



Cross-cultural adaptation of the Chilean version of the Short Self-Regulation Questionnaire-SSRQ

Equivalencia cultural de la versión chilena del Short Self-Regulation Questionnaire-SSRQ

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Abstract

Introduction: The self-regulation ability should be considered within the planning of vocal treatment, because it is the ability to control voluntarily thoughts and behaviors, as well as being the core of learning, playing a significant role in the mastery and generalization of new skills, including those used in vocal therapy. **Purpose:** To realize the cultural equivalence to the Chilean Spanish of the Short Self-Regulation Questionnaire - SSRQ. **Method:** The translation of the SSRQ for Chilean Spanish was done and then the retrotranslation for English, in which the translated items were compared with the original instrument; a committee of speech language therapist resolved the discrepancies found, arriving at a consensus from which the instrument called Cuestionario Reducido de Autorregulación Chileno - CRAR-Ch emerged. The CRAR-Ch was applied to 32 individuals. For each item, the «not applicable» answer option was added in order to identify items that were misunderstood or inappropriate for the population in question. The confusing items were modified and the modified CRAR-Ch was applied to another ten people, without any discrepancies. **Results:** There is a cultural equivalence of SSRQ for Chilean Spanish, which is called CRAR-Ch. This questionnaire maintains the same number of items and response options as the original; yielding a total index of individual self-regulation capacity. **Conclusion:** Cultural and linguistic equivalence of the Short Self-Regulation Questionnaire - SSRQ and its translated version in Chilean Spanish Cuestionario Reducido de Autorregulación Chileno - CRAR-Ch, was demonstrated.

Keywords: Voice; Voice Disorders; Speech, Language and Hearing Sciences.

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Authors' contributions:

SC was responsible for research, gathering, data collection, tabulation and analysis of the data, and drafting the text.

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Resumen

Introducción: La habilidad de autorregulación debería considerarse dentro de la planificación del tratamiento vocal porque, además de ser el núcleo constructor del aprendizaje, es la habilidad de controlar voluntariamente los pensamientos y comportamientos, jugando un rol significativo en el dominio y generalización de nuevas habilidades, incluyendo las usadas en la terapia vocal. **Objetivo:** Realizar la equivalencia cultural al Español Chileno del Short Self-Regulation Questionnaire - SSRQ. **Método:** Fue realizada la traducción del SSRQ para el Español Chileno y luego la retro traducción para el inglés, etapa en la que los ítems traducidos fueron comparados con el instrumento original; un comité de fonoaudiólogos resolvió las discrepancias encontradas llegando a un consenso desde donde surgió el instrumento llamado Cuestionario Reducido de Autorregulación Chileno – CRAR-Ch. El CRAR-Ch fue aplicado inicialmente a 32 individuos. A cada ítem se le agregó la opción de respuesta “no aplicable” con el fin de identificar ítems incomprendidos lingüísticamente o inapropiados culturalmente para la población en cuestión. Fueron modificados los ítems confusos y el CRAR-Ch modificado fue aplicado a otras diez personas más, esta vez sin existir discrepancias. **Resultados:** Existe una equivalencia cultural del SSRQ para el Español Chileno, que recibe el nombre de CRAR-Ch. Este cuestionario mantiene la misma cantidad de ítems y opciones de respuesta del original; arrojando un índice total de la capacidad de autorregulación individual. **Conclusión:** Fue demostrada la equivalencia cultural y lingüística del Short Self-Regulation Questionnaire - SSRQ y su versión traducida al Español Chileno Cuestionario Reducido de Autorregulación Chileno – CRAR-Ch.

Palabras claves: Voz; Disturbios de la voz; Fonoaudiología.

