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Cross-cultural adaptation of the Chilean version of the Modern Singing Handicap Index: MSHI

Equivalencia cultural de la versión Chilena del Modern Singing Handicap Index: MSHI

ABSTRACT

Purpose: Perform the cross-cultural equivalence of the Chilean version of the Modern Singing Handicap Index - MSHI, through its cultural and linguistic adaptation. **Methods:** A translation of the MSHI for the Chilean Spanish and the back translation for the Italian was made, and discrepancies were found; a committee of four language pathologist had to resolve any discrepancies and, when found, a consensus must be reached resulting in the final version of the Índice de Desventaja Vocal para Canto Popular – IDVCP-Ch, with the same structure than the original of 30 items and four answers options. The IDVCP-Ch was applied to 25 popular singers. Every item had the option “Not applicable” in order to identify questions that were not comprehended or not appropriate for the concerned population. Nine singers’ marked eight items as “Not Applicable”, therefore, six of them had its translation adapted. The modified IDVCP-Ch was applied to other 11 popular singers who don’t participated of the anterior phase. **Results:** The IDVCP-Ch reflects its original Italian version, both in the number of items and in the limitation of handicap, disability and impairments domains. **Conclusion:** A cross-cultural equivalence of the IDVCP-Ch, was demonstrated for the Chilean Spanish.

RESUMEN

Objetivo: Realizar la equivalencia a la versión Chilena del protocolo Italiano, *Modern Singing Handicap Index* - MSHI a través de su adaptación cultural y lingüística. **Método:** Fue realizada la traducción del MSHI para el Español Chileno y la retro traducción para el Italiano, de la cual surgieron discrepancias; éstas fueron resueltas por un comité de cuatro fonoaudiólogos bilingües Español e Italiano, que llegaron a un consenso desde donde surgió el instrumento llamado Índice de Desventaja Vocal para Canto Popular – IDVCP-Ch, compuesto de 30 ítems y cuatro tipos de respuestas. El IDVCP-Ch fue aplicado a 25 cantantes populares, *amateurs* y profesionales. A cada ítem se le agregó la opción “No aplicable” en las elecciones de respuesta, con el fin de identificar ítems incomprendidos o inapropiados para la población en cuestión. Nueve de los individuos tuvieron dificultades en el momento de contestar ocho ítems, adaptando nuevamente seis de ellos; el IDVCP-Ch modificado fue aplicado a 11 cantantes que no habían participado de la etapa anterior; en esta segunda aplicación no existieron ítems incomprendidos para la cultura Chilena. **Resultados:** El IDVCP-Ch refleja la versión original de Italiano, tanto en la cantidad de ítems como en las limitaciones de los dominios discapacidad, desventaja e impedimentos. **Conclusión:** Fue demostrada la equivalencia intercultural y lingüística al Español Chileno del IDVCP-Ch.

Study conducted at the Centro de Estudos da Voz – CEV - São Paulo (SP), Brazil.

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INTRODUCTION

In the last decades healthcare has become a social good to which all citizens have an inalienable right, and as such it has become a determining factor in personal development and happiness⁽¹⁾. Therefore, disease or illness can have a great impact on quality of life, a concept generally assessed via self-assessment protocols. Quality of life refers to the individual's perception of life within the cultural context and value system the individual resides in, as well as the relationship they establish with goals, expectations, standards and interests⁽²⁾. These instruments usually consist of closed questions adapted to the language and culture of the patient⁽¹⁾, looking to identify the relevant domains, determine the standards in each domain and integrate the separate opinions of each one of those domains into a holistic assessment, characterizing quality of life as truly multidimensional⁽²⁾. In the case of voice disorders these protocols will be used to measure their impact on the well-being and quality of life of the patient⁽³⁾. The information collected thereof will be essential to determining the impact of speech impairment as well as helping to develop awareness of its effects⁽⁴⁾.

