

## Content and construct validity of the European Portuguese A-19 Scale of Children's Attitudes

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**Abstract.** Stuttering is a multidimensional neurodevelopmental disorder that comprises primary and secondary behaviors but also feelings and attitudes. These ones have a huge importance in the overall characterization and impact of stuttering. This research aims to: 1) guarantee the adaptation and content validation of the assessment instrument A-19 to European Portuguese, and 2) analyze A-19 construct validity through a pilot study. A cross-sectional, quantitative and qualitative study was developed to ensure the adaptation and content validation of A-19. The achievement of semantic, conceptual, experiential and idiomatic equivalences was only possible after the experts' debate of several items concerning meaning, concept and cultural experience. The final Portuguese version of A-19 was used in a pilot study in which 42 children participated (21 children who stutter and 21 children who do not stutter). The group of school-age children who stutter presented a higher A-19 mean (6.29) in comparison with children who do not stutter (5.48), although the difference was not statistically significant. The Portuguese Version of A-19 identifies the differences in feelings and attitudes between school age children who do and who do not stutter. The fact that this sample of children who stutter is already attending speech and language therapy sessions in which emotional, behavioural and cognitive reactions are explored, may have contributed to a non-significative difference in A-19 scores. The content and construct validity of A-19 European Portuguese Version is assured, as so this is a valid instrument to assess feelings and attitudes of school age children who stutter.

**Keywords:** Assessment; Cross-cultural; Feelings and attitudes; School-age children; Stuttering;

### [es] Validez de contenido y de constructo de la Escala Portuguesa A-19 de Actitudes Infantiles

**Resumen.** La tartamudez es un trastorno multidimensional del neurodesarrollo que comprende conductas primarias y secundarias, pero también sentimientos y actitudes. Esto tiene una enorme importancia en la caracterización global y el impacto de la tartamudez. Esta investigación pretende: 1) mostrar la adaptación y validación del instrumento de evaluación A-19 al portugués europeo y 2) analizar la validez de constructo del A-19 a través de un estudio piloto. Se desarrolló un estudio transversal, cuantitativo y cualitativo para garantizar la adaptación y validación de contenido de A-19. El logro de equivalencias semánticas, conceptuales, experienciales e idiomáticas fue posible tras el debate de expertos acerca de varios ítems relativos a significado, concepto y experiencia cultural. La versión portuguesa final de A-19 se utilizó en un estudio piloto en el que participaron 42 niños (21 niños que tartamudean y 21 niños que no tartamudean). El grupo de niños en edad escolar que tartamudean presentó una media de A-19 más alta (6,29) en comparación con los niños que no tartamudean (5,48), aunque la diferencia no fue estadísticamente significativa. La versión portuguesa de A19 identifica las diferencias en sentimientos y actitudes entre niños en edad escolar que tartamudean y que no tartamudean. El hecho de que esta muestra de niños que tartamudean ya esté asistiendo a sesiones de logopedia en las que se exploran las reacciones emocionales, conductuales y cognitivas, puede haber contribuido a una diferencia no significativa en las puntuaciones del A-19. Los datos sobre validez de contenido y de constructo del A-19 muestran que se trata de un instrumento válido para evaluar sentimientos y actitudes de niños tartamudos en edad escolar.

**Palabras clave:** Evaluación; Sentimientos y actitudes; Niños en edad escolar; Tartamudez; Transcultural.

**Sumario:** Introduction. Materials and Methods. Content Validity of the European Portuguese Version of A-19. Pilot Study. Materials, procedures and scoring. Data analysis. Results. Content validation of A-19. Pilot study results: descriptive and inferential statistics. Discussion. Content validation of A-19. Pilot study. Conclusion. References.

