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Steering clear from ‘lost in translation’: cross-cultural translation, adaptation, and validation of critical thinking mindset self-rating form to university students

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ABSTRACT

Critical Thinking is a transversal skill needed to face current and future challenges, longed for in school, work, and life. Paradoxically, such relevance does not always translate into tangible efforts to measure and promote it. We present the cross-cultural translation, adaptation, and validation process of Critical Thinking Mindset Self-Rating Form to Portuguese university students. This study followed three phases: translation and adaptation of the form to Portuguese; a pilot study using the think-aloud technique, to assure the form’s comprehensibility and accuracy; a second pilot study to validate that preliminary version. According to results, the translation showed validity and reliability. In the long-run, this version may be used by teachers as a formative assessment tool, to show university students what is their general disposition towards thinking critically and, from there, to create opportunities for reflection and transformation, thus contributing to the realization of Critical Thinking in the classroom and in campus.



KEYWORDS

Critical thinking; higher education; teacher professional development; cross-cultural research; translation; adaptation; and validation

Introduction

Very briefly, Critical Thinking (CT) may be defined as ‘good thinking, almost the opposite of illogical, irrational, thinking’ (Facione 2015, 2). More in depth, CT should be understood as a mix of skills and dispositions, knowledge base, and thinking criteria (Franco, Vieira, and Saiz 2017). Using the Delphi method to help define CT in the specific context of a college education, in order to stimulate a better operationalization of the pedagogical efforts that are made to promote CT skills and dispositions in class, a group of experts consensually defined it as ‘purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological or contextual considerations upon which that judgment is based’ (Facione 2015, 28).

Even though the importance of CT goes beyond university, reaching the world of work (World Bank 2018; World Economic Forum 2016) and personal life (Butler, Pentoney, and Bong 2017; Franco, Costa, and Almeida 2017), we will focus on CT in Higher Education, where efforts are needed to include and promote this construct explicitly, deliberately, and systematically (Franco, Vieira, and Tenreiro-Vieira 2018). Here, we focus on the study of translation, adaptation, and

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validation of the *Critical Thinking Mindset Self-Rating Form* (CTMSRF; Facione 2015) to Portuguese, so it may be used in ongoing studies concerning the promotion of CT in the context of Teacher Professional Development and didactic-pedagogical practices that foster the deliberate promotion of university students' CT. More specifically, we are interested in the use of this self-report form in class, to stimulate students to analyze and appraise their own thinking, and to reflect about their mindset towards being a critical thinker on a daily basis. This is essential, seeing that teaching may yet be too focused on content, neglecting the paramount development of students' thinking skills, such as CT (Tsui 2002).

Moreover, it is of note that there is a diversity of instruments to assess CT, each one focused on (a) particular skill(s) and/or disposition(s) (Riegel and Crossetti 2018). This is a relevant aspect seeing that if one aims to measure the impact of an intervention, for instance, the impact of a program developed to promote higher education students' CT, one must measure CT (Halpern 2016; Tenreiro-Vieira 2000). For this reason, the present process of translation, adaptation, and validation may also represent a contribution in the area of CT assessment.

There are different kinds of cross-cultural studies. One kind concerns the use of an instrument in a culture that is different from the one where it was originally designed and used in. Consequently, this kind of cross-cultural study entails a very challenging fundamental process: to translate and adapt such instrument to the language and culture where it is aimed to be used, while preserving its original features (Regmi, Naidoo, and Pilkington 2010). In other words, such instrument should conserve its (linguistic and cultural) identity while creating a new one. This is achieved when there is *equivalence* between the two languages.

Next, we present this two-phase (translation-adaptation and validation) cross-cultural study, which followed three steps: translation and adaptation of the CTMSRF to Portuguese language and culture; pilot study number 1, using the think-aloud technique; pilot study number 2, to validate the preliminary Portuguese version of the form.

Methods

This is a methodological study, since it focused on the methods that are necessary to collect and organize data in a rigorous way, in order to ascertain the quality of an assessment instrument and validate it to be used (Polit and Beck 2014), in the case of the present study.

The author of the CTMSRF was contacted to ask for permission to start the process of translation and adaptation of this self-report form to Portuguese, so it could be used in the context of Teacher Professional Development and promotion of university students' CT. Once permission was granted, this study followed a few steps: translation and adaptation of the CTMSRF to Portuguese; a first pilot study, using the think-aloud technique; a second pilot study, with a larger sample of participants, to validate the preliminary Portuguese version of this self-report form. Each step of the procedure is presented ahead in further detail.