Among patients that visit speech pathologists are singers, voice artists that require high quality vocals to face the rigorous demands of their professions. In fact, as part of a vocal elite, small voice complaints can interfere in the longevity of their professional careers⁽⁵⁾. The perception a singer has of his/her voice is an important factor to consider; a particular vocal complaint⁽⁶⁾ will give the speech-language pathologist an indication of what's happening on a global level. This necessitates the use of a specific tool for vocal self-assessment. This led to the creation of the *Modern Singer Handicap Index* – MSHI⁽⁷⁾ in Italy in 2005, which was adapted and translated into Brazilian Portuguese in 2011⁽⁸⁾ with no other linguistic or cultural adaptations to date. The MSHI is a questionnaire designed for popular music singers. There are 30 items in the questionnaire with four answer options in the likert scale for each item. The answer options are relative to the frequency of the event in question, they are; “never”, “sometimes”, “almost always” and “always”. The items are organized into three domains: deficiency, in other words, any limitation due to a defect of the voice organ; disability, how the individual is affected in function and activities due to a deficiency in interacting in physical and social mediums; and handicap, this is to say, a limitation in social participation due to a deficiency or disability⁽⁹⁾. Given physical and psychological measures are subject to cultural influences and interpretation, the instruments in question must be assessed before their use in therapy. Therefore, in order to use a protocol developed in another language or culture, a well-defined adaptive process must be followed⁽¹⁾, such as the proposal contained herein.

METHODS

The present research was approved by the committee of bioethics at the Universidad Mayor in Santiago Chile (Nº 38_2017). All the participants have signed their consent and have been informed of the study they are part of.

At the start of the research going into the present study the MSHI was translated twice by two Chilean bilingual speech-language pathologists, translating from Italian to Spanish. The two translations were later analysed by a referee committee of four bilingual (Spanish and Italian) speech-language pathologists, none of whom had participated in the previous phase of the study, and convened to discuss and agree on one general translation (GT). The GT was translated again back into the original Italian by another bilingual speech-language therapist (Spanish and Italian) who had never read the original questionnaire. The process ended with the aforementioned committee's analysis of the original MSHI, the GT and the back translation. The process produced a linguistically and culturally adapted tool tailored to Chilean Spanish renamed the “Indice de Desventaja Vocal para Canto Popular” (IDVCP-Ch) or Vocal Handicap Index for Popular Singing. The IDVCP-Ch maintains the same structure as the MSHI, it has the same number of items, the same domains and response scale.

To achieve cultural equivalence the following phase required applying a “Not Applicable” option to the item responses in the IDVCP-Ch; an option the participants chose if they encountered phrases they couldn't fully understand due to morphosyntactic grammar and/or semantic content, or if they didn't translate or adapt to Chilean culture.

A total of 36 participants, 12 women and 24 men, of an average age of 33, were given the IDVCP-Ch. The questionnaire was answered in two stages as detailed below:

- a) First stage: 25 popular music singers, 10 professionals and 15 *amateurs* answered the IDVCP-Ch. In the first stage 15 singers had varying difficulties with some of the items; the items in question were then modified for a second sitting for the questionnaire;
- b) Second stage: 11 popular music singers, three professionals and eight *amateurs* answered the second version of the IDVCP-Ch. In this stage there were no discrepancies.

The study sample was determined by convenience. The inclusion criteria for the study were: hoarseness or dysphonia of any type and degree diagnosed by an otorhinolaryngologist, a professional or *amateur* popular singer, native Chilean, able to read and write, be interested and available to participate, be over 18 and under 60. The researchers determined the age range as appropriate given the original questionnaire was designed for adults.

RESULTS

The following are the details of the modifications made during the questionnaire implementation process:

a) First implementation: The subjects had doubts about eight items of which six were modified; the other two described behaviour that did not form part of the subjects' professional realities. In the Disability domain the items that presented discrepancies were items 3-4-5-6-7: In the Handicap domain the items that presented discrepancies were items 2-9; and in the Deficiency domain only item ten presented discrepancies.