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## Introduction

Emotions, feelings and beliefs related to communication and stuttering should be considered in the assessment of a person who stutters because they are all important components of fluency disorders (Guitar, 2019; Yaruss & Quesal, 2004; Yaruss & Quesal, 2006). Beyond primary and secondary stuttering behaviors, feelings and attitudes have a huge importance in the overall characterization and impact of stuttering. Having feelings and attitudes related to stuttering reveals that the person is aware of his/her stuttering and these feelings and attitudes may interact and impact the person's psychosocial participation and functioning. Initially, studies explored these feelings and attitudes mainly in adults. Subsequently, research suggested that children may also be aware of their stuttering as young as two years of age, developing the ability to assess and compare their performance with their peers at three years of age. In fact, many studies confirm that more negative attitudes towards their own communication are found in children who stutter, when compared with children who do not stutter (Guttormsen et al., 2015). These facts have an even higher importance as research demonstrates that the negative attitudes towards communication influence a child's likelihood to develop persistent stuttering (Groner et al., 2016). Negative communication experiences, greater demands on communication and bullying may account for the increasingly negative communication attitudes of school-age children who stutter. These facts highlight the importance of developing, as early as possible, a multidimensional assessment that includes both speech and feelings/emotions/attitudes.

Internationally there are several assessment instruments to analyze feelings and attitudes of school-age children who stutter, e.g. CAT (De Nil & Brutten, 1991), A-19 (Guitar & Grims, 1977) or OASES (Yaruss & Quesal, 2006).

A-19 is the only assessment instrument that was translated to European Portuguese and allows to assess feelings and attitudes of school-age children who stutter (Fitas et al., 2017). The original research study demonstrates that school-age children who stutter (N=28) presented an average score of 9.07 (S.D. = 2.44) and the control group had an average score of 8.17 (S.D. = 1.80). The first phase of the project, which intends to adapt A-19 to the Portuguese population, was related with the translation of A-19 into European Portuguese, considering the phases of translation and backtranslation (Fitas et al., 2017). This paper aims to describe the second phase of this project with the following goals: 1) guarantee the adaptation and content validation of the assessment instrument A-19 to European Portuguese, and 2) analyze A-19 construct validity through a pilot study (Leon et al., 2011).

## Materials and Methods

This is a cross-sectional, quantitative and qualitative study. To ensure the adaptation and content validation of A-19, a panel of experts was realized. The A-19 final Portuguese version that resulted from the panel of experts was used in a pilot study.

### Content Validity of the European Portuguese Version of A-19

Evidences of content validity are related with an appropriate sample of the domain being measured (Polit & Beck, 2012). To analyze content validity a panel of experts was consulted. The panel was composed by a person who stutters, related to the Portuguese Stutterer's Association (Associação Portuguesa de Gagos) and by three speech and language therapists (SLTs), all of them with more than 10 years of experience, whose clinical practice is highly related with assessment, diagnosis and intervention in the stuttering field. During this panel, the experts were able to express their opinion concerning the relevance, clarity, accuracy of procedures and items of the A-19 European-Portuguese Version. Experts' opinions about usability and relevance of this assessment instrument were also collected. Semantic (i.e., equivalence in the meaning of words), idiomatic (i.e., equivalence in idioms and colloquialisms), experiential (i.e., equivalence in the target cultural context) and conceptual (i.e., equivalence of the concepts and experiences of the target culture) equivalences were also analyzed as well as the adequacy of A-19 application procedures and items (Sousa & Rojjanasrirat, 2011). The European-Portuguese version of A-19, obtained after the panel of experts meeting, was used in the pilot study.

### Pilot Study

The application of the European-Portuguese version of A-19 to school-age children who stutter was carried out by three SLTs that work in the Portuguese Stuttering Treatment Center. The authors of the present study provided the SLTs with A-19's instructions, scoring procedures, and spread sheets. This research followed the principles of the Declaration of Helsinki and all participants have given their written informed consent.

## Sample Size and distribution of the pilot study

Children who stutter were recruited in the Stuttering Treatment Center by SpeechCare – Portugal according to the following inclusion criteria: i) school-age children; ii) European Portuguese as native language; iii) classification as a child who stutters by two SLTs that agreed on the diagnosis based on observation and on a speech sample analysis; iv) informed consent provided by caregivers. All children are undergoing speech language intervention specifically for stuttering by SLTs.