Participants

Two different samples participated in this study. In pilot study number 1, we aimed to implement the think-aloud technique to collect input about the comprehensibility and accuracy in the Portuguese language of the preliminary Portuguese version of the CTMSRF. (The process of translation and adaptation, from which emerged this preliminary version, is described in the Procedures section in further detail.) A convenience sample of five Master ($n = 3$) and PhD ($n = 2$) students, in the area of Education ($n = 2$) and Psychology ($n = 3$), enrolled at a public university in Portugal's northern-central region, was informally contacted through a teacher, who is also a researcher in the present study. These students were invited to participate given the particular interest they had shown about research processes in the context of classes, in the case of the three students taking a Master's degree in Psychology, in the field of Health Psychology, more specifically, neuropsychological rehabilitation.

As for the two students taking a PhD, their interest came naturally from their research projects in the frame of a Doctoral program in Education, and as non-doctorate members of a funded research center at the university where the study was conducted. The majority of the respondents was female ($n = 4$), and ages ranged from 22 to 42 years ($M = 28$, $SD = 8.48$). In pilot study number 2, the final preliminary Portuguese version of the CTMSRF was administered to a sample of 30 students taking a Graduate course in Psychology ($n = 22$) or a Master's degree in Education ($n = 8$) at the same university as pilot study number 1, to proceed to its validation. Similarly to participants in pilot study number 1, these students were invited to participate by a teacher who is also a researcher in this study, given their particular interest about research processes. A majority of the respondents was female ($n = 27$), with 22 years of age, except for one, who was 23 years old.

Procedures

Translation and adaptation

First, we reviewed the literature, to find a translation protocol that would guide the steps to be taken along the process of translation and adaptation of the CTMSRF to Portuguese. We aimed to achieve a precise and clear version of this self-report form in Portuguese, which would respect both language and culture. From the diversity of models of translation used in cross-cultural research, we opted to follow the guidelines suggested by a few authors who conducted cross-cultural studies specifically directed at the translation-adaptation and validation of instruments (Borsa, Damásio, and Bandeira 2012; Merenda 2006; Pinto 2014) and international guidelines (International Test Commission 2017). Thus, the processes of translation, adaptation, and validation of the CTMSRF to Portuguese that are explained in full detail in the present paper follow a set of steps, such as including bilingual translators in the translation process, and inviting a committee of expert judges to compare the original and translated versions of the instrument. In general terms, we conducted the following five steps (cf. Table 1):

- (1) Two bilingual persons – one who was familiar with the topic (translator number 1; T1) and another who was not (translator number 2; T2) – independently forward-translated the material from the source language (English) to the target language (Portuguese), resulting in two independent translations.
- (2) Translator number 3 (T3) compared the two translations made by T1 and T2, to create a synthesis, i.e. a third version which contained the best translation of the material. Here, it was necessary to assure four levels of equivalence: semantic (i.e. words present the same meaning and there are no grammatical errors), idiomatic (i.e. an equivalent expression is used to translate difficult items, thus respecting items' cultural meaning), experiential (i.e. to assure that items in the instrument's original version are applicable to the culture where the instrument is being translated to) and conceptual (i.e. to assure that a certain expression, even if well-translated, is evaluating the same aspect in the two cultures) (Borsa, Damásio, and Bandeira 2012).
- (3) Translator number 4 (T4), an independent translator who was unaware of the topic and study goals, back-translated the material from the target language to the source language.
- (4) A committee of five expert judges was invited to compare the backward translation and the original version of the material, to assess its equivalence, guided by the following parameters: 'conceptual equivalence' (i.e. the topic has the same expression in the two populations); 'item

Table 1. Steps followed in the process of translation and adaptation of CTMSRF to Portuguese.

Step 1	Step 2	Step 3	Step 4	Step 5
Translation 1 (by T1)	Synthesis (by T3)	Backward translation (by T4)	Equivalence assessment (by committee of judges)	Decision on the final version of the material (by researchers)
Translation 2 (by T2)				

equivalence' (i.e. the items in the translated and original versions are relevant and measure the same); 'semantic equivalence' (i.e. the concepts and meanings of the original version were transferred to the translated version); 'operational equivalence' (i.e. the format, instructions, application and evaluation mode of the original instrument may be preserved in the translated instrument) (Pinto 2014). The members of the committee – the own author of the form, a post-doctoral researcher/university teacher, a university teacher, a secondary school teacher with a PhD working at the General Inspection of Education and Science, and a translator/former university teacher – were chosen given their English proficiency, as well as their relevant expertise to help assure the linguistic and cultural equivalence between the original version and the translated one.