Among the items modified for a second implementation the most questioned by the participants were number 3a and 4a in the Disability domain, as a result the following is a more in depth description of the modifications made to the questionnaire: in the case of item 3a, "I am obliged to modify aspects of my technique because what I feel affects normal technical control" was pointed out by the participants as a morphosyntactic structure difficult to understand. It was modified and written in the following manner: "my problem affects my technical control and I am obliged to modify it". In relation to item 4a, "The vocal problem obliges me to modify or limit parts of the repertoire, eventually to the point of changing tone". Participants suggested changing the word 'eventually' as it is not of colloquial use in Chilean culture. The modified statement reads thus, "The vocal problem obliges me to modify or limit parts of the repertoire and on occasion, change tone". Three participants questioned these two items.

Two participants questioned items 5a and 6a in the Disability domain, and 2b in the Handicap domain, while one participant

questioned item 10c in the deficiency domain. The last two items, like item 3a, were modified morphosyntactically and grammatically, while the rest were changes related to cultural use of language. The adaptive process and cultural equivalency of the MSHI to the IDVCP-Ch is described in further detail in Tables 1 and 2.

b) Second implementation: In this stage there were no discrepancies and therefore, no modifications were made to the protocol. This stage ended with the final version of the IDVCP-Ch (Annex A).

The items that generated discrepancies among the participants in the first implementation of the questionnaire were discussed and modified where necessary by the referee committee. The modifications resulted in the second and final version of the IDVCP-Ch (Annex A).

The "Índice de Desventaja Vocal para el Canto Popular" (IDVCP-Ch or Vocal Handicap index for Popular Singing) is a translated version of the index that has been culturally and linguistically adapted to Chilean Spanish from the original instrument, the MSHI. The protocol has the same number of items and answer options as the original. Each question has a numerical response going from 0 to 3 that varies depending on the degree of action (0 = "never", 1 = "sometimes", 2 = "almost always" and 3 = "always"). The questionnaire can be valued as a single score or separated into three domains: disability, handicap and deficiency.

Table 1. Participants' comments on the modified items

Item number	Number of Participants	Item in First Implementation	Modified item	Participants' observations
3a	3	I am obliged to modify aspects of my technique because what I feel affects normal technical control.	My problem affects my technical control and I am obliged to modify it.	Morphosyntactic structure is difficult to understand.
4a	3	The vocal problem obliges me to modify or limit part of the repertoire, eventually to the point of changing tone.	The vocal problem obliges me to modify or limit parts of the repertoire and on occasion, change tone.	The word "eventually" is not understood.
5a	2	Due to the vocal problem I am obliged to limit my normal study time.	Due to the vocal problem I am obliged to limit rehearsal time.	The use of "rehearsal" is better for professional singers since "study" may refer to theory.
6a	2	Stage acts are difficult due to altered vocal performance.	Performing is difficult due to altered vocal performance.	Use of the word "performances" instead of "stage acts" because it is a better summary and, more representative of Chilean cultural use of language.
2b	3	Close persons do not recognize the vocal disorder that ails me.	Persons close to me do not recognize my vocal complaint.	Participants suggest "to me" as it implies more intimacy. Change the word "ails" because it isn't understood.
10c	1	Voice becomes easily fatigued during performances.	My voice gets easily fatigued during performances.	Change "voice" to "my voice" because it directs attention to their own voice.

Caption: a = Disability; b = Handicap; c = Deficiency

Table 2. Process for the translation and cultural adaptation of the Vocal Handicap Index for Popular Singing into Chilean Spanish

