by the researchers to compare the backtranslated version and the original version and, after that, to establish, in consensus, the second version of the questionnaire in Portuguese.

In the third stage, the second version of the Portuguese questionnaire was tested in a brainstorming meeting that included eight professionals from multiple disciplines (Physical Education and sports, Psychology, Neuroscience and Psychobiology). They analyzed the translation of the scale and its

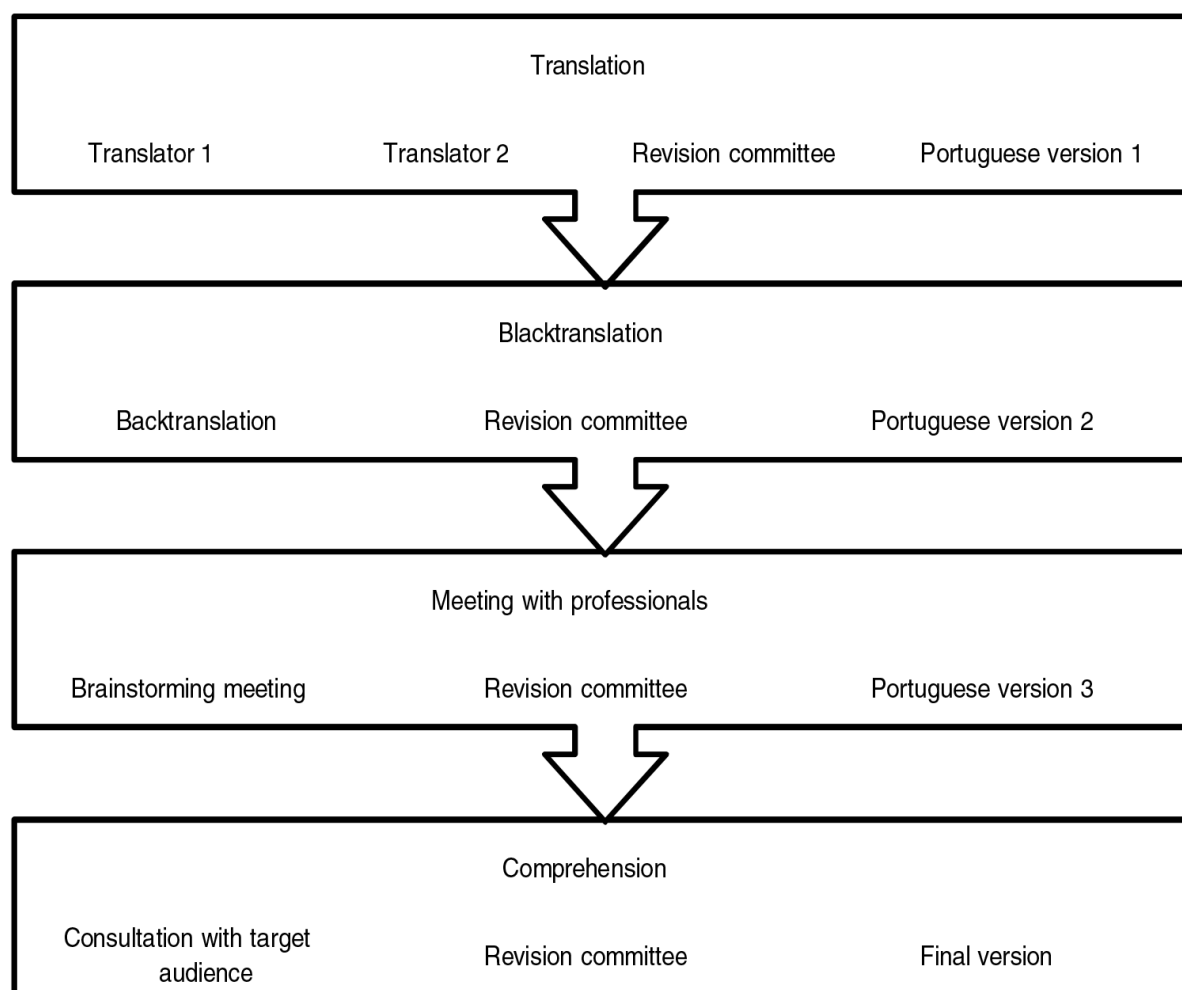


Figure 1. Stages of the translation and cultural adaptation process.

comprehensibility. These professionals evaluated and commented on the scale's items, verifying if they respected the concepts and theories involved, as well as the comprehensibility of it. Following the completion of the brainstorming meeting, the third revision committee analyzed the proposals from the brainstorming meeting and established the third Portuguese version of the scale.

