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Life Experiences Survey (LES)*Assessment of life events*

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INTRODUCTION OF THE INSTRUMENT

The report in question was prepared as part of the Psychometry course taught by Professor Isabel Silva. The main objective is to prepare a critical analysis of the questionnaire "*LES - Life Experiences Survey*" (Sarason, Johnson & Siegel, 1978; Silva et al., 2003).

The instrument*"Life Experiences Survey"*It was developed by authors Sarason, Johnson and Siegel (1978) as a way of assessing stress through life events to which the individual was subjected in a given previous period of time, depending on their desirability and undesirability and the magnitude of their impact. In 2003, Isabel Silva, José Pais-Ribeiro, Helena Cardoso and Helena Ramos adapted it to the Portuguese population with diabetes, as a way of assessing total stress over the last year and analyzing the frequency of occurrence of these events, the internal consistency of the instrument and its correlation with symptoms of anxiety and depression (Silva et al., 2003).

LES, the Portuguese version of*"Life Experiences Survey"*consists of a self-response instrument, consisting of 47 items and 3 blank spaces, in which the individual can indicate other life events experienced and that have not been mentioned throughout the scale. The response options range from "*very negative"*(quoted as -3); "*more or less negative"*(quoted as -2); "*a little negative"*(quoted as - 1); "*had no consequences whatsoever"*(quoted as 0); "*a little positive"*(rated as +1); "*more or less positive"*(rated as +2); "*very positive"*(rated as +3) and "*does not apply".*Values are assigned on a 7-point scale, ranging from extremely negative (-3) to extremely positive (+3).

1. PROCESS OF CULTURAL AND LINGUISTIC ADAPTATION OF THE INSTRUMENT

The comprehensive development of a measuring instrument is complex, consumes a lot of resources and requires the mobilization of skills and knowledge of different types (Ferreira & Marques, 1998). Any instrument to be used worldwide must have an underlying equivalence between its original and adapted versions, otherwise it would not be possible to compare results in a credible manner.

According to authors Kulis, Bottomley, Velikova, Greimel and Koller (2017), the translation process into a new linguistic version begins with a request for authorization from the authors who developed the original instrument. Translations must be done by two native translators of the target language who understand the original version, in this case, English (Kulis et al., 2017).

After an initial translation, back-translation is the second fundamental step in the translation process. Back-translation consists of reverting what has already been translated into the original language, allowing discrepancies between the meaning of the translation and that of the original questionnaire to be identified. This cycle is repeated until the back-translation is sufficiently similar in meaning to the original instrument (Kulis et al., 2017). The last step is back-translation, which is one of the best methods for the translator to examine his or her own work in order to improve it and make it more accurate with the original.

Once the discussion has reached a consensus, the translation can undergo a linguistic validation, the so-called pilot study. The pilot study consists of a small group of individuals, who comment on the comprehensibility of the translation (Kulis et al., 2017).

Table 1: Translation and cultural and linguistic adaptation of the instrument

Translation and cultural adaptation and linguistics of instrument	Was Adopted	Not Adopted
Authorization Request	X	
Translation	X	
Retroversion	X	
Retranslation	X	
Cognitive Analysis	X	

1.1. CRITICAL ANALYSIS

The questionnaire demonstrates that it has adopted all the processes involved in the process of cultural and linguistic adaptation of the instrument. It complies with the request for authorization, translation, back-translation, re-translation and cognitive analysis based on a test and pre-test.

Based on the authors Silva, Ribeiro, Cardoso and Ramos (2003), in order to proceed with the cultural validation of the questionnaire, prior consent was obtained from the authors Sarason, Johnson and Siegel (1978), who developed the original scale (Silva et al., 2003).