Ítem	Original Italian ⁽⁷⁾ version	Translation to Chilean Spanish	Back translation to Italian	Speech-language pathologist referee committee: semantic and grammatical equivalencies	Speech-language pathologist referee committee: cultural equivalencies
1a	Avverto fatica vocale fin dall'inizio della performance.	T1: I feel vocal fatigue from the start of the performance. T2: I notice vocal fatigue from the start of the act. GT: I feel vocal fatigue from the start of the performance.	Sento fatica vocale dall'inizio della presentazione.	I feel vocal fatigue from the start of the performance.	I feel vocal fatigue from the start of the performance.
2a	La mia voce parlata è alterata e affaticata nel corso della performance.	T1: My speaking voice is altered and fatigued during the course of the presentation. T2: My speaking voice is altered and fatigued in the transcourse of the presentation. GT: My speaking voice is altered and fatigued during the course of the presentation.	La mia voce parlata si altera e fatica durante il corso della presentazione.	My speaking voice is altered and fatigued during the course of the presentation.	My speaking voice is altered and fatigued during the course of the presentation.
3a	Sono costretto a modificare aspetti della mia tecnica perché il problema che sento influisce sull'abituale controllo tecnico.	T1: I am obliged to modify aspects of my technique because the problem I feel affects normal technical control. T2: I feel forced to modify aspects of my technique because the problem I feel affects normal technical control. GT: I am obliged to modify aspects of my technique because the problem I feel affects normal technical control.	Mi vedo nell'obbligo di modificare aspetti della mia tecnica perché il problema che sento influisce al di sopra del solito controllo tecnico.	My problem affects my technical control and I am obliged to modify it.	My problem affects my technical control and I am obliged to modify it.
4a	Il problema vocale mi costringe a modificare o limitare i brani di repertorio, eventualmente anche con trasposizioni di tonalità.	T1: The vocal problem obliges me to modify or limit fragments of the repertoire, eventually also with changes of tonality. T2: The vocal problem forces me to modify or limit the songs in my repertoire, eventually even with tonal transpositions. GT: The vocal problem obliges me to modify or limit fragments of the repertoire, eventually also with changes of tonality.	Mi vedo nell'obbligo di modificare aspetti della mia tecnica perché il problema che sento influisce al di sopra del solito controllo tecnico.	The vocal problem obliges me to modify or limit parts of the repertoire and on occasion, change tone.	The vocal problem obliges me to modify or limit parts of the repertoire and on occasion, change tone.
5a	A causa del problema vocale sono costretto a limitare il tempo di studio abituale.	T1: Due to the vocal problem I am obliged to limit normal study time. T2: Because of the vocal problem I am obliged to limit normal study time. GT: Due to the vocal problem I am obliged to limit normal study time.	Dovuto al problema vocale sono obbligato a limitare il tempo di studio abituale.	Due to the vocal problem I am obliged to limit normal study time.	Due to the vocal problem I am obliged to limit normal rehearsal time.
6a	Avverto difficoltà di performance in palcoscenico con alterazioni del rendimento vocale.	T1: I feel difficulty in stage acts due to altered vocal performance. T2: I notice difficulty in stage acts with altered vocal performance. GT: I feel difficulty in stage acts due to altered vocal performance.	Sento difficoltà nelle esibizioni sul palco dovuto alle alterazioni del rendimento vocale.	I feel difficulty in stage acts due to altered vocal performance.	I feel difficulty in presentations due to altered vocal performance.
7a	Non riesco a reggere due o più serate consecutive.	T1: I can't handle more than two consecutive presentations. T2: I can't maintain two or more consecutive afternoons. GT: I can't handle more than two consecutive presentations.	Non riesco a resistere più di due presentazioni consecutive.	I can't handle more than two consecutive presentations.	I can't handle more than two consecutive presentations.
8a	Per mascherare i problemi devo chiedere aiuto al fonico.	T1: To dissimulate the problems I have to ask the sound engineer for help. T2: To mask the problems I have to ask the sound engineer for help. GT: To dissimulate the problems I have to ask the sound engineer for help.	Per dissimulare i problemi devo chiedere aiuto al tecnico del suono.	To dissimulate the problems I have to ask the sound engineer for help.	To dissimulate the problems I have to ask the sound engineer for help.

Caption: T1 = Chilean Spanish – Italian translator N°1; T2 = Chilean Spanish – Italian translator N°2; GT = General Translation originating from the analysis of T1 + T2; a = Disability; b = Handicap; c = Deficiency

Table 2. Continued...