Children who do not stutter were recruited according to the following inclusion criteria: i) school-age children; ii) European Portuguese as native language; iii) absence of auditory, emotional and behavioral difficulties and neurological/developmental disorders; iv) informed consent provided by caregivers.

## Materials, procedures and scoring

A-19 Scale of Children's Attitudes (Guitar & Grims, 1977) is an auto-perception assessment instrument that assesses children's attitudes about communicating and speaking. A-19 is composed by two parts: application and scoring procedures. According to the authors, the 19 questions that compose A-19 are intended to distinguish children who stutter from children who do not stutter. The 19 items are related with self-perception concerning communication in different contexts, situations and with different communication partners. In accordance with the scoring procedures, the questions are scored with 0 or 1. The scoring matrix was developed having into consideration the answers that a child who stutters would probably give. Higher scores mean greater likelihood of having developed negative attitudes towards communication. A-19 is applied by a clinician after establishing secure and trusting relationship with the child. Once the rapport is established the clinician should ensure that the child understands the task before application.

## Data analysis

After transcribing the expert panel meeting, a report was written in order to document and systematize the modifications suggested by each expert and the reasons that support the expert's opinions. The final A-19 European Portuguese version had into account these opinions (Coulter et al., 2016).

A-19 pilot study data analysis was conducted on the Statistical Package for the Social Sciences (SPSS, version 23) to calculate descriptive statistics for children who stutter and for children who do not stutter (mean, standard deviation, maximum, and minimum). The scores obtained in A-19 European Portuguese version were used to compare the results of children who stutter and children who do not stutter based on inferential statistics analysis, using Mann-Whitney test.

## Results

In this section a summary of the main findings concerning content validation of the assessment instrument A-19 and the analysis of its construct validity are presented.

### Content validation of A-19

During the panel of experts meeting it was possible to discuss the different aspects related with the semantic, conceptual, idiomatic and experiential equivalences.

Considering the translated version that was scrutinized by the panel of experts, the title of A-19 questionnaire was translated to Portuguese - Escala A-19 P.E. de Avaliação de Atitudes - with the addition of the initials PE (Português Europeu, European Portuguese).

The panel of experts considered that the equivalences in the proposed translation for the items 2,3,4,6,8,10,13,14,15 and 16 were achieved.

In contrast in items 1,5,7,9,11,12,17,18 and 19 the panel of experts considered that not all the equivalences were achieved.

Regarding item 1 ("Is it best to keep your mouth shut when you are in trouble?") that was translated as "É melhor ficar calado quando estás em sarilhos?", the experts proposed the substitution of the word "sarilhos" by "problemas", to achieve the semantic equivalence.

In item 5 ("If you did not know a person, would you tell your name?") that was translated as "Se não conheces uma pessoa, dizes-lhe o teu nome?" the only substitution that occurred, regarding semantic equivalence, was a morphological change in the word "dizes-lhe" to "dizes" (tell) in which the clitic pronoun "lhe" was eliminated.

A discussion was held concerning the conceptual equivalence of item 7 (“Would you go up to a new boy or girl in your class?”), translated as “Aproximavas-te de um rapaz ou rapariga novos na turma?”. The debate was related with the translation of the phrasal verbal “go up to”.

When item 9 (“Even when you know the right answer, are you afraid to say it?”) was translated “Mesmo quando sabes a resposta, tens medo de dizê-la?”, the translators did not consider the word “right”. In this analysis the panel of experts considered that it was important to include the word “right” to accomplish conceptual equivalence.

When analysing item 11 (“Is it fun to talk to your dad?”), translated as “É divertido falar com o teu pai?”, the panel of experts perceived that the conceptual equivalence was not achieved.

The only change proposed to the translation of the item 12 (“Do you like to tell stories to your classmates?”) translated as “Gostas de contar histórias aos colegas?” was related with the inclusion of the possessive pronoun “teus” (“yours”) to reach the semantic equivalence.