In relation to the adoption of translation, the authors describe that the translation of the original version of the LES was carried out by a translator whose native language was Portuguese, who had knowledge of English and, at the same time, was aware of the objectives and intentions regarding the construction of the questionnaire (Silva et al., 2003). Regarding the presence of back-translation, the same authors claim that it constituted the second step of the process, with the aim of identifying any discrepancy between the meaning of the translation and that of the original questionnaire. This process was carried out by a translator whose native language was Portuguese, who had higher education in English and was unfamiliar with the original questionnaire (Silva et al., 2003). The back-translation was carried out by a native speaker of the language in which the translation was made (Portuguese), with higher education in English, a language in which he was fluent (Silva et al., 2003).

The use of these initial procedures, translation, back-translation and back-translation, aimed to detect discrepancies, so that it would be possible to reach a final consensus regarding the translation of the instructions and of each item.

According to Silva, Ribeiro, Cardoso and Ramos (2003), a cognitive analysis of the instructions and items of the scale was carried out. A pilot test was carried out with the general objective of assessing clarity, comprehension and cultural relevance, as well as to confirm whether the terminology was appropriate. This was followed by a pre-test conducted with 5 individuals selected from among those in the target population who might have more comprehension problems. The individuals were asked about their general impression of the questionnaire's comprehension and its acceptability, and the questionnaire was discussed item by item, including the instructions and response options (Silva et al., 2003). They were also asked to suggest alternative ways of formulating the questions or response hypotheses that had been less understood by the subjects, so that

in order to make them easier to understand (Silva et al., 2003).

Given the presence of all the essential components in the process of cultural and linguistic adaptation, there are no criticisms to add.

2. ITEM WRITING RULES

The items are one of the main points of the instrument. Therefore, it is necessary that, through the rules for writing items, an instrument is obtained that is understood and well interpreted by the respondents. It is important to take into account, when structuring the instrument, that it is appealing and organized in a logical and careful way.

According to Hill and Hill (1998), the rules that must be followed are: using simple syntax, avoiding ambiguity, using short sentences, neutral items, avoiding persuasive information and avoiding the use of multiple items (Hill & Hill, 1998).

Based on the author Silva (2021), she adds that, to this set of rules, it is important to use declarative or interrogative sentences, the 3 C's (clear, concise, concrete), and that it allows an easy understanding of the items and does not use slang (Silva, 2021).

Table 2: Rules and Item Wording

Rules	Items that comply	Items that do not comply
a) Simple Syntax	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47	29, 35
b) 3 C's (clear, concise, concrete)	1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47	9, 10, 24

c) Short sentences	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 44, 45, 46, 47	5, 13, 15, 21, 27, 28, 37, 43
d) Not contain persuasive information	1 to 47 (All)	
e) Neutral items	1 to 47 (All)	
f) Avoid items that ask for socially desirable responses	1 to 47 (All)	
g) Words that are easy to understand	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47	10

h) Do not use slang/slang	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46	25, 47
i) Declarative sentences	1 to 47 (All)	
j) Interrogative sentences		1 to 47 (All)
k) Avoid double negatives	1 to 47 (All)	
l) Avoid questions multiple	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47	15, 39
m) Avoid repeating items	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46	25, 47

2.1. CRITICAL ANALYSIS AND REFORMULATION SUGGESTIONS

the) Simple Syntax:

29:"Big change in the amount and way you spend your free time" Reformulation: Big change in how you spend your free time

35:"Being very ill or having a serious accident"

Rewording: Being sick (flu, terminal illness, cancer, covid-19, etc.) Having a serious accident (crashing a car, being run over, breaking a limb, etc.)

In item 35, we agreed that it would make more sense to divide the question into two, because they asked about different events, being sick and having a serious accident.

b) 3 C's (clear, concise, concrete):

9:"Great success in personal life"

Reformulation: Great success in personal life (family, work, housing, etc.)

24:"Major change in your religious activities (increase or decrease in frequency).

Reformulation: Major change in the practice of your religious activities (going to Mass, religious meetings, praying, etc.)