Ítem	Original Italian ⁽⁷⁾ version	Translation to Chilean Spanish	Back translation to Italian	Speech-language pathologist referee committee: semantic and grammatical equivalencies	Speech-language pathologist referee committee: cultural equivalencies
9a	Per mascherare il problema vocale sono costretto a terapie mediche continuative.	T1: To conceal vocal problems I am permanently obliged to get medical treatment. T2: To mask the problem I am obliged to continuously get medical treatment. GT: To conceal vocal problems I am permanently obliged to get medical treatment.	Per dissimulare i problemi vocali mi vedo permanentemente nell'obbligo di realizzare terapie mediche.	To conceal vocal problems I am permanently obliged to get medical treatment.	To conceal vocal problems I am permanently obliged to get medical treatment.
10a	I miei problemi mi costringono a limitare l'uso vocale in ambito sociale.	T1: My problems oblige me to limit the use of voice in social circles. T2: My problems oblige me to limit vocal use in social situations. GT: My problems oblige me to limit the use of voice in social circles.	I miei problemi mi obbligano a limitare l'uso della voce nell'ambito sociale.	The problems oblige me to limit use of voice in social circles.	The problems oblige me to limit use of voice in social circles.
1b	L'ansia da prestazione è maggiore del solito.	T1: Presentation anxiety is greater than usual. T2: Anxiety about performance is greater than usual. GT: Presentation anxiety is greater than usual.	L'ansia prima di una presentazione é maggiore del solito.	Anxiety before a presentation is greater than usual.	Anxiety before a presentation is greater than usual.
2b	Le persone vicine non riconoscono il problema vocale che lamento.	T1: The persons close to me do not recognize the vocal problem that ails me. T2: The persons close to me do not realise the vocal problem that ails me. GT: The persons close to me do not recognize the vocal problem that ails me.	Le persone che mi stanno accanto non riconoscono il problema vocale che mi disturba.	Persons close to me don't recognize the vocal problem that ails me.	Persons close to me don't recognize my vocal problem.
3b	Sono sottoposto a critiche giustificate da persone vicine.	T1: Close persons manifest justified criticism. T2: I am subject to justified criticism from close persons. GT: Close persons manifest justified criticism.	Le persone che mi stanno accanto manifestano critiche giustificate.	Close persons manifest justified criticism.	Persons close to me manifest justified criticism.
4b	I problemi di voce mi rendono nervoso e poco socievole .	T1: Vocal problems make me nervous and unsociable. T2: Voice problems make me nervous and unsociable. GT: Vocal problems make me nervous and unsociable.	I problemi vocali mi rendono nervoso e poco socievole.	Vocal problems make me nervous and unsociable.	Vocal problems make me nervous and unsociable.
5b	Sono preoccupato se mi si chiede di ripetere un vocalizzo o una frase cantata.	T1: It makes me nervous when they ask me to repeat a vocalization or sung phrase. T2: I'm worried I will be asked to repeat a vocalization or sung phrase. GT: I'm worried when they ask me to repeat a vocalization or sung phrase.	Mi preoccupa che mi chiedano ripetere una vocalizzazione o una frase cantata.	I am worried they will ask me to repeat a vocalization or sung phrase.	I am worried they will ask me to repeat a vocalization or sung phrase.
6b	Sento la mia carriera in pericolo a causa delle mie difficoltà vocali.	T1: I feel my career is in jeopardy due to my vocal difficulties. T2: I feel me career is in danger because of my vocal difficulties. GT: I feel my career is in jeopardy due to my vocal difficulties.	Sento che la mia carriera é in pericolo dovuto alle mie difficoltà vocali.	I feel my career is in jeopardy due to my vocal difficulties.	I feel my career is in jeopardy due to my vocal difficulties.
7b	Colleghi, agenti, critici hanno notato le mie difficoltà vocali.	T1: Colleagues, critics and representatives have noticed my vocal difficulties. T2: Colleagues, agents critics have noticed my vocal difficulties. GT: Colleagues, critics and representatives have noticed my vocal difficulties.	Colleghi, critici e rappresentanti hanno notato le mie difficoltà vocali.	Colleagues, critics and representatives have noticed my vocal difficulties.	Colleagues, critics and representatives have noticed my vocal difficulties.