- (5) In light of the input given by each member of the committee of judges, the researchers established a final Portuguese version of the form. It was agreed that this version respected both the Portuguese language and culture. Indeed, according to the committee of expert judges, all statements/items in the form – in their translated version – showed to have the same expression as in its original version, to come across as relevant in the Portuguese culture as well, and to measure the same aspects, while conserving structural characteristics such as format, instructions, and application and evaluation mode. Let us consider statement/item 6 in its original version, for instance: ... *laughed at what other people said and made fun of their beliefs, values, opinion, or points of views?*. In order to respect the Portuguese culture, in its translated version, the word 'beliefs' in the statement/item could not be translated as *crenças*, which would be the most intuitive translation of that word to the Portuguese language. Had 'beliefs' been translated as *crenças*, rather than conveying a meaning associated to convictions, it would be understood by the average Portuguese as religious beliefs, which escapes the intended meaning in the original version of the form. Thus, in order to respect the Portuguese culture while preserving the original meaning, 'beliefs' had to be translated as *convicções* in the Portuguese version of the form. This is one clear example of how language and culture are intertwined, and also, of how each culture is unique and may affect the translation of language.
- (6) At this point, it was accepted that the translated version held *functional equivalence*, i.e. the translated version mirrored the original version. It should be noted that the own author of the instrument participated in this process, by integrating the committee of expert judges and, before that, by following closely the steps taken to assure the validity of the translated version, namely, the evaluation of the *synthesis* and the back-translation to its original version. In addition, the author had the close support of a work colleague and Ph.D. student at the time (one of the co-authors of this study) who is a Portuguese native speaker. In transcultural translation and adaptation studies, the approval of the original instrument's author assures a stronger precision to the process (Borsa, Damásio, and Bandeira 2012).

All four translations to Portuguese (1, 2, synthesis, and backward translation) may be found in Appendix A.

Pilot study number 1: think-aloud technique

Before being administered, any new instrument should be tested – i.e. undergo pilot test – to make sure that it is operational and ready to be used in a 'real' research or intervention (Johnson and Christensen 2008). The think-aloud technique is closely related to the interview when it comes to collecting data. The researcher applies this concurrent technique while the respondents are performing the assessment task, asking questions regarding the perceived clarity and comprehensibility of each instruction and item, and registering the respondents' perceptions and reactions (Amado and Simão 2014; Johnson and Christensen 2008). In pilot study number 1, and as suggested by Johnson and Christensen (2008), five students were informally contacted through a teacher, to present them our study goals and ask for their participation in the pilot study (cf. Table 2). Since the think-aloud technique may be considered somehow 'intrusive' by respondents (Amado and

Table 2. Steps followed in the process of validation of CTMSRF to Portuguese.

Step 6	Step 7	Step 8	Step 9
Pilot study 1 ($N = 5$)	Decision on the final preliminary version	Pilot study 2 ($N = 30$)	Data analysis and decision on final version

Simão 2014, 239), we stressed that the self-report form they would answer to was not meant to evaluate them; on the contrary, they would be the ones evaluating our Portuguese version of the self-report form. These students were assembled and, while they responded to the CTMSRF, the think-aloud technique was applied. We aimed to hear respondents' input on this version of the self-report form, and thus assure that this version of the CTMSRF in the Portuguese language was clear and precise. After each instruction and each item was read aloud by one of the researchers, the respondents were instructed to comment on the clarity and comprehensibility of the formulation in the Portuguese language. Just a few minor aspects were identified by the participants, and rectified. This version was considered as the final preliminary Portuguese version of the CTMSRF.

Pilot study number 2: validation

In the second pilot study, the final preliminary Portuguese version of the CTMSRF was administered to a wider, yet similar, sample of respondents without using the think-aloud technique, so they could answer naturally and without interruptions. The CTMSRF was administered using an on-line questionnaire, and results were automatically converted into a table in Excel. Response times were registered, so we could estimate how much time, on average, is needed to complete this self-report form (Johnson and Christensen 2008).