The items 14 (“Would you rather look at a comic book than talk to a friend?”) and 17 (“Is talking to your friends more fun than playing by yourself?”), translated as “Preferes ler banda desenhada do que falar com um colega?” and “Falar com os teus amigos é mais divertido do que brincar sozinho?” respectively, were discussed by the panel of experts once they seem to be very similar. A decision was made that the author should be contacted to a final decision. After contacting the author, Barry Guitar, the author agreed that one of the items could be excluded. Item number 14 was eliminated.

Considering item number 17 the panel of experts decided to change the proposed translation. The translators used the Portuguese word “falar” and the expert panel proposed the word “conversar” to accomplish the conceptual equivalence.

Considering the proposed translations of items 18 (“Are you sometimes unhappy?”), translated as “Às vezes sentes-te infeliz?” and 19 (“Are you a little afraid to talk on the phone?”), translated as “Tens um pouco de medo de falar ao telefone?” the panel of experts suggested the use of synonyms that facilitate the item comprehension by children. In item 18 the word unhappy was translated as “triste”; in item 19 “a little” was translated as “um bocadinho” to achieve semantic equivalence.

### Pilot study results: descriptive and inferential statistics

In this study the sample was constituted by 42 children (four girls and 38 boys), 21 school-age children who stutter ( $M = 9,05$  years old;  $SD = 1,75$ ) and 21 school-age children who do not stutter ( $M = 9,05$  years old;  $SD = 1,75$ ), matched by age and gender.

**Table 1.** Descriptive statistics considering the application of A-19

Group	Mean	Standard Deviation	Minimum	Maximum
School-age children who stutter	6.29	2.78	2	13
School-age children who do not stutter	5.48	2.16	0	9

The group of school-age children who stutter presented a higher A-19 mean (6.29) in comparison with children who do not stutter (5.48).

The Mann-Whitney test was used to verify if the mean scores of A-19 were different between the groups. From this data, it can be concluded that the differences between the mean scores of school-age children who stutter when compared with the scores of children who do not stutter were not statistically significant ( $U = 188.5$ ,  $p = .417$ ).

## Discussion

### Content validation of A-19

As it is stated by Araft et al. (2016), the expert panel has a crucial role in the different needed equivalences. In this translation and adaptation process this was verified because the assurance of the semantic, conceptual, experiential and idiomatic A-19 item's equivalences was only possible after the experts' debate of several items concerning meaning, concept and cultural experience.

The participants of the expert panel considered that the translated items number 2,3, 4,6,8,10, 12 and 14 maintained all the equivalences, when compared with the original version. Similarly to what happens in other assessment instruments (e.g. POSHA-S), we could argue that the chosen words, concepts and morphosyntactic structure of these items are easier to translate and adapt to Portuguese culture (St. Louis, 2012).

Contrary to the referred items, the other items required a further discussion.

Regarding item 1, in which the expert panel proposed a change in the words chosen by the translators (substitution of the word “sarilhos” by “problemas”), the authors consider that both words are possible translations of the word “trouble”, although the word “sarilhos” is more used in colloquial situations. This concern to change the translated words in order to facilitate child’s comprehension also occurred in items 5, 18 and 19. In fact, it is recommended that the panel of experts assures that the items are understood by children of the age group for which the questionnaire is intended (Beaton et al., 1998).

Considering item 7, the verb chosen by the translators was “aproximavas-te”. However, some experts considered that a verb that helps the child to concretize a communicative intention needs to be used, as the questionnaire is focused on communicative feelings and attitudes. For that, the verb that was chosen was “conversavas” which implies an effective communicative exchange in opposite of the verb “aproximavas-te” once it only means a passive action that does not involve, necessarily, communication (Priberam, 2021a).

In item 9 the word “right” (certa) was added following the panel of experts’ opinion to convey the idea of knowing the right answer but being afraid of saying it (“Tens medo de falar mesmo quando sabes a resposta certa?”). Being sure of something but not feeling capable to say it because of stuttering associated feelings (e.g. being afraid of speaking) is stated by the literature. In fact, children who stutter are most likely to present negative feelings and attitudes regarding the communication process (St. Louis et al., 2019).