Caption: T1 = Chilean Spanish – Italian translator N°1; T2 = Chilean Spanish – Italian translator N°2; GT = General Translation originating from the analysis of T1 + T2; a = Disability; b = Handicap; c = Deficiency

Table 2. Continued...

Ítem	Original Italian ⁽⁷⁾ version	Translation to Chilean Spanish	Back translation to Italian	Speech-language pathologist referee committee: semantic and grammatical equivalencies	Speech-language pathologist referee committee: cultural equivalencies
8b	Sono costretto a cancellare alcuni impegni professionali.	T1: I am obliged to cancel some professional commitments. T2: I am obliged to cancel some professional engagements. GT: I am obliged to cancel some professional commitments.	Mi vedo nell'obbligo di cancellare alcuni impegni professionali.	I am obliged to cancel some professional commitments	I am obliged to cancel some professional commitments
9b	Evito di programmare i prossimi impegni.	T1: I avoid programming upcoming commitments. T2: I avoid programming the next commitments. GT: I avoid programming upcoming commitments.	Evito programmare prossimi impegni.	I avoid programming the next commitments.	I avoid programming the next commitments.
10b	Evito di parlare con la gente.	T1: I avoid talking to people. T2: I avoid talking to people. GT: I avoid talking to people.	Evito parlare con la gente.	I avoid talking to people.	I avoid talking to people.
1c	Ho problemi di gestione respiratoria.	T1: I have trouble handling my breathing T2: I have problems with breath management. GT: I have trouble with breathing control.	Ho problemi di controllo respiratorio.	I have problems with breathing control.	I have problems with breathing control.
2c	Il mio rendimento vocale varia nel corso della giornata.	T1: My vocal performance varies throughout the day. T2: My vocal performance varies in the transcourse of the day. GT: My vocal performance varies throughout the day.	Il mio rendimento vocale varia durante la giornata.	My vocal performance varies throughout the day.	My vocal performance varies throughout the day.
3c	La voce mi sembra soffiata e flebile.	T1: My voice sounds breathy and weak. T2: The voice sounds breathy and weak. GT: My voice sounds breathy and weak.	La voce mi pare soffiata e debole.	My voice sounds breathy and weak.	My voice sounds breathy and weak.
4c	La voce mi sembra rauca.	T1: My voice sounds hoarse. T2: The voice sounds hoarse. GT: My voice sounds hoarse.	La mia voce sembra rauca.	My voice sounds hoarse.	My voice seems hoarse.
5c	Ho l'impressione di dover forzare per produrre la voce.	T1: I have the impression I have to force it to produce the voice. T2: I have the impression I have to force it to produce my voice. T1: I have the impression I made effort to produce the voice.	Ho l'impressione di fare sforzo nel riprodurre la voce.	I get the impression of making an effort to produce the voice.	I get the impression of making an effort to produce the voice.
6c	Il mio rendimento vocale varia in modo imprevedibile durante la prestazione.	T1: My vocal performance rate varies unpredictably during the presentation. T2: My vocal performance varies unpredictably during the act. GT: My vocal performance rate varies unpredictably during the presentation.	Il mio rendimento vocale varia in modo imprevedibile durante la presentazione.	My vocal performance varies unpredictably during the presentation	My vocal performance varies unpredictably during the presentation
7c	Cerco di modificare la mia voce perché sia migliore.	T1: I try to modify my voice to make it better. T2: I try to modify my voice to make it better. GT: I try to modify my voice to make it better.	Cerco di modificare la voce per migliorarla.	I try to modify my voice to make it better.	I try to modify my voice to make it better.
8c	Faccio molta fatica a cantare.	T1: It is hard for me to sing. T2: I get very tired singing. GT: I get very tired singing.	Mi stanco molto al cantare.	I get very tired singing.	I get very tired singing.
9c	Alla sera la mia voce è più brutta.	T1: At night my voice is worse. T2: In the afternoon my voice is uglier. GT: At night my voice is worse.	Nella notte la mia voce peggiora.	At night my voice is worse.	At night my voice is worse.
10c	La voce si affatica facilmente durante la prestazione.	T1: The voice fatigues easily during presentation. T2: The voice gets easily fatigued during the presentation. GT: The voice fatigues easily during presentation.	La voce si fatica facilmente durante la presentazione.	The voice fatigues easily during the presentation	The voice fatigues easily during the presentation