In the fourth stage, the scale was sent for an evaluation of its comprehensibility by professionals and athletes. The purpose of this step was to verify whether those who would potentially use and/or respond to the translated scale could clearly understand the questions, which would indicate that the final translation would be understood by the target audience in Brazil. The respondent needed to choose one of the two options for each item 'I understood' or 'I did not understand'. They also had the option to fill a text box to make commentaries. To avoid influence by the researchers, this step was performed online, and the scale was made available and widely disseminated to groups of people practicing competitive sports and

to Physical Education professionals; the characteristics of the people in these groups are described below. After analyzing the answers obtained in this stage, a fourth revision committee was organized to analyze the results of the comprehension tests with the target audience and to establish a version suitable for the validation process.

Characterization of samples

The study included different samples, but they were consistent with the specific objectives of each stage. Sports sciences and sports psychology researchers participated in the first two stages that involved the process of translating of the scale. All had a good level of fluency and proficiency in both English and Portuguese, and they also good technical-scientific and cultural knowledge of the topics covered.

For the third stage, eight multidisciplinary professionals from the fields of Physical Education (3 subjects), Psychology (2 subjects), Psychobiology (2 subjects) and Neuroscience (1 subject) who had

academic experience in the process of the translation and validation of scales participated in the study.

In the fourth and final stage, the study obtained the free and informed consent of 61 participants, all Brazilian, who practiced competitive sports activities and/or were Physical Education professionals. Their ages ranged from 23 to 66 years (mean of 38.02 ± 10.52); 65.6% were male ($N=40$), and 34.4% were female ($N=21$). The respondents all practiced competitive physical activities ($N=43$, 70.5%) or were Physical Education professionals ($N=18$, 29.5%). Regarding education levels in the sample, 6.6% of the respondents had completed high school ($N=4$), 13.1% were enrolled at a higher education institution ($N=8$), 23.0% had graduated from college ($N=14$), and 57.4% had completed graduate programs ($N=35$). All the methodological procedures of this study were approved by the Research Ethics Committee at the Health Sciences Center at the Federal University of Paraíba (CEP/CCS/UFPB) under opinion number 2.841.480.

RESULTS

Results of the 1st stage

After the independent translation process, the two versions were compared, and translation equality was achieved in 93.59% of the text. This percentage was considered very good, especially considering that the few differences observed in the word choices in the translation process did not modify the understanding or interpretation of the text. For example, for item 2, the original statement "*I talk to myself about the technical elements of the competitions*" was translated by the first member as "*Eu falo comigo mesmo sobre os elementos técnicos de competição*" while the second member translated it as "*Eu falo comigo mesmo sobre aspectos técnicos de competição*".

The translators chose not to make a literal translation, opting instead to use terms that facilitate comprehension in the Brazilian Portuguese context. For example, "*I talk to myself in order to concentrate more fully on the competition*" was translated by both translators as "*Eu falo comigo mesmo para me concentrar mais na competição*".

Results of the 2nd stage

Once the first Portuguese version of the questionnaire was established, the second stage, backtranslation, was begun. After the completion of the backtranslation, the questionnaire was compared to the original version, and a percentage of equity of the words of 85.83% was obtained. Just as in the

first version of the translation, the few differences observed did not affect the process of understanding or interpreting the text. We can observe some examples of the differences and the decision made by the committee.