Instrument

The CTMSRF is a self-report form designed to be used as a preliminary self-assessment tool in class, assisting students to reflect on their 'own values, beliefs, and intentions about the application of CT to life's daily problems and decisions' (Facione, Gittens, and Facione 2016, 2), with reference to the past two days. This instrument is registered by the company Measured Reasons, who also offers instruments such as the *California Critical Thinking Disposition Inventory*, aimed at assessing CT habits of mind. This self-report form is roughly divided in three parts (cf. Appendix B): the first part instructs respondents on how to answer the CTMSRF; the second part comprises a set of 20 statements with a dichotomous answer (yes/no); the third part instructs participants on how to grade their own answers and read their profile concerning their overall disposition to think critically in the past couple of days, according to the results they obtained. Following these final instructions, respondents should award five points for each odd-numbered statement they answered 'yes,' as well as for each even-numbered statement they answered 'no.' The form's scoring system ranges between 0 and 100 points. A total score ≥ 70 points defines a keen overall disposition to thinking critically in the past couple of days, while a total score ≤ 50 points defines a reluctant overall disposition to thinking critically during that same time; a total score ranging between 50 and 70 points defines a hesitant overall disposition to thinking critically.

Results and discussion of results

In the pilot study number 2, the final preliminary Portuguese version of the CTMSRF was administered to 30 university students taking either a degree course or a Master's degree. According to the registered response times, participants took, on average, 5.4 min ($SD = 3.83$) to complete the 20 yes-or-no-statement self-report form. According to the form's scoring instructions (5 points for each 'yes' on odd items, as well as for each 'no' on even items), a total score was calculated for each participant. For this

sample, the minimum and maximum scores were 35 and 100 (respectively), with a mean score of 79.5 ($SD = 14.28$).

Participants' scores showed to be strikingly high, thus revealing a keen overall disposition to thinking critically in the two days prior to taking the form. First, we hypothesized if such results could have been driven by a social desirability effect, with participants/students wishing to make a good impression on their teacher (one of the researchers conducting this study), which could have exerted an unwanted influence at the time of test-taking. Proceeding to a closer analysis of our data, this hypothesis was discarded, seeing that the frequencies per item and per pairs of items with an inverted orientation (e.g. items 17 and 18) proved to be consistent. For example, 80% of participants responded 'yes' to item 17 (*showed how strong I was by being willing to honestly reconsider a decision?*, in Facione 2015), while only 20% of participants responded 'yes' to item 18 (*showed how strong I was by refusing to change my mind?*, in Facione 2015), which has a diametrically opposite direction from item 17. This pair of items depicts the most evident situation of consistency of scores, yet this can be seen in other pairs of opposite items, such as items 1 (*was courageous enough to ask tough questions about some of my longest held and most cherished beliefs?*, in Facione 2015) and 2 (*backed away from questions that might undercut some of my longest held and most cherished beliefs?*, in Facione 2015), with 70% and 20% (respectively) of participants answering 'yes' to each item, or even items 15 (*read a report, newspaper, or book chapter or watched the world news or a documentary just to learn something new?*, in Facione 2015) and 16 (*put zero effort into learning something new until I saw the immediate utility in doing so?*, in Facione 2015), with 70% and 23.3% (respectively) of participants answering 'yes' to each item. The high scores presented by this sample in terms of their disposition toward CT become quite clear in light of these university students' profile: they are Graduate and Master students in the field of social sciences, more specifically, Psychology and Education. Indeed, such participants could not have been expected to score low or mid-range, given their characteristics. Hence, the strongly positive disposition toward thinking critically perceived by these students supports the validity and reliability of the Portuguese preliminary version of the CTMSRF, with this form actually measuring what it aims to measure and consistently, i.e. across different pairs of inverted items (Field 2005).

In order to test for the validity and reliability of this preliminary version in diverse yet similar conditions, the next step will be to administer the Portuguese version of the form to a community sample – i.e. to a mixed population, different from the academic, well-educated sample considered in this study – in order to analyze if/how students vary from the general public (Hanel and Vione 2016). Although the previous steps followed to assure the translation and adaptation of the form to Portuguese language and culture are a fundamental part of its validation (Borsa, Damásio, and Bandeira 2012; Merenda 2006; Pinto 2014), the administration to a diversified sample would provide relevant input on this translated version of the CTMSRF.