Having into account item 11, the panel of experts discussed that the original A-19 was developed in 1977. At that time the familiar organization and each parents’ role and way of communicating with the child was very different. In the seventies the man was seen as the responsible for family support; so, in most of the situations, the relationship between father and son/daughter was distant and communication was scarce. For that reason, dad could be considered a challenging interlocutor which supports the exclusive reference to the father in this item: “11. Is it fun to talk to your dad?”. Nowadays the families’ organization and dynamics are different and it is more likely that mother and father have similar roles. In that way the panel of experts decided to include the word “pais” (“parents”) instead of “pai” (“dad”): “É divertido falar com os teus pais?” (Banchevsky & Park, 2016).

In item 12 adding the possessive pronoun yours (“teus”) to the translation allows to specify the communicative partners to whom this item is related – classmates with whom the child will more likely have a closer relationship, when compared with the schoolmates.

Considering items 14 and 17 and their similarity, the option was to exclude the item that would have to have more changes in order to achieve the different equivalences. As so, item number 14 was excluded. This decision was supported by the author of the original questionnaire. Concerning the procedures of translation, adaptation and validation of assessment instruments stated by the literature, the panel of experts have the legitimacy to exclude irrelevant, inadequate and ambiguous items (Guillemin et al., 1993).

The word “talk”, part of item 17, can be translated in European Portuguese in using distinct verbs that imply different communicative demands. For example, this verb can be translated as “falar”, “conversar”. The verb “falar” does not necessarily involve communicative interaction. Though, the word “conversar” was chosen in this context once it refers to a more structured communicative situation that implies the interaction between two or more communicative partners. Despite this change the semantic equivalence between the translated and original version is kept (Priberam, 2021b).

## Pilot study

As stated by the results the group of children who stutter present a higher A-19 score than children who do not stutter, although not significant. It is important to reflect that the sample of children who stutter attends speech and language therapy sessions, mostly on a weekly basis.

The intervention process used by the Portuguese Treatment Stuttering Center, where these children are accompanied, is based on an integrated approach that combines evidence based programs/methods. Consequently, the intervention process developed with these children includes goals related with feelings and attitudes, targeting specifically personal and familiar reactions to stuttering (affective, behavioral and cognitive reactions) which can justify the fact that the mean score of children who stutter is very similar to the mean score of children who do not stutter (Guitar, 2019). To confirm this statement, it would have been interesting to compare feelings and attitudes before and after therapeutic intervention. It is crucial to include in the therapeutic process procedures that help to manage stuttering challenges in different communicative contexts to minimize the impact of stuttering and to increase children’s and families’ coping and resilience (Caughter & Dunsmuirb, 2017). Based on research, children who stutter can have negative feelings while communicating. These feelings are less expected in children who do not stutter. Concerning this study, it is interesting to perceive that some children who do not stutter answered A-19 in a way that reflects feelings and attitudes typically expected from children who stutter. This finding highlights the need to develop research regarding communicative profiles, feelings and attitudes related with communication of children who do not stutter, as research in this area is mainly developed with children with disabilities (Endres et al., 2020; Zampella et al., 2020). As this study shows, typically developing children may also present negative feelings and attitudes towards communication (e.g. a child who does not stutter answered

“Yes” to the question 9. “Even when you know the right answer, are you afraid to say it?”). As so, knowing the communicative profile of children and their personal reactions to communication is of high importance to increase awareness of family, teachers, research community and to allow an early identification of communicative challenges that children are facing and, consequently, intervene if needed (Cunningham et al., 2021).

## Conclusion

The content and construct validity of A-19 European Portuguese Version is assured, as so this is a valid instrument to assess feelings and attitudes of school age children who stutter.

Related to study limitations it can be referred the small sample size collected, composed by children from only one stuttering intervention center and already accompanied by SLT.

Future studies should include the analysis of sensitivity and specificity of A-19 to verify the instrument’s ability to identify children who stutter.

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