In item 9, we considered it appropriate to add some examples due to the breadth of the sentence, which was not presented in a clear or concrete manner in relation to what was intended. Its interpretation would vary depending on the respondent. The same occurs in items 10 and 24. It is neither concrete nor concise and may or may not be understood by the participants.

w) Short Phrases:

5:"Death of a family member" Rewording: Death of a family member

13:"Changes in work situation (e.g. different responsibilities at work, major changes in working conditions, changes in working hours)" Rewording: Changes at work

37:"Major changes in your family's living conditions (e.g., building a new home, remodeling the home, deteriorating the home, etc.)"

Reform: Major changes in family living conditions (construction, deterioration and remodeling of the house, etc.)

43:"Separation from spouse (husband/partner or wife/partner) due to work, travel, etc."

Rewording: Separation from husband/partner or wife/partner (e.g. travel or work, etc.)

In item 5, we considered that it did not meet the requirements for short sentences, because these still have 7 items from a) to h) to classify something that could be justified only with the phrase "death of a family member" which would encompass the whole in its generality. We considered that the same occurs in items 13, 15, 21, 27, 28, 37 and 43 due to their length which can later be well explained through a shorter sentence.

g) Easy to understand words:

10:"Minor violations of the law (e.g. disturbing the peace)"

Rewording: Committing minor infractions of the law (e.g., listening to music too loudly at night, disturbing neighbors and those around you, etc.)

In item 10 we agree that it is not an easy item to understand and respondents may not understand or know how to interpret it even with the example that is presented. The example is not clarifying for those who have doubts about the item.

h) Do not use slang/slang:

25:"Reconciliation (making peace) with your husband/wife or partner Reformulation: Resolving problems with your husband/wife or partner

In items 25 and 47 we considered the use of the slang "to make peace" present in both.

3. RESPONSE OPTIONS

The response options in a questionnaire can be classified as open-ended, open-ended, and closed-ended. closed, general or tailor's glasses (Silva, 2021).

According to Hill and Hill (1998), open-ended responses require a response constructed and written by the respondent, where the respondent responds in his/her own words. On the other hand, in closed-ended responses, the respondent has to choose between the written responses presented to him/her by the author. General responses can be used for each of the questions in a set of questions. In contrast, closed-ended responses

tailor are constructed according to the question asked and only apply to that specific question and target population (Hill & Hill, 1998).

According to Hill and Hill (1998), scales can be nominal, ordinal, interval and ratio. Nominal scales correspond to a set of qualitatively different and mutually exclusive characteristics. In this case, the numbers only serve to identify the qualitative category.

Ordinal scales present a numerical ordering of the questionnaire responses, relating them together and placing them in order.

Interval scales have an ordinal scale characteristic, where the higher numerical value indicates a greater quantity of the measured variable, and the ratio scale, lastly, presents all the characteristics of the interval scale, but has another characteristic which is that the value "zero" is "real" and not arbitrary (Hill & Hill, 1998).

In view of the scale structure, the author Silva (2021) complements it with the various types of scale that exist, highlighting as the most relevant the Likert-type scales, percentage scales, dichotomous nominal scales, visual analogy scales and forced choice scales.

Likert-type scales are ordinal scales treated as ratio scales. They are presented by a response with a certain order.

Percentage scales are associated with quantity.

Dichotomous nominal scales correspond to a set of qualitative and quantitative response categories.

Visual analogy scales are used to measure subjective characteristics that cannot be measured directly, and forced choice scales are scales that present very limited response alternatives (Silva, 2021).

Table 3: Response Options

Type of scale of measure	Structure of the scale	Answers open or closed	Answers general or tailor	Format of the options	Number of options
Ordinal	Likert type	Closed	General	Intensity	8

3.1. CRITICAL ANALYSIS AND SUGGESTIONS

In the LES questionnaire, the responses adopted were closed-ended responses, where respondents had to choose one of the responses presented by the author in the scale. This type of response has its advantages and disadvantages. The advantages of using closed-ended responses consist of the greater ease in applying statistical analyses, which allows for an analysis of the responses and observation of the data in a more sophisticated way. On the other hand, the disadvantages of closed-ended responses are due to the fact that they are responses that are poor in information, which results in conclusions that are too simple (Hill & Hill, 1998).