Results of the 3rd stage

Once the 2nd stage was completed and the 2nd version of the translated questionnaire was established, the process of analyzing the understanding of the scale was started, and, following the procedures, a brainstorming meeting with the multidisciplinary professionals took place. The questionnaire was evaluated and considered excellent in terms of comprehension, and the professionals considered it appropriate to start the validation procedures. Only one suggestion was made. For item 1, the suggestion was to change the sentence from "*I talk to myself to focus more on the competition*" to "*I talk to myself to pay more attention to the competition*." After discussion of the word choice, it was decided that it would remain as "...to focus..." (Chart 1).

Results of the 4th stage

The last step also sought to analyze the understanding of the items in the scale; however, unlike in the previous stage, this was done from the perspective of the target audience. After applying and organizing the data from the 61 respondents, it was observed that all the questions maintained a percentage of comprehension above 90%, as can be seen in Table 1.

DISCUSSION

This study was developed in order to translate and culturally adapt the S-TQ by following steps to improve the quality of the translated scale before moving on to the validation procedures (Duarte *et al.*, 2003; Almeida *et al.*, 2013; Heitor *et al.*, 2015). This study stands out because it presents a scale to the scientific community of Portuguese-speaking countries, especially Brazil, that will allow for the collection of data regarding cognitive and motivational self-talk during competitions among those who practice sports. If good psychometric parameters are confirmed, it will become another instrument that will be used in sports development from the basic to high-performance levels in these countries.

The translation of this questionnaire did not require major adaptations to the words used since the technical terms had already been contextualized

Chart 1. Comparison of the original version and translated versions 1, 2 and 3.

Original version	Translated version	Backtranslated version	Version from meeting with professionals
"Directions: Below are some statements that describe athletes' self-talk during an important competition. Please read each one carefully and indicate how often you have used self-talk. Your answers will be treated as absolutely confidential. "	Instruções: Abaixo estão algumas afirmações que descrevem a autoconversa de atletas durante uma competição importante. Por favor, leia cada uma cuidadosamente e indique com que frequência você usou autoconversa. Suas respostas serão tratadas de forma absolutamente confidencial.	Instructions: There are below some statements that describe athletes' self-talk during an important sports competition. Please, read each one carefully and indicate with what frequency you have applied them during a sports competition. All your answers will be kept absolutely confidential.	Instruções: Abaixo estão algumas afirmações que descrevem a autoconversa de atletas durante uma competição importante. Por favor, leia cada uma cuidadosamente e indique com que frequência você usou autoconversa. Suas respostas serão tratadas de forma absolutamente confidencial.
Q01: I talk to myself in order to be able to concentrate more fully on the competition.	Eu falo comigo mesmo para me concentrar mais na competição	I talk to myself to better concentrate on the competition.	Eu falo comigo mesmo para me concentrar mais na competição.
Q02: I talk to myself about the technical elements of the competition.	Eu falo comigo mesmo sobre os aspectos técnicos de competição.	I talk to myself about the technical components of the competition.	Eu falo comigo mesmo sobre os aspectos técnicos de competição.
Q03: I talk to myself to give directions.	Eu falo comigo mesmo para me dar instruções	I talk to myself to give myself instructions.	Eu falo comigo mesmo para me dar instruções
Q04: I talk to myself to enhance my self-confidence.	Eu falo comigo mesmo para melhorar minha autoconfiança.	I talk to myself to improve my self-confidence.	Eu falo comigo mesmo para melhorar minha autoconfiança.
Q05: I talk to myself to motivate myself.	Eu falo comigo mesmo para me motivar.	I talk to myself to motivate myself.	Eu falo comigo mesmo para me motivar.
Q06: I talk to myself to increase my effort.	Eu falo comigo mesmo para aumentar meu esforço	I talk to myself to improve my effort.	Eu falo comigo mesmo para aumentar meu esforço
Q07: I talk to myself to encourage myself.	Eu falo comigo mesmo para me encorajar.	I talk to myself to encourage myself.	Eu falo comigo mesmo para me encorajar.
Q08: I talk to myself to strengthen a positive thought.	Eu falo comigo mesmo para fortalecer meu pensamento positivo.	I talk to myself to strengthen my positive thoughts.	Eu falo comigo mesmo para fortalecer meu pensamento positivo.
Q09: I talk to myself to stop negative thinking.	Eu falo comigo mesmo para parar os pensamentos negativos.	I talk to myself to keep away my negative thoughts.	Eu falo comigo mesmo para parar os pensamentos negativos.
Q10: I talk to myself in order to help myself to relax.	Eu falo comigo mesmo para me ajudar a relaxar.	I talk to myself because it helps me to relax.	Eu falo comigo mesmo para me ajudar a relaxar.
Q11: I talk to myself to correct my mistakes.	Eu falo comigo mesmo para corrigir meus erros.	I talk to myself to fix my mistakes.	Eu falo comigo mesmo para corrigir meus erros.