Final considerations

According to the International Test Commission (2017), the translation of an instrument and the adaptation of an instrument are two very different endeavors. While the first refers specifically to the linguist conversion of an instrument from one language to another, the second entails also a cultural conversion of meaning. In the present cross-cultural study, we aimed to do precisely so: to both translate and adapt the CTMSRF to Portuguese, respecting this self-report's identity while transporting it into a different language and culture from the one it was originally designed in and for. Our overall purpose was to translate and adapt the CTMSRF to Portuguese, and then validate it, so it may be used as a tool in studies on CT and its promotion in Higher Education – also in the context of Teacher Professional Development –, encouraging students to self-assess and reflect on their daily disposition to think critically. In the process, different steps were taken, from translating-adapting the CTMSRF to Portuguese language and culture, to conducting two pilot studies for its validation. We have achieved a version of the CTMSRF that has found equivalence in Portuguese,

which may be used by researchers in present/future studies, and also, perhaps more importantly, by teachers in class, as a starting point for reflection and discussion, to raise their students' awareness about CT and encourage them to actually implement it in their everyday lives.

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Disclosure statement

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Appendices

Appendix A. Different translated versions of CTMSRF: translation 1, translation 2, synthesis, and backward translation

	Translation 1 (by T1)	Translation 2 (by T2)	Synthesis (by T3)	Backward translation (by T4)
	Responda a cada pergunta com sim ou não. Consigo lembrar-me e identificar exemplos específicos de situações que ocorreram nos últimos dois dias em que eu:	Responda sim ou não para as seguintes. Posso nomear algumas situações específicas, durante os últimos dois dias , em que eu:	Responda Sim ou Não às perguntas seguintes. Consigo identificar algumas situações específicas, durante os últimos dois dias , em que eu:	Answer yes or no to the following questions. Can I identify any specific moments, over the last two days , when I:
1.	fui corajoso/a o suficiente para fazer perguntas difíceis acerca de algumas das minhas crenças mais antigas e enraizadas?	fui suficientemente corajoso para perguntar questões difíceis sobre as minhas crenças mais duradouras e queridas?	fui suficientemente corajoso/a para fazer perguntas difíceis sobre as minhas crenças mais duradouras e enraizadas?	was courageous enough to ask difficult questions about my longest-lasting and deepest beliefs?
2.	evitei perguntas que pudessem lesar algumas das minhas crenças mais antigas e enraizadas?	afastei-me de questões que poderiam ferir algumas das minhas crenças mais duradouras e queridas?	evitei as perguntas que poderiam afetar as minhas crenças mais duradouras e enraizadas?	avoided any questions that might affect my longest-lasting and deepest beliefs?
3.	fui tolerante em relação às crenças, ideias, ou opiniões de alguém com quem discordo?	mostrei tolerância para com as crenças, ideias, ou opiniões de alguém com quem eu não estava de acordo?	mostrei tolerância para com as crenças, ideias ou opiniões de alguém com quem eu não estava de acordo?	showed tolerance toward the beliefs, ideas or opinions of someone I disagreed with?
4.	tentei encontrar informação para corroborar o meu lado de uma discussão, mas não o outro lado?	tentei encontrar informação para sustentar o meu lado do argumento, mas não o do lado oposto?	tentei encontrar informação para fundamentar a minha argumentação, mas não a argumentação do outro lado?	tried to find information to support my side of the argument, but not the opposite side?
5.	procurei pensar à frente e antecipar as consequências de várias opções?	tentei pensar à frente e antecipar as consequências de várias opções?	tentei prever e antecipar as consequências de várias opções?	tried to think ahead and anticipate the consequences of various options?
6.	me ri do que outras pessoas diziam e ridicularizei as suas crenças, valores, opinião, ou pontos de vista?	gozei com o que outras pessoas disseram e fiz pouco das suas crenças, valores, opinião, ou pontos de vista?	gozei com o que outras pessoas disseram e ridicularizei as suas crenças, valores, opiniões ou pontos de vista?	made fun of what other people said and laughed at their beliefs, values, opinions or viewpoints?
7.	fiz um esforço significativo para ser analítico/a em relação aos resultados previsíveis das minhas decisões?	fiz um grande esforço para ser analítico sobre os resultados antecipados das minhas decisões?	fiz um grande esforço para ser analítico/a em relação aos resultados previsíveis das minhas decisões?	tried very hard to be analytical about the predictable results of my decisions?
8.				

(Continued)

Continued.