Caption: T1 = Chilean Spanish – Italian translator N°1; T2 = Chilean Spanish – Italian translator N°2; GT = General Translation originating from the analysis of T1 + T2; a = Disability; b = Handicap; c = Deficiency

DISCUSSION

According to the World Health Organization, protocols for vocal self-assessment are tools that clarify and quantify the impact of voice disorders on an individual's quality of life, providing essential data of the patient and their respective vocal function. However, the majority of these tools cover aspects of the spoken voice, and do not consider aspects inherent to singing⁽³⁾; therefore limited information is gained from professional singers, in whom any vocal complaint may have an impact on their quality of life⁽⁸⁾.

The translation and cultural adaptation of vocal self-assessment protocols to Chilean Spanish is in recent development in which the "Escala de Sintomas Vocales – ESV" (Scale of Vocal Symptoms) is the only tool available to date^(10,11). The process is undertaken following the principles of the *Scientific Advisory Committee – SAC*, which evaluates the conceptual, linguistic and cultural equivalency of the instrument to gain empirical knowledge on how questions are phrased in different cultures and languages, given that some questions may have a different impact depending on the language⁽¹²⁾.

The protocols for singing voices require special characteristics considering voice disorders in singers are more frequent than voice disorders in other professions⁽¹³⁾. Professional singers perceive more vocal symptoms due to the years of training, learning methods and the relevance of their voices in the professional arena^(14,15) and, based on that, one of the difficulties experienced when drafting the protocol were doubts that had no direct relation to the item in question, rather they were related to the personal difficulties of each participant, difficulties not categorized in the questionnaire. The situation led to an increase in the total response time for the protocol, and, also gave rise to suggestions from the participants which were a departure from the general idea of the original author and ultimately not taken into consideration. There was a similar situation with two subjects who performed a morphosyntactic analysis of some of the statements. In addition to being popular singers, they were also language teachers, the latter a happenstance.

Another aspect that should be taken into consideration is the importance the singer gives to audience *feedback*, both in rehearsals as well as open performances, given the appreciation or qualitative response from the spectators or audience. This particular factor is only asked in a single item of the protocol ("close persons manifest critical judgement"), with closed answer options that, when answering, raised doubts in some of the subjects⁽¹⁴⁾.

Other participants had difficulty reconciling with items related to still more professional uses of voice as they did not represent the realities of their own professional careers. For example, their respective music scenarios had no sound engineers (item 8a, Disability), nor had they been the subject of critique or critical opinion or judged by representatives as they did not have professional representation (item 7b, the Handicap domain).

It is important to note that the MSHI was not validated in its own language (Italian) and as a result, it is impossible to validate the instrument. However, its sensitivity can be measured by obtaining and comparing intersects between Chilean popular singers with and without vocal complaints⁽⁸⁾.

CONCLUSION

The study verified that popular singers, both professional and *amateur* could successfully answer the questionnaire "Índice de Desventaja Vocal para el Canto Popular" – IDVCP-Ch. The intercultural and linguistic equivalency of the Chilean Spanish version of the instrument IDVCP-Ch was proven.

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Author contributions

SC was responsible for research, gathering, tabulation and analysis of the data and drafting of the text; FC was responsible for research and drafting the text; AC was responsible for research and data collection; FM was responsible for research, data analysis and final revision of the study; MB was responsible for research, data analysis and final revision of the study.