Resumo

Introdução: A habilidade de auto-regulação deve ser considerada no planejamento do tratamento vocal porque, além de ser o núcleo da aprendizagem, é a capacidade de controlar voluntariamente pensamentos e comportamentos, desempenhando um papel significativo no domínio e generalização de novas habilidades, incluindo as usadas na terapia vocal. **Objetivo:** Realizar a equivalência cultural para o Espanhol Chileno do Short Self Regulation Questionnaire - SSRQ. **Método:** A tradução do SSRQ foi feita para o Espanhol Chileno e depois a retrotradução para o inglês, etapa em que os itens traduzidos foram comparados com o instrumento original; um comité de fonoaudiólogos resolveu as discrepâncias encontradas, chegando a um consenso a partir do qual surgiu o instrumento chamado Cuestionario Reducido de Autorregulación Chileno - CRAR-Ch. O CRAR-Ch foi aplicado inicialmente em 32 indivíduos. Para cada item, a opção de resposta “não aplicável” foi adicionada para identificar itens não compreendidos lingüísticamente ou inadequados culturalmente para a população em questão. Os itens confusos foram modificados e o CRAR-Ch atualizado foi aplicado a outras mais dez pessoas, sem achar discrepâncias. **Resultados:** Existe uma equivalência cultural do SSRQ para o Espanhol Chileno, que chama-se CRAR-Ch. Este questionário mantém o mesmo número de itens e opções de resposta que o original; produzindo um índice total de capacidade de auto-regulação individual. **Conclusão:** Foi demonstrada a equivalência cultural e lingüística do Short Self Regulation Questionnaire - SSRQ e da sua versão traduzida ao Espanhol Chileno Cuestionario Reducido de Autorregulación Chileno - CRAR-Ch.

Palavras-chave: Voz; Distúrbios da voz; Fonoaudiologia.



Introduction

Speech production is a multidimensional process, influenced by anatomical, physiological, behavioral, organic, environmental, and cultural aspects ⁽¹⁾. An alteration in the voice is called dysphonia, which is defined as a vocal disorder with a multifactorial origin that is characterized by changes in one or more parameters of the voice ⁽²⁾. The dysphonia that occurs through inappropriate use of the voice is called behavioral dysphonia ⁽³⁾, which is to say, appears via inadequate behaviors that alter the anatomic-physiological equilibrium of speech production. These behaviors could be related to poor conduct in self-regulation, which is an aspect of the executive functions of the pre-frontal cortex and is defined by these seven processes: receiving relevant information, evaluating this information and comparing it to the norms, unleashing changes, searching for options, formulating plans, and evaluating these plans ⁽⁴⁾. Any difficulty in any of these processes could implicate a deficit in the self-regulation of behavior ⁽⁵⁾. One tool for the evaluation of self-regulation conduct is the *Short Self-Regulation Questionnaire-SSRQ*, an instrument which is the abbreviated version of the *Self-Regulation Questionnaire* created by Miller and Brown in 1991 ⁽⁵⁾ and arises from the need of the patient to undertake a self-evaluation of their conduct of behavior control. Though it is not a questionnaire that is specific to Speech Therapy but rather to Psychology, it could be highly useful in the clinical evaluation of behavioral dysphonia, since some of the risk factors that predispose their apparition are conduct associated to self-regulation, such as smoking and alcoholism, for example ⁽²⁾. The original version, the SRQ, contains 63 items whereas the abbreviated version, the SSRQ, contains 31, presenting a psychometric propriety of 96% reliability and 92% internal consistency ⁽⁵⁾; that is to say, that it is possible to use this reduced version without the loss of information. Each item of this instrument has the objective of evaluating one of the seven processes mentioned above in order to then obtain a total score and another divided into two domains: establishment of objectives and control of impulses. The SSRQ has been culturally adapted and validated for European Portuguese by Castillo and Dias in 2009 ⁽⁶⁾, and for Brazilian Portuguese by Almeida and Behlau in 2016 ⁽⁷⁾.

Since self-regulation is the ability to voluntarily control thoughts and behavior, as well as being the constructive core of learning, it plays a significant role in the domination and generalization of new abilities, including those used in speech therapy ⁽⁸⁾. It is a process in which the individual assumes an active role to self-manage with the end of reaching his objectives and, as such, encompasses behavior, emotions, and cognitive strategies ⁽¹⁾. Therefore, the capacity for self-regulation should be considered in the planning of voice treatment, just as other self-evaluation protocols for quality of life in relation to speech disorders are considered before initiating therapy.