	Translation 1 (by T1)	Translation 2 (by T2)	Synthesis (by T3)	Backward translation (by T4)
	manipulei informação de modo a servir os meus próprios interesses?	manipulei informação para favorecer os meus propósitos?	manipulei informação de modo a favorecer os meus próprios interesses?	manipulated information so as to serve my own interests?
9.	encorajei colegas a não descartarem irrefletidamente as opiniões e ideias avançadas por outras pessoas?	encorajei os meus colegas para não rejeitarem abertamente as opiniões e ideias oferecidas por outras pessoas?	encorajei colegas a não descartarem irrefletidamente as opiniões e ideias avançadas por outras pessoas?	encouraged my colleagues to think twice before dismissing other people's opinions and ideas?
10.	agí sem pensar nas possíveis consequências adversas das minhas escolhas?	atuei sem consideração em relação às consequências possíveis e adversas das minhas escolhas?	agí sem pensar nas possíveis consequências adversas das minhas escolhas?	acted without considering the possible adverse consequences of my choices?
11.	preparei uma abordagem refletida e sistemática para lidar com uma pergunta ou assunto?	organizei para mim uma abordagem bem pensada e sistemática sobre uma questão ou assunto?	preparei uma abordagem refletida e sistemática para lidar com uma pergunta ou assunto?	prepared a thoughtful and systematic approach to dealing with a question or a topic?
12.	me intrometi e tentei resolver um problema sem primeiro pensar sobre como abordar esse problema?	apressei-me e tentei resolver um problema sem primeiro pensar sobre como o abordar?	apressei-me a tentar resolver um problema sem primeiro pensar na melhor forma de o abordar?	hurried to try and solve a problem without thinking first about how to approach it?
13.	abordei um problema desafiante sem estar seguro/a de que conseguiria pensar refletidamente sobre ele?	abordei um problema desafiante com a confiança de que poderia pensá-lo com a devida atenção?	abordei um problema desafiante com a confiança de que poderia pensar nele com a devida atenção?	approached a challenging problem confident that I could thoroughly think about it?
14.	ao invés de tentar responder eu próprio/a a uma pergunta, escolhi a saída mais fácil e pedi a resposta a alguém?	em vez de trabalhar uma questão por mim mesmo, esquivei-me e perguntei a resposta a outro?	ao invés de tentar responder eu próprio/a a uma pergunta, escolhi a saída mais fácil e pedi a resposta a alguém?	instead of trying to answer a question by myself, I chose the easiest way out and asked someone else to give me the answer?
15.	li um relatório, jornal ou capítulo de um livro, ou vi as notícias internacionais na televisão ou um documentário, apenas para aprender algo novo?	li um artigo, jornal, ou capítulo de um livro, ou vi o noticiário mundial ou um documentário, só para aprender algo de novo?	li um artigo, jornal, ou capítulo de um livro, ou vi o noticiário mundial ou um documentário, só para aprender algo de novo?	read an article, newspaper or chapter of a book, or watched the world news or a documentary, just to learn something new?
16.	não me esforcei minimamente para aprender algo novo até ao momento em que percebi a sua utilidade imediata?	não pus esforço nenhum em aprender algo de novo até ver de imediato a utilidade em o fazer?	não fiz esforço nenhum para aprender algo de novo até ver de imediato a utilidade de o fazer?	put no effort whatsoever in learning something new until I saw the immediate utility in doing so?
17.	mostrei o quão seguro sou ao estar disposto/a a realmente reconsiderar uma decisão minha?	mostrei como era forte ao mostrar disponível para honestamente reconsiderar uma decisão?	mostrei como era forte ao mostrar-me disponível para honestamente reconsiderar uma decisão?	showed how strong I was by showing my willingness to honestly reconsider a decision?
18.	revelei o quão seguro sou ao recusar-me a mudar de ideias?	mostrei como era forte ao recusar-me a mudar de opinião?	mostrei como era forte ao recusar-me a mudar de opinião?	showed how strong I was by refusing to change my opinion?
19.	tive em consideração as nuances das circunstâncias, contextos e situações para tomar uma decisão?	ao tomar uma decisão, ponderei alterações nas circunstâncias, contextos e situações?	ao tomar uma decisão, ponderei alterações nas circunstâncias, contextos e situações?	thought, at the moment of making a decision, about circumstances, contexts and situations?
20.	recusei-me a reconsiderar a minha posição em relação a um assunto face a diferenças no contexto, situações ou circunstâncias?	recusei-me a reconsiderar a minha posição sobre um assunto à luz de diferenças no contexto, situações, ou circunstâncias?	recusei-me a reconsiderar a minha posição sobre um assunto à luz de diferenças no contexto e nas situações ou circunstâncias?	refused to reconsider my position on a certain issue in the light of differences in context, situations or circumstances?
	Se se descreveu de forma honesta, este formulário de auto-avaliação pode	Se se descreveu honestamente, este formulário de auto-	Se se descreveu honestamente, este formulário de	If you have described yourself honestly, this self-rating form can offer a

(Continued)

Continued.