The answers that were adopted in this questionnaire are general answers, where the author preferred to apply the same answers to all questions, thus not specifying them for a given question. The advantages of general answers consist of the need for less space, making the questionnaire seem smaller and generally there is greater ease in analyzing the answers, through sophisticated statistical methods. The disadvantage of these answers is that are not very detailed, they become less rich (Hill & Hill, 1998).

The LES questionnaire presents an ordinal measurement scale with a type structure Likert.

Regarding the format of the options, this presents a degree of intensity that increases from option to option (very negative, more or less negative, a little negative, had no consequences at all, a little positive, more or less positive and very positive).

The number of options, due to certain events in our lives being of an intimate nature, the 8 options do not seem to be so suitable for the questionnaire in question, despite being a way to avoid abstentions, it can be considered boring for some of the respondents. Based on Silva (2021), in most of the

In some cases, 5 alternative answers are sufficient, especially in the case of questions that ask for attitudes, opinions, tastes or levels of satisfaction. Therefore, 5 points are considered the minimum recommended number, making it unnecessary to have 8 answers in the questionnaire (Silva, 2021).

In the Portuguese version, the answer option "not applicable" was also added, which makes the questionnaire more consistent and allows for better assessment and veracity.

4. RULES FOR CONSTRUCTING INSTRUCTIONS

Before completing a questionnaire, it is essential that appropriate instructions are given to respondents. The instructions must take into account the intended purpose, i.e. the purpose of the questionnaire, taking as a starting point the decision of the person in question as to whether or not they wish to participate in completing the questionnaire. It is very important to provide and sign an initial informed consent form, where participants are presented with the necessary information about what is intended to be assessed (Hill & Hill, 1998).

Based on the author Silva (2021), the questionnaire instructions should take into account some important points: appealing to the sincerity of the participants, urging them to respond honestly and truthfully; highlighting the importance of responding and collaborating in the questionnaire; asking that the questionnaire be read carefully so that it is understood; the instructions should explain how to answer the questions as intended; include an explanation of how to modify/correct answers in case of wanting to change; include a cultural and contextual framework; ask that individuals check that there are no questions left unanswered and finally include a final thank you for collaborating in the questionnaire (Silva, 2021).

Table 4: Instruction Construction Rules

Instructions	Was Adopted	Not Adopted	Suggestions
Objective of the questionnaire-nary		X	"This questionnaire has with the aim of assessing total stress over the last year and positive and negative events. occurred to you in this period of time"
Appeal to sincerity		X	"Please answer honestly."

Underline the importance of to respond		X	"Your collaboration is very important to us"
Request for careful reading		X	"Please read carefully."
How to respond	X		"(*Make a cross*(X)*in the answer that seems to be closest to what think*)"
How to modify/color rigid answers		X	"Draw the cross so that it fills the entire square and make another one in the desired location."
Time frame-ral/contextual	X		*"If these events all happened to you during the last year, please answer if there were any consequences positive (good) or negative gative (bad) in your life".*

Request to verify that not questions remained for to respond		X	"Please check that you have answered all questions."
Thanks		X	"Thank you for your collaboration"

4.1. CRITICAL ANALYSIS

The instrument, with regard to instructions, does not demonstrate the purpose of the questionnaire, the appeal to sincerity, does not emphasize the importance of responding, does not appeal to careful reading, does not explain how to modify/correct the answers, does not ask for the questions to be checked to avoid leaving some unanswered and does not include a final thank you for the individuals' participation. The scale includes instructions on how the individuals should respond, through the phrase, "Mark a cross (X) in the answer that seems closest to what you think" and includes a temporal/contextual framework through the phrase, "If these events occurred to you during the last year, ..." (Silva et al., 2003).