The instruments of self-evaluation of quality of life related to speech disorders are considered within speech therapy; there arose at the end of the 1990s and to date have developed a large acceptance and international use thanks to the translations, cultural adaptations, and validations carried out in different countries ⁽³⁾. In Chile, however, protocols translated into Spanish, generally from Spain, are often used without culturally either cultural adaptation or validation ⁽⁹⁾. It is for this reason that the objective of this study is to adapt the SSRQ linguistically and culturally to form a specific tool for the culture and language of the respondents.

Method

The objective of this study is to obtain a Chilean Spanish version of the SSRQ, carried out according to the principles of the Scientific Advisory Committee – SAC, an entity that considers the evaluation of conceptual, linguistic, and cultural equivalency of the instrument to obtain empirical information on how the questions are formulated in different cultures and languages, since some questions can have a different impact depending on the language ⁽¹⁰⁾. The validation of the questionnaire is a process that forms part of a posterior stage in the cultural adaptation and which is not part of the objective of the investigation, and it is for this reason that it does not contain a psychometric analysis of the instrument of study.

To begin, two independent translations of the SSRQ were carried out by two bilingual, Spanish and English, Chilean speech pathologists. After that, these two translations were analyzed by a committee of four bilingual speech pathologists, who had had no participation in the previous stage,





and compiled to arrive at a general translation (GT). This GT was then newly translated to the original English by another bilingual speech pathologist. None of the speech pathologists participating in these stages knew the original questionnaire. To finalize, the same committee reviewed the original version of the SSRQ, the GT, and the back-translation, and in this way the instrument, linguistically and culturally adapted to Chilean Spanish, called the *Cuestionario Reducido de Autorregulación Chileno* (Short Self-Regulation Questionnaire) – CRAR-Ch, was obtained. The CRAR-Ch contains 31 items for which there are five answer choices: “strongly disagree”, “disagree”, “neither agree nor disagree”, “agree”, and “strongly agree”. Apart from these choices, the answer “not applicable” was added. This last choice had to be marked by the participants when they found phrases that were not adequately understood due to the semantical and grammatical content, or were not adapted to Chilean culture. The items which generated discrepancy among the participants were modified and agreed on by the committee, who arrived at the second and final version of the CRAR-Ch.

A total of 42 participants responded to the CRAR-Ch in person, oriented by the lead researcher who indicated they had to answer the questionnaire and, in the case that some item was not understood, whether through the cultural or linguistic use of Chilean Spanish, they were to choose the option “not applicable”, granting the argument of the chosen option. The application of this instrument was carried out in two stages, detailed below:

- a) Stage one: 32 people, 16 with healthy speech and 16 diagnosed with behavioral dysphonia, answered the CRAR-Ch. In this first stage, 15 people presented different difficulties with some of the items; 11 items were questioned of which 7 were modified because the other four items present rare conduct not done by the respondents. The items that presented discrepancies were the following: 1-4-8-9-14-20-21-24-27-30, of which items 1-9-14-18-21-24-30 (Chart 1) were modified.
- b) Stage two: Ten people, 5 with healthy speech and 5 diagnosed with behavioral dysphonia, answered the second version of the CRAR-Ch. In this stage there were no discrepancies and, therefore, no modifications were made. This is how the final version of the CRAR-Ch was obtained (Annex 1).

The criteria for inclusion in this study was to either present healthy speech or behavioral dysphonia, diagnosed by an otolaryngologist, in any degree; be a native Chilean; be over the age of 18 and less than 60 years of age; be able to read and write; have interest and availability to participate in the study.

This investigation was approved by the committee NN and by NN. All participants signed their informed consent of this investigation.