in the Portuguese language and are easily understood by professionals and the target population. Examples of this include self-confidence, positive thinking, effort, etc. It is probable that this is the reason the translators' versions were almost identical, and if we consider the semantic and conceptual parameters, it can be stated that there was no difference in the translation process.

The two translators performed the first step with the aid of bibliographic material to guarantee simple and clear language in order to facilitate comprehension while maintaining a conceptual quality close to that of the original. The result achieved was reflected in the backtranslation. The similarities between the

backtranslated version and the original reinforced the quality of this Brazilian Portuguese version. The differences observed are considered acceptable since they do not affect the textual equivalence (Aquino *et al.*, 2011).

As in other study of translations and cultural adaptations of scales (Heitor *et al.*, 2015), in order to confirm the quality of the translated material, we contacted one of the authors of the original version and presented them with the backtranslated version. We then received their approval of it along with the suggestion to continue with the translation process, including starting the process of validating the scale in the Brazilian Portuguese language.

Table 1. Number (N) and percentage (%) of people in the target audience who understood the translated version.

Item	N	%	Suggestion
Q01	59	96.7	“It has a double meaning: if I talk to myself, and if what I say is to focus more. It could be divided into two questions.”
Q02	57	93.4	There was no suggestion
Q03	57	93.4	“To correct myself.” “When I compete, I talk to myself to self-instruct on the strategies I should adopt.”
Q04	59	96.7	There was no suggestion
Q05	60	98.4	There was no suggestion
Q06	58	95.1	There was no suggestion
Q07	60	98.4	There was no suggestion
Q08	57	93.4	“When I compete, I talk to myself in order to have positive thoughts.”
Q09	59	96.7	There was no suggestion
Q10	58	95.1	There was no suggestion
Q11	60	98.4	There was no suggestion

Regarding the professionals' evaluations of the translation of the scale, they considered the content easy to understand and of good conceptual quality. They considered that in the Brazilian cultural context, the sequence and the options of choices were adequate and even conducive to the scale being self-administered. As for the comprehension capacity of the target audience, the range of ages in the group who tested the scale here along with the presence of people of both sexes and with different levels of schooling presented good scale versatility (Pinto *et al.*, 2015).

As a limitation of the present study, we can mention that this scale addresses two factors related to self-talk (motivational and cognitive), although there are models of sports self-talk that involve more factors, such as affective and behavioral (Hatzigeorgiadis *et al.*, 2018) or effort-motivation, cognitive-emotional control, trust-belief, automaticity, and attention-concentration (Theodorakis *et al.*, 2008). Despite these limitations, the adaptation of a new self-talk scale to the Brazilian context will certainly stimulate further research on this construct that is so important to sports performance.

CONCLUSIONS

It can be affirmed that the translation and cultural adaptation of the S-TQ into the Brazilian context fulfilled the methodological requirements necessary to guarantee the quality of the instrument. At the end of the translation and backtranslation stages,

it was verified that the Brazilian Portuguese version was faithful to the content of the original scale, and the subsequent stages showed that the word choices and sentence formation were adequate for understanding by professionals, researchers and the target audience. Therefore, it is concluded that the S-TQ is suitable for the scale validation process.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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