According to Hill and Hill (1998), one should never assume that respondents know how to answer the questions. It is necessary to give clear and objective instructions, considering that ambiguous instructions jeopardize the value of the data (Hill & Hill, 1998). In our questionnaire, it would be important to initially describe the objective of the study itself, briefly, although the authors initially describe that "Below you will find a list of events that, sometimes, bring some changes to the lives of those who experience them" (Silva et al., 2003), they do not explain the objective they intend with the questionnaire response, only appealing that these are events that can bring changes to the lives of individuals. The appeal to sincerity is also not succinct in the questionnaire, but the way in which it is asked to respond already implies a degree of sincerity that the authors appeal to, in the sentence "If these events occurred to you during the last year, please answer whether they had positive (good) or negative (bad) consequences in your life" (Silva et al., 2003).

Our analysis of the questionnaire suggests that, of the previous points that are not present in the scale, the most important to include would perhaps be a brief explanation of the purpose of the questionnaire, an explanation of how to correct/modify the answers if they so wished, and a final thank you, given that the respondents made themselves available to complete the scale, a final thank you from the researchers for the collaboration of the individuals would be important.

5. GRAPHIC LAYOUT - "LAYOUT"

In general, a potential respondent starts by analyzing the questionnaire in order to decide whether to fill it out or not. This decision is largely influenced by two factors: the size of the questionnaire and its layout.

According to Hill and Hill (1998), the layout of a questionnaire is very important. A clear and attractive layout increases the likelihood of obtaining cooperation from respondents. When the questionnaire is short and has an aesthetically appealing layout, there is more likely to be a greater initiative to collaborate in the study, attracting more attention from respondents. In principle, all people who receive questionnaires are potential respondents, and it is up to the researcher to persuade them to become actual respondents (Hill & Hill, 1998).

The layout must ensure the quality of the presentation and formal organization of the questionnaire, ensure the respondent's motivation to respond conscientiously, good presentation and a logical arrangement.

and coherent, as well as giving an immediate impression of ease in filling out, its graphic organization is important, the readability of the questionnaire must be ensured and the format of the items must be homogeneous (Silva, 2021).

Table 5: Graphic layout – Layout

Layout	Yes	No
Good presentation		X
Logical and coherent arrangement		X
Grills		X
Squares or circles for signing home the answers		X
Lines or rectangles to separate the items		X
Graphic presentation density	X	
Ease of completion		X
Organization of items		X
Questionnaire readability: type and font size		X
Readability of the questionnaire river: special types	X	

Logical organization of the question-nary		X
High mental effort		X

It involves knowledge that can not to dominate		X
Refers to sensitive topics	X	
Degree of complexity will increase both		X

5.1. CRITICAL ANALYSIS

The instrument, in terms of layout, presents an impoverished structure in terms of appealing to respondents.

Considering the importance of obtaining a good presentation, making the questionnaire aesthetically pleasing, the LES scale is a considerably long scale (47 items) and the way it is structured does not make it appealing to answer. Given its logical arrangement, the LES presents similar items that do not follow a logical sequence, for example, in item 5 referring to *"Death of a family member"*, followed by item 6 which addresses a completely different topic in relation to changing eating habits and in item 8 it questions again in relation to *"Death of a close friend.* The same thing happens later in the questionnaire, with questions that address major changes in the subjects' lives being interspersed with other items that have nothing to do with the topic of major changes. According to our analysis, it would be important to organize the items in a logical way so that their analysis would not be so disparate.

The LES instrument does not have grids, squares or circles to mark the answers, and lines or rectangles to separate the items. The use of lines or rectangles would be essential to separate the main graphic aspects, creating the idea of organization and ease in filling out. The fact that there are no lines to separate the main graphic aspects makes the questionnaire more confusing in terms of reading and the lack of squares or circles to mark the answers will also make the results a little complicated because the place where the respondent places the *X* It could be confused with another item close to the one marked, as there is nothing separating them.