Translation 1 (by T1)	Translation 2 (by T2)	Synthesis (by T3)	Backward translation (by T4)
<p>oferecer-lhe uma estimativa aproximada daquela que pensa ter sido a sua disposição geral de pensamento crítico nos últimos dois dias.</p> <p>Atribua 5 pontos a cada 'Sim' nos itens ímpares e a cada 'Não' nos itens pares. Se a sua pontuação total é de 70 pontos ou mais, está a avaliar a sua disposição de pensamento crítico nos últimos dois dias de forma geralmente positiva.</p> <p>Pontuações iguais ou inferiores a 50 pontos indicam uma auto-avaliação adversa ou hostil ao pensamento crítico nos últimos dois dias.</p> <p>Pontuações entre 50 e 70 pontos revelam que avalia ter tido uma disposição geral de pensamento crítico ambivalente ou mista nos últimos dois dias. Deve interpretar os resultados deste formulário com cautela. No mínimo, este instrumento oferece apenas uma estimativa aproximada a respeito de um breve período no tempo. Existem outros instrumentos mais sofisticados, tal como o California Critical Thinking Disposition Inventory, que oferece resultados para cada um dos sete hábitos da mente do pensamento crítico.</p> <p>Afirmações ímpares a que respondeu 'Sim': ____</p> <p>Afirmações pares a que respondeu 'Não': ____</p> <p>Subtotal: ____</p>	<p>avaliação pode oferecer uma estimativa aproximada sobre a sua disposição geral de pensamento crítico nos últimos dois dias.</p> <p>Dê a si próprio 5 pontos por cada 'Sim' nos itens ímpares e para cada 'Não' nos itens pares. Se o seu total for 70 ou mais, estará a avaliar a sua disposição para o pensamento crítico nos últimos dois dias como positiva em geral.</p> <p>Resultados de 50 ou menos indicam uma auto-avaliação que é adversa ou hostil para com o pensamento crítico nos últimos dois dias.</p> <p>Resultados entre 50 e 70 mostram que se auto-avaliaria como mostrando uma disposição geral ambivalente ou desregulada para o pensamento crítico nos últimos dois dias.</p> <p>Interprete os resultados deste teste com precaução. No máximo, este teste oferece somente uma estimativa aproximada referente a um instante no tempo. Outros testes são mais refinados, tal como o California Critical Thinking Disposition Inventory, que fornece resultados para cada um dos sete hábitos do pensamento crítico.</p> <p>'Sim' nos números ímpares: ____</p> <p>'Não' nos números pares: ____</p> <p>Subtotal: ____</p>	<p>autoavaliação pode oferecer uma estimativa aproximada sobre a sua disposição para o pensamento crítico nos últimos dois dias.</p> <p>Dê a si próprio/a 5 pontos por cada 'Sim' nos itens ímpares e por cada 'Não' nos itens pares. Se o seu total for 70 ou mais, estará a avaliar a sua disposição para o pensamento crítico nos últimos dois dias como positiva em geral.</p> <p>Resultados de 50 ou menos indicam uma autoavaliação que é adversa ou hostil para com o pensamento crítico nos últimos dois dias.</p> <p>Resultados entre 50 e 70 mostram que se autoavaliaria como mostrando uma disposição geral ambivalente ou mista para o pensamento crítico nos últimos dois dias.</p> <p>Interprete os resultados deste formulário com precaução. No máximo, este formulário oferece somente uma estimativa aproximada referente a um instante no tempo. Existem outros instrumentos mais sofisticados, tal como o California Critical Thinking Disposition Inventory, que fornece resultados para cada um dos sete hábitos do pensamento crítico.</p> <p>Afirmações ímpares a que respondeu 'Sim': ____</p> <p>Afirmações pares a que respondeu 'Não': ____</p> <p>Subtotal: ____</p>	<p>rough estimate of your disposition for critical thinking over the last two days.</p> <p>Give yourself 5 points for each 'Yes' on the items with odd numbers and for each 'No' on the items with even numbers. If your total is 70 or above, you have rated your disposition for critical thinking over the last two days as generally positive. If your total is 50 or less, it shows that your self-rating has been adverse or hostile to critical thinking over the last two days. If your total is between 50 and 70, it shows that your self-rating would show an ambivalent or mixed disposition to critical thinking over the last two days.</p> <p>Interpret the results of this form cautiously. At best, this form only offers a rough estimate of an instant in time. There are more sophisticated instruments, such as the California Critical Thinking Disposition Inventory, which provides results for each one of the seven critical thinking mindsets.</p> <p>'Yes' answers (odd numbers): ____</p> <p>'No' answers (even numbers): ____</p> <p>Subtotal: ____</p>