Results

The *Cuestionario Reducido de Autorregulación Chileno* CRAR-Ch is a translated version of the original instrument, the Short Self-Regulation Questionnaire – SSRQ, linguistically and culturally adapted to Chilean Spanish. This questionnaire maintains the same quantity of items and answer choices as the original; yielding a total index of the individual capacity for self-regulation, that is to say, the capacity to plan, orient, and monitor behavior flexibly in the face of circumstances of changes. Each question has a numerical answer from 1 to 5 that varies according to the degree of the actions (1= “strongly disagree” 2= “disagree” 3= “neither agree nor disagree” 4= “agree” and 5= “strongly agree”). The calculation of this questionnaire can be carried out globally or in two types of domains: setting objectives and impulse control. It is important to highlight that the scores obtained by the CRAR-Ch can be analyzed qualitatively for the Chilean population for the moment, until a validation of the tool is carried out by making a psychometric analysis of the cutoff points of each domain and the total score.

The final version of the Chilean Short Self-Regulation Questionnaire – CRAR-Ch, can be found in Annex 1.

The adaptation and cultural equivalency process of the SSRQ to Chilean Spanish is detailed in Charts 1 and 2.

Chart 1 describes each of the stages of the cultural adaptation process for each item of the instrument: the original version, the initial translations of both translators plus the general translation and the back-translation to English.

Chart 2 details the observations made by the participants in relation to the items that presented the linguistic and cultural discrepancies of Chilean Spanish, along with their justification, detailing the modified item that is part of the final CRAR-Ch.

Chart 1. Observations of the participants on the items that were modified.

Item number	Number of participants	First application item	Modified item	Observations of the participants
1	4	I usually control my progress to reach my goals.	I usually monitor my advances to reach my goals.	The word "progress" was questioned
9	2	When I have to make a change in my life, I feel overwhelmed by the alternatives	When I have to make a change in my life, I feel confused if I have several options.	The words "alternatives" and "overwhelmed" generated confusion
14	11	I have my own patterns and try to live up to them.	I have my own values and try to live up to them.	The word "patterns" is very confusing
18	1	When I try to change something, I pay a lot of attention to how I am doing it.	When I try to change something, I pay a lot of attention in how I am doing it.	It was suggested changing "to" to "in".
21	1	I give myself goals and keep a record of my progress.	I give myself goals and continually monitor my progress in relation to them.	The word "record" generated confusion.
24	1	Generally, when I want to change something, I find several different ways to do it.	Generally, when I want to change something, I find several alternatives to achieve it.	The phrase "several different ways" seemed strange.
30	1	I know how I want to be.	I know how I want to become.	The phrase was perceived to be incomplete



Chart 2. The process of translation and cultural adaptation of the Short Self-Regulation Questionnaire-SSRQ to Chilean Spanish.

Items	Original English version ⁽⁵⁾	Translation to Chilean Spanish	Back-translation to English	Committee of evaluating Speech Pathologists: semantic and grammatical equivalencies	Committee of evaluating Speech Pathologists: cultural equivalencies
1	I usually keep track of my progress toward my goals.	T1: I usually keep my progress monitored to obtain my objectives. T2: I usually make a record of my actions to reach my goals. GT: I usually control my progress to reach my goals.	I usually control my progress to reach my goals.	I usually monitor my progress to reach my goals.	I usually monitor my advances to reach my goals.
2	I have trouble making up my mind about things.	T1: I have difficulties deciding on things. T2: It is hard for me to have an opinion on things. GT: It is hard for me to make decisions.	It is hard for me to have my own opinion about things.	I find it hard to make decisions.	I find it hard to make decisions.
3	I get easily distracted from my plans.	T1: I get easily distracted from my plans. T2: I get easily distracted from my plan of action. GT: I get easily distracted from my plans.	I get easily distracted from my plans.	I get easily distracted from my plans.	I get easily distracted from my plans.
4	I don't notice the effects of my actions until it's too late.	T1: I do not realize about my actions until it is too late. T2: I do not realize about the effects of my actions until it is too late. GT: I do not realize about the effects of my actions until it is too late.	I do not realize about the effects of my actions until it is too late.	I do not realize about the effects of my actions until it is too late.	I do not realize about the effects of my actions until it is too late.
5	I am able to accomplish goals I set for myself.	T1: I am able to accomplish the objectives I set for myself. T2: I am able to reach the goals I propose. GT: I am able to reach the goals I intend.	I am able to reach the goals I intend	I am able to reach the goals I intend	I am able to reach the goals I intend
6	I put off making decisions.	T1: I get discouraged when making decisions T2: I avoid making decisions. GT: I avoid making decisions.	I avoid making decisions.	I avoid making decisions.	I avoid making decisions.
7	It's hard for me to notice when I've "had enough" (alcohol, food, sweets).	T1: It is difficult for me to realize when I've gone too far /had too much (alcohol, food, candy) T2: It is hard for me to realize when "I have consumed too much" (alcohol, food, sweets). GT: It is difficult for me to realize when "I have consumed too much" (alcohol, food, sweets).	It is hard for me to realize when "I have consumed too much" (alcohol, food, sweets).	It is difficult for me to realize when "I have consumed too much" (alcohol, food, sweets).	It is difficult for me to realize when "I have consumed too much" (alcohol, food, sweets).