Regarding the questionnaire's readability criterion, related to the type and size of the font, the font size of the items is relatively small and can become difficult to understand, also taking into account

considering that there are no lines that separate them.

The questionnaire does not require a great deal of mental effort from respondents and we also consider that it does not present knowledge that participants may not have. The language is simple and even if the items do not match life events that the individual has experienced, they can recognize what the item refers to. The degree of complexity does not vary throughout the questionnaire.

6. EXTENSION OF THE QUESTIONNAIRE

The length of the questionnaire should be limited in order to ensure the motivation of its participants. Generally, the longer the questionnaire, the greater the degree of confidence, but there is also the possibility of it becoming a tiresome questionnaire to answer. On the other hand, a shorter questionnaire provides less information and is less rigorous, however, if the layout is attractive there is a greater probability of individuals becoming respondents (Hill & Hill, 1998).

The LES consists of 47 items and 3 blank spaces that allow the individual to add other life events experienced.

6.1. CRITICAL ANALYSIS

Considering that the questionnaire is applied to Portuguese diabetic patients, the scale is considerably extensive compared to those to whom it is applied.

The questionnaire covers, throughout its 47 items, some life events that the authors consider to be common and widespread. Therefore, the questionnaire needs to be extended given the wide variety of life events. On the other hand, if the scale were reduced, the study would be compromised in terms of what it intended to assess, considering that the longer the questionnaire, the greater and better its degree of credibility. Consequently, what could happen is that questions would be left unanswered or that they would be answered randomly.

The main objective of the instrument is to assess total stress over the last year and the positive and negative events that occurred during that period. Therefore, it is important to include as many common life events as possible, taking into account the great variety. We considered that the only way to reduce the questionnaire a little further would be by combining some items that are considerably similar, such as items 25 and 47, which both address the process of reconciliation with partners, with the only difference being that item 25 refers to the husband/wife and item 47 refers to the boyfriend/girlfriend.

7. PSYCHOMETRIC QUALITIES

Based on the authors Ferreira and Marques (1998), psychometric analysis involves evaluating the quality of a measuring instrument based on proof of reliability and validity (Marques & Ferreira, 1998).

The psychometric qualities of a psychological instrument are fundamental for planning psychological assessment and testing. Tests must comply with criteria that are generally accepted and it is through these psychometric properties that this can be ensured (Ribeiro, 2010).

According to Silva (2021), fidelity can be assessed through: test-retest; alternative forms; two halves (split half); internal consistency (Cronbach's alpha) and rater fidelity (Silva, 2021).

The test-retest is the degree to which a measuring instrument provides stable results over time measured through the so-called repeated test method. Alternative forms concern the degree of correlation obtained on different occasions using the same instrument in the same sample, but with different alternatives. While in the two-half, the total set of data is separated and the results are correlated with the previous ones (Ferreira & Marques, 1998). Cronbach's alpha represents the correlation of the item with the scale to which it belongs.

In terms of validity, this assesses the extent to which the measurement procedure produces the correct response, that is, it assesses whether the instrument assesses what it was intended to measure (Ferreira & Marques, 1998). According to the same authors, validity is divided into content validity, criterion validity and construct validity.

Regarding sensitivity, this is closely related to normality or non-normality. ity of the distribution of results.