Appendix B. Formulário de Auto-Avaliação do Esquema Mental de Pensamento Crítico

Responda Sim ou Não às perguntas seguintes.

Consigo identificar **algumas situações específicas, durante os últimos dois dias**, em que eu:

- fui suficientemente corajoso/a para fazer perguntas difíceis sobre algumas das minhas convicções mais duradouras e enraizadas?
- evitei as perguntas que poderiam afetar algumas das minhas convicções mais duradouras e enraizadas?
- mostrei tolerância para com as convicções, ideias ou opiniões de alguém com quem eu não estava de acordo?
- tentei encontrar informação para fundamentar a minha argumentação, mas não a argumentação do outro lado?
- tentei prever e antecipar as consequências de várias opções?
- gozei com o que outras pessoas disseram e ridicularizei as suas convicções, valores, opiniões ou pontos de vista?
- fiz um esforço para ser analítico/a em relação aos resultados previsíveis das minhas decisões?
- manipulei informação de modo a favorecer os meus próprios interesses?
- encorajei colegas a não descartarem irrefletidamente as opiniões e ideias avançadas por outras pessoas?
- agi sem pensar nas possíveis consequências adversas das minhas escolhas?

11. abordei, de uma forma refletida e sistemática, uma pergunta ou assunto?
12. me apressei a tentar resolver um problema sem primeiro pensar na melhor forma de o abordar?
13. abordei um problema desafiante com a confiança de que poderia pensar nele com a devida atenção?
14. ao invés de tentar responder eu próprio/a a uma pergunta, escolhi a saída mais fácil e pedi a resposta a alguém?
15. li um artigo, jornal, ou capítulo de um livro, ou vi o noticiário mundial ou um documentário, só para aprender algo de novo?
16. não fiz esforço nenhum para aprender algo de novo até ver a utilidade imediata de o fazer?
17. demonstrei como era seguro/a ao mostrar-me disponível para honestamente reconsiderar uma decisão?
18. demonstrei como era seguro/a ao recusar-me a mudar de opinião?
19. para tomar uma decisão, considerei variantes nas circunstâncias, contextos e situações?
20. me recusei a reconsiderar a minha posição sobre um assunto à luz de diferenças no contexto e nas situações ou circunstâncias?

Se se descreveu honestamente, este formulário de autoavaliação pode oferecer uma estimativa aproximada sobre qual pensa ser a sua disposição para o pensamento crítico nos últimos dois dias.

Dê a si próprio/a 5 pontos por cada 'Sim' nos itens ímpares e por cada 'Não' nos itens pares. Se o seu total for 70 pontos ou mais, estará a avaliar a sua disposição para o pensamento crítico, nos últimos dois dias, como positiva em geral. Resultados de 50 pontos ou menos indicam uma autoavaliação que é adversa ou hostil para com o pensamento crítico nos últimos dois dias. Resultados entre 50 e 70 pontos mostram que se autoavaliaria como mostrando uma disposição geral ambivalente ou mista para o pensamento crítico nos últimos dois dias.

Interprete os resultados deste formulário com precaução. No máximo, este formulário oferece somente uma estimativa aproximada referente a um instante no tempo. Existem outros instrumentos mais sofisticados, tal como o California Critical Thinking Disposition Inventory, que fornece resultados para cada um dos sete hábitos do pensamento crítico.

Afirmações ímpares a que respondeu 'Sim': _____

Afirmações pares a que respondeu 'Não': _____ Subtotal: _____