Items	Original English version ⁽⁵⁾	Translation to Chilean Spanish	Back-translation to English	Committee of evaluating Speech Pathologists: semantic and grammatical equivalencies	Committee of evaluating Speech Pathologists: cultural equivalencies
8	If I wanted to change, I am confident that I could do it.	T1: If I wanted to change, I am sure I could do it. T2: If I wanted to change, I am sure I could do it. GT: If I wanted to change, I am sure I could do it.	If I wanted to change, I am sure I could do it.	If I wanted to change, I am sure I could do it.	If I wanted to change, I am sure I could do it.
9	When it comes to deciding about a change, I feel overwhelmed by the choices.	T1: When I have to make a change in my life, I feel overwhelmed by the options. T2: When I have to make a change in my life, I feel overwhelmed. GT: When I have to make a change in my life, I feel overwhelmed by the alternatives.	When I have to make a change in my life, I feel overwhelmed by the several choices.	When I have to make a change in my life, I feel overwhelmed by the alternatives.	When I have to make a change in my life, I get confused it I have several options.
10	I have trouble following through with things once I've made up my mind to do something.	T1: I have trouble following through with things once I've made up my mind to do something T2: It is hard for me to do things I have planned. GT: It is hard for me to do things even if they are already planned.	It is hard for me to get things done even if they are already planned.	It is hard for me to do things even if they are already planned.	It is hard for me to do things even if they are already planned.
11	I don't seem to learn from my mistakes.	T1: Apparently, I don't learn from my mistakes. T2: It seems I don't learn from my mistakes. GT: It seems like I do not learn from my mistakes	It seems like I do not learn from my mistakes.	It seems like I do not learn from my mistakes	It seems like I do not learn from my mistakes
12	I can stick to a plan that's working well.	T1: I can keep doing a plan when it is working. T2: I can stick to a plan that's working well. GT: I can keep doing a plan when it is working well.	I can keep doing a plan when it is working well.	I can keep doing a plan when it is working well.	I can keep doing a plan when it is working well.
13	I usually only have to make a mistake one time in order to learn from it.	T1: I usually have to make a mistake just once to learn from it. T2: I generally learn 'off the bat' from the first time. GT: I usually have to make a mistake just once to learn from it.	I usually have to make a mistake just once to learn from it.	I usually have to make a mistake just once to learn from it.	I usually have to make a mistake just once to learn from it.
14	I have personal standards, and try to live up to them.	T1: I have personal patterns and I try to live up to them. T2: I have personal standards, and try to live up to them. GT: I have my own patterns and I try to live up to them.	I have my own patterns and I try to live up to them.	I have my own patterns and I try to live up to them.	I have my own values and I try to live up to them.
15	As soon as I see a problem or challenge, I start looking for possible solutions.	T1: As soon as I see a problem or challenge, I start looking for possible solutions. T2: As soon as I see a situation as problematic, I start looking for possible solutions. GT: As soon as I see a problem or challenge, I start looking for possible solutions.	As soon as I see a problem or challenge, I start to look for possible solutions.	As soon as I see a problem or challenge, I start looking for possible solutions.	As soon as I see a problem or challenge, I start looking for possible solutions.