Table 6: Psychometric Qualities - Fidelity, Validity, Sensitivity

Psychometric Qualities		It was adopted	Omission
Fidelity	Test-retest	**X**	
	Alternative forms		**x**
	Inner Consciousness	**X**	
	Two halves (Split-half)		**X**
	Fidelity of the collaborator	**X**	

Validity	Validity of Concept	**X**	
	Validity Conver-people	**X**	
	Discriminatory Validity nant		**X**
	Item-Correlation total		**X**

Sensitivity	Capacity to distinguish groups		**X**
	Ability to dis- dye effects on the inter- vention		**X**
	Normality	**X**	

7.1. CRITICAL ANALYSIS

The questionnaire regarding loyalty adopted the test-retest, internal awareness and employee loyalty. The test-retest is applied to the same subjects at first and at a second time some time later, with this time depending on the variable being observed, in this case, life events. The authors describe that the participants were subjected to two assessments, with a time interval of no more than one week between them, thus constituting the test-retest sample. The reference value obtained was r=0.84, which is considered good. With the applicability of the test-retest, there is a risk of the learning effect that the respondent may acquire, making their results less than truthful. Alternative forms were not used by the authors, because it would be necessary for there to be two equivalent forms of the test, in order to eliminate the learning effect. This method is not presented in the article, which is considered omitted in this intervention. Internal consistency was calculated using Cronbach's alpha. According to the authors, the analysis of the internal consistency of the scale revealed that it has a Cronbach's alpha of 0.70, which can be considered acceptable. The two halves were not adopted in the questionnaire, because there was no comparison between two parts of the questionnaire. When using the split-half method, half of the items of each subscale are present in each of the parts into which it is divided. In the scorer's fidelity, the authors describe that the data are in line with those presented by Sarason, Johnson and Siegel (1978) in the study of the development of SLE, stating that the results seem to support those found by the authors of the original scale, who also did not find a significant relationship between anxiety and these life events, but whose data supported the existence of a relationship between negative life events and problems of a psychological nature.

Regarding validity, the questionnaire adopted concept validity and convergent validity.

Concept validity allows us to understand whether the scale adopted allowed respondents to evaluate separately whether events are desirable or undesirable. The authors mention that the LES questionnaire demonstrates advantages over other scales by making the important distinction between desirable and undesirable life events, as well as by allowing respondents to evaluate the degree of impact that these events had on their lives. The questionnaire also integrates convergent validity, in which the same constructs are evaluated, that is, all items were derived from life events.

Regarding sensitivity, other than normality, none of the aspects are referenced in the article. The ability to distinguish groups is not present in this instrument due to the fact that the assessment consists of the analysis of only one group, the group of Portuguese diabetic patients. The ability to distinguish effects in the intervention is also missing in the instrument because no intervention occurred. In normality, we can observe that negative life events are significantly associated associated with depression (r = 0.28) and anxiety (r = 0.39) and positive life events are associated negatively to depression (r = -0.19).

8. CLINIMETRIC QUALITIES

Based on Ribeiro (2010), clinimetric qualities are the subjective parts of a test, that is, it is the perception that participants have of the test (Ribeiro, 2010).

The main clinimetric qualities consist of the overload (burden) which is equivalent to the requirement in

terms of participants' time and energy to respond, interpretability which consists of the possible attribution of a qualitative meaning to quantitative values of an instrument and acceptability which ensures that the instrument is accepted without any distrust by the respondent (Silva, 2021).

According to Silva (2021), other clinimetric qualities may include appropriability, which is a decisive property when used with patients, expecting that there will be more expected health benefits than negative consequences from using the instrument, suitability, which reviews the aspects to be assessed and whether they are suitable for decision-making, responsiveness, which consists of the instrument's ability to detect minimal changes that are considered important, and usefulness, which ensures that the instrument is useful and does not collect superfluous information (Silva, 2021).

Clinimetric qualities are subjective, taking into account the point of view of each participant, which may be different, and are not directly related to what is correct or incorrect, but rather to the respondent's perspective.

Table 7: Clinimetric Qualities

Clinimetric Qualities	It was adopted	Omission
Burden		X
Interpretability	X	
Acceptability		X
Appropriability	X	
Suitability		X
Responsiveness		X
Utility		X

8.1. CRITICAL ANALYSIS

Burden is omitted, as it is not mentioned whether the scale required too much time and energy from those who administered the tests. Although it is considered a simple questionnaire, it has 47 items, which can make the questionnaire considerably long and expensive.