ANNEX A. FINAL VERSION OF THE “INDICE DE DESVENTAJA VOCAL PARA EL CANTO POPULAR – ID-VCP-CH, ADAPTED TO CHILEAN SPANISH

INDICE DE DESVENTAJA VOCAL PARA EL CANTO POPULAR EN ESPAÑOL CHILENO – IDVCP-Ch

Por favor, marca una respuesta por cada pregunta. No dejes ninguna pregunta sin responder.

Nombre: Edad:

Opciones de respuestas: 0= Nunca 1= A veces 2= Casi siempre 3= Siempre

a) IMPACTO DE LA PROBLEMÁTICA VOCAL EN LA ACTIVIDAD PROFESIONAL (Discapacidad)

1	Siento fatiga vocal desde el comienzo de la presentación.	0	1	2	3
2	Mi voz hablada se altera y fatiga durante el curso de la presentación.	0	1	2	3
3	Mi problema influye sobre mi control técnico y me veo obligado a modificarlo.	0	1	2	3
4	El problema vocal me obliga a modificar o limitar partes del repertorio y, en ocasiones, cambios de tonalidad.	0	1	2	3
5	Debido al problema vocal estoy obligado a limitar el tiempo de ensayo habitual.	0	1	2	3
6	Siento dificultad en las presentaciones debido a las alteraciones del rendimiento vocal.	0	1	2	3
7	No logro resistir más de dos presentaciones consecutivas.	0	1	2	3
8	Para disimular los problemas debo pedir ayuda al sonidista.	0	1	2	3
9	Para disimular los problemas vocales me veo permanentemente obligado a realizar terapias médicas.	0	1	2	3
10	Mis problemas me obligan a limitar el uso de la voz en el ámbito social	0	1	2	3

Puntaje discapacidad: _____ (puntaje máximo: 30)

b) IMPACTO DE LA PROBLEMÁTICA VOCAL A NIVEL SICOLÓGICO (Minusvalía)

1	La ansiedad ante una presentación es mayor a lo habitual.	0	1	2	3
2	Las personas cercanas a mí no reconocen mi problema vocal.	0	1	2	3
3	Personas cercanas me manifiestan críticas justificadas.	0	1	2	3
4	Los problemas vocales me vuelven nervioso y poco sociable.	0	1	2	3
5	Me preocupa que me pidan repetir una vocalización o una frase cantada.	0	1	2	3
6	Siento que mi carrera pelagra debido a mis dificultades vocales.	0	1	2	3
7	Colegas, críticos y representantes han notado mis dificultades vocales.	0	1	2	3
8	Me veo obligado a cancelar algunos compromisos profesionales.	0	1	2	3
9	Evito programar próximos compromisos.	0	1	2	3
10	Evito hablar con la gente.	0	1	2	3

Puntaje minusvalía: _____ (puntaje máximo: 30)

c) PERCEPCIÓN DE LAS CARACTERÍSTICAS DE LA EMISIÓN VOCAL (Deficiencia)

1	Tengo problemas de control respiratorio.	0	1	2	3
2	Mi rendimiento vocal varía a lo largo de la jornada.	0	1	2	3
3	Mi voz me parece soplada y débil.	0	1	2	3
4	Mi voz me parece ronca.	0	1	2	3
5	Tengo la impresión de realizar esfuerzo para producir la voz.	0	1	2	3
6	Mi rendimiento vocal varía de modo impredecible durante la presentación.	0	1	2	3
7	Busco modificar mi voz para que sea mejor.	0	1	2	3
8	Me canso mucho al cantar.	0	1	2	3
9	Por la noche mi voz es peor.	0	1	2	3
10	Mi voz se fatiga fácilmente durante la presentación	0	1	2	3

Puntaje deficiencia: _____ (puntaje máximo: 30)

Puntaje total (discapacidad + minusvalía + deficiencia): _____ (puntaje máximo: 120)