Items	Original English version ^(S)	Translation to Chilean Spanish	Back-translation to English	Committee of evaluating Speech Pathologists: semantic and grammatical equivalencies	Committee of evaluating Speech Pathologists: cultural equivalencies
16	I have a hard time setting goals for myself.	T1: Me cuesta establecer objetivos para mí mismo (a). T2: I have a hard time setting goals for myself. GT: I have a hard time setting goals for myself.	It is really hard for me to set goals for myself.	Me cuesta mucho ponerme metas.	I have a hard time setting goals for myself.
17	I have a lot of willpower.	T1: I have a lot of willpower. T2: I have a lot of willpower. GT: I have a lot of willpower.	I have a strong will.	I have a lot of willpower.	I have a lot of willpower.
18	When I'm trying to change something, I pay a lot of attention to how I'm doing.	T1: When I'm trying to change something, I pay a lot of attention to how I'm doing it. T2: When I'm trying to change something, I pay a lot of attention to how I'm doing it. GT: When I'm trying to change something, I pay a lot of attention to how I'm doing it.	When I try to change something, I pay a lot of attention on how I am doing it.	When I try to change something, I pay a lot of attention on how I am doing it.	When I try to change something, I pay a lot of attention on how I am doing it.
19	I have trouble making plans to help me reach my goals.	T1: I have trouble making plans to help me reach my goals. T2: I have trouble making plans and reaching my goals. GT: It is hard for me to make plans to help me reach my goals.	I have difficulty setting plans to reach my goals.	I have difficulty setting plans to reach my goals.	I have difficulty setting plans to reach my goals.
20	I am able to resist temptation.	T1: I am able to resist temptations. T2: I am able to resist temptation. GT: I am able to resist temptations.	I am able to resist temptations.	I am able to resist temptations.	I am able to resist temptations.
21	I set goals for myself and keep track of my progress.	T1: I set my own goals and I keep a record of my progress. T2: I set goals for myself and keep track of my progress. GT: I set goals for myself and keep track of my progress.	I set my own goals and I keep a record of my progress.	Me pongo metas y mantengo un registro de mi progreso.	I set goals for myself and continually monitor my progress in relation to them.
22	Most of the time I don't pay attention to what I'm doing.	T1: Most of the time I don't pay attention to what I'm doing. T2: I almost never pay attention to what I'm doing. GT: I do not pay attention on what I am doing most of the time.	I do not pay attention on what I am doing most of the time.	I do not pay attention on what I am doing most of the time.	I do not pay attention on what I am doing most of the time.
23	I tend to keep doing the same thing, even when it doesn't work.	T1: I tend to keep doing the same thing, even when it doesn't work. T2: I tend to resolve problems in the same way even if it does not work for me. GT: I tend to resolve problems in the same way even if it does not work for me.	I tend to resolve problems in the same way even if it does not work for me.	I tend to resolve problems in the same way even if it does not work for me.	I tend to resolve problems in the same way even if it does not work for me.



Items	Original English version ⁽⁵⁾	Translation to Chilean Spanish	Back-translation to English	Committee of evaluating Speech Pathologists: semantic and grammatical equivalencies	Committee of evaluating Speech Pathologists: cultural equivalencies
24	I can usually find several different possibilities when I want to change something.	T1: I can usually find several different possibilities when I want to change T2: I generally posit different possibilities to solve a problem. GT: Generally, when I want to change something, I find several different ways to do it.	Generally, when I want to change something, I find lots of different ways to do it.	Generally, when I want to change something, I find several different ways to do it.	Generally, when I want to change something, I find several alternatives to do it.
25	Once I have a goal, I can usually plan how to reach it.	T1: Once I have a goal, I can usually plan how to reach it. T2: When I have a goal, I usually plan my actions. GT: When I have a goal, I can usually plan how to get it.	When I have a goal, I can usually plan how to get it.	When I have a goal, I can usually plan how to get it.	When I have a goal, I can usually plan how to get it.
26	If I make a resolution to change something, I pay a lot of attention to how I'm doing.	T1: If I make a resolution to change something, I pay a lot of attention to how I'm doing. T2: If I decide to change something, I pay a lot of attention on how I am doing it. GT: If I decide to change something, I pay a lot of attention on how I am doing it.	If I decide to change something, I pay a lot of attention to how I am doing it.	If I decide to change something, I pay a lot of attention to how I am doing it.	If I decide to change something, I pay a lot of attention in how I am doing it.
27	Often, I don't notice what I'm doing until someone calls it to my attention.	T1: Generally, I do not realize what I am doing until someone makes me notice it. T2: Generally, I do not realize what I do until someone makes me see it. GT: Generally, I do not realize what I am doing until someone makes me notice it.	Generally, I do not realize what I am doing until someone makes me notice it.	Generally, I do not realize what I am doing until someone makes me notice it.	Generally, I do not realize what I am doing until someone makes me notice it.
28	I usually think before I act.	T1: I usually think before acting. T2: Generally, I think before acting GT: I usually think before acting.	I usually think before acting.	I usually think before acting.	I usually think before acting.
29	I learn from my mistakes.	T1: I learn from my mistakes. T2: I learn from my mistakes. GT: I learn from my mistakes.	I learn from my mistakes.	I learn from my mistakes.	I learn from my mistakes.
30	I know how I want to be.	T1: I know how I want to be. T2: I know how I want to be. GT: I know how I want to be.	I know how I want to be.	I know how I want to be.	I know how I want to become.
31	I give up quickly.	T1: I give up easily. T2: I give up quickly. GT: I give up easily.	I give up easily.	I give up easily.	I give up easily.

Abbreviations: T1=English-Spanish Translator nº1; T2= English-Spanish Translator nº2; GT= General Translation General originated by the analysis of T1



Discussion

The executive system is in charge of the sub-systems which allow thought to act in a coordinated manner ⁽¹¹⁾. Within this we find the executive functions that are part of the set of cognitive, emotional, and motivational abilities that emerge from particular circuits and structures of the frontal lobes. It is known that the orbitofrontal cortex is that which has a greater participation in the self-regulation of behavior, the interpretation of scenarios of action, and the making of decisions ⁽¹²⁾. Therefore, self-regulation is related to the capacity to plan, guide and monitor behavior flexibly in the face of changing circumstances, directing the proposed goals and delaying short-term gratification to achieve proposed long-term objectives ⁽¹³⁾.

Considering the characteristics of self-regulation, it can be inferred that this may have a primordial role in the rehabilitation of behavioral dysphonia, in which the identification, awareness, and modification of inadequate speech habits and the establishment of new motor behaviors are fundamental ⁽¹⁴⁾. It is known that for the voluntary modification of these habits and the incorporation of new conduct, it is necessary to have good self-control of behavior, for which knowing the characteristics of the patient's self-regulation requiring the attention of speech therapy will help the pathologist to structure the therapy, design the guidelines for the patient to work at home, and facilitate the maintenance and generalizations of the gains obtained through the therapeutic exercises ⁽⁸⁾.

In relation to the first application of the CRAR-Ch, the item which was most questioned was number 14, "I have my own patterns and try to live up to them", with 11 users who considered that the word 'patterns' wasn't clearly understood and generated confusion. This item was modified and was changed to "I have my own values and try to live up to them". The item which presented the second most discrepancies was number 1, "I usually control my progress to reach my goals", with four users who considered that the word 'progress' was not commonly used, for which the item was modified resulting in, "I usually control my advances (*avances*) to reach my goals". The item which presented the third most discrepancies was number 9, "when I have to make a change in my life, I feel overwhelmed by the alternatives", with two users who considered that the adjective

'overwhelmed' and the word 'alternatives' generated confusion, for which the item was changed to "when I have to make a change in my life, I get confused if I have several options".

Each one of the other five phrases that were modified was questioned by one user, four of these discrepancies being related to the cultural use of the language and only one attributed to its semantic use (item 18).

To finalize, considering self-regulation as a biopsychosocial phenomenon that can interfere in the rehabilitation of dysphonia, the need arises for a self-perceptive tool of the conduct of self-regulation, effective for the culture and population to be studied, to discover the characteristics of the speech-therapy candidates as well as to plan their treatment in the most direct manner.

Conclusion

That subjects with and without dysphonia could answer the questionnaire which was successfully verified. The cultural and linguistic equivalency of the Short Self-Regulation Questionnaire – SSRQ and its version translated into Chilean Spanish, the *Cuestionario Reducido de Autorregulación Chileno* CRAR-Ch was demonstrated.

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Annex 1. Final version of the Short Self-Regulation Questionnaire, adapted to Chilean Spanish from the original English version of Neal, J.D. and Carey, K.B.

**Cuestionario Reducido de Autorregulación Chileno
(Chilean Short Self-Regulation Questionnaire) - CRAR-Ch**

Final version in Chilean Spanish adapted by NN and NN, from the original version in English from Neal JD, Carey KB. *A Follow-Up Psychometric Analysis of the Self-Regulation Questionnaire. Psychol Addict Behav. 2005 December; 19(4):414–22.*

Please answer the following questionnaire by making a circle around the answer that best represents you.

If you **strongly disagree**, circle number 1. If you **disagree**, circle number 2. If you are **neither agree nor disagree**, circle number 3. If you **agree**, circle number 4. If you **strongly agree**, circle number 5.

There are no right or wrong answers. Try to answer quickly without thinking too much about your answers

Use: 1= Strongly disagree 2= Disagree 3= Uncertain 4= Agree 5= Strongly agree

1	I usually control my progress to reach my goals	1	2	3	4	5
2	It's hard for me to make decisions.	1	2	3	4	5
3	I am easily distracted from my plans.	1	2	3	4	5
4	I don't realize the effects of my actions until it's too late.	1	2	3	4	5
5	I'm able to reach the goals I set for myself.	1	2	3	4	5
6	I avoid making decisions.	1	2	3	4	5
7	It's difficult for me to realize when "I've had too much" (alcohol, food, sweets)	1	2	3	4	5
8	If I wanted to change, I'm sure I could do it.	1	2	3	4	5
9	When I have to make a change in my life, I get confused if I have several options.	1	2	3	4	5
10	It's hard for me to do things even if they are already planned.	1	2	3	4	5
11	It seems I don't learn from my mistakes.	1	2	3	4	5
12	I can stick to a plan when it is working well.	1	2	3	4	5
13	I usually have to commit a route only to learn from it.	1	2	3	4	5
14	I have my own values and I try to live up to them.	1	2	3	4	5
15	As soon as I see a problem or challenge, I start looking for possible solutions.	1	2	3	4	5
16	It's hard for me to set my own goals.	1	2	3	4	5
17	I have a lot of willpower.	1	2	3	4	5
18	When I try to change something, I pay a lot of attention to how I'm doing it.	1	2	3	4	5
19	It's hard for me to make plans to achieve my objectives.	1	2	3	4	5
20	I'm able to resist temptations.	1	2	3	4	5
21	I set goals for myself and continually monitor my progress in relation to them.	1	2	3	4	5
22	Most of the time, I don't pay attention to what I'm doing.	1	2	3	4	5
23	I tend to solve problems in the same way even if it doesn't work.	1	2	3	4	5
24	Generally, when I want to change something, I find several different ways to do it.	1	2	3	4	5
25	When I have an objective, I can usually plan how to achieve it.	1	2	3	4	5
26	If I decide to change something, I pay a lot of attention to how I'm doing it.	1	2	3	4	5
27	Generally, I do not realize what I am doing until someone makes me notice it.	1	2	3	4	5





28	I usually think before I act.	1	2	3	4	5
29	I learn from my mistakes.	1	2	3	4	5
30	I know what I want to become.	1	2	3	4	5
31	I give up easily.	1	2	3	4	5

For evaluator's use:

The calculation can be done by point total or in two dimensions:

-Setting objectives: (items 1, 5, 8, 12, 14, 15, 16, 17, 18, 19, 20, 21, 25, and 26)

-Impulse control (items 2, 3, 4, 6, 7, 9, 10, 11, 13, 22, 23, 24, 27, 28, and 29)

Items 2, 3, 4, 6, 7, 9, 10, 11, 16, 19, 22, 23, and 27 must be calculated inversely.

Do not include items 30 and 31 as they are only for the reliability of the instrument