In interpretability, through quantitative values of the instrument, it is possible to attribute a qualitative meaning, such as life events being associated with anxiety and depression.

Acceptability is missing, as there is no information that allows us to understand whether it was received with distrust by the respondent. It is not possible to conclude whether it occurred, due to the fact that these qualities depend on the individual to whom this questionnaire is being administered.

The appropriability that was used in this instrument was attributed to diabetic patients, and there should be more benefits than negative consequences in using the instrument. The responsiveness of this instrument is missing, as the occurrence of minimal, considerably important changes is not described. Finally, given the usefulness, it is not possible to have a guarantee that the instrument used is useful and that it does not collect superfluous information.

which is then not used.

9. FINAL CONSIDERATIONS

This work allowed us to acquire skills in developing a psychometric assessment instrument. Taking into account the steps required to achieve an appropriate instrument, with quality and skills to carry out the study, it is important to highlight the strengths and weaknesses of its applicability.

In the LES questionnaire, all the essential steps for the cultural and linguistic adaptation of the instrument were adopted, the request for authorization, translation, back-translation, re-translation and cognitive analysis. Given the presence of all the essential components in the adaptation process, I believe that the authors have completed this stage very well, and there are no weak points to add.

The items are one of the main points of the instrument. Therefore, it is necessary to respect a set of writing rules so that they are well prepared and interpreted by the respondents. According to the analysis of the questionnaire, it has strong points due to the fact that none of the items contain persuasive information, all of them avoid double negatives, are neutral items and, in general, are items that avoid socially desirable responses, which will influence greater veracity of the results. The items are all described in declarative form, which means that the answers compromise whether or not the respondent identifies with what is presented. Some weak points are related to items that do not comply with the simple syntax, becoming more complex unnecessarily, items that do not comply with the so-called 3 C's (clear, concise, concrete) and do not clearly explain what is intended in the item since they formulate it in a way that makes it more difficult to understand and interpret. Respondents may avoid answering this item because they do not understand what it refers to. Other flaws in the writing of the items are the failure to use short sentences, with some items being long when they could address the same topic in a shorter, more simplistic way.

Regarding the response options, the questionnaire has an ordinal measurement scale with a Likert-type structure. The responses are closed and general, which means that the respondent only has to choose one of the pre-selected response options. This type of response is favorable when the intention is to study quantifiable data. The weak point to be highlighted in this topic is related to the number of options that were used, 8. One suggestion would be to reduce the number of options, considering that 5 alternative responses are considered by several authors to be sufficient.

The rules for constructing the instructions were scarce in the questionnaire, showing that it only indicated how individuals should respond and presented the temporal/contextual framework in which the study was intended to be carried out. The weak points, which in a certain way may have greater impact in the questionnaire not being present consists of the lack of clarification of the objective of the questionnaire, the importance of responding, checking whether there were any answers left to answer or not, demonstrating from now on the importance of responding to all of them and the final thanks.

The layout of the questionnaire consists essentially of weak points, highlighting the lack of a logical and coherent layout, squares or circles where to mark the answers, it presents a high density of the graphic presentation contributing to making it more complicated to answer. Important suggestions would be the addition of lines or rectangles to separate the items, making them less dense and easier to mark, and that there is an organization of the items, taking into account that the same theme mixes

among others that are not related. Regarding the psychometric qualities, the test-retest, Cronbach's alpha and the collaborator's fidelity were adopted with regard to fidelity. In validity, the validity of the concept and convergent validity were adopted. In sensitivity, only normality is integrated. The clinimetric qualities adopted interpretability and appropriability.

Considering the Life Events Assessment instrument, there are items that can be improved as well as some features that are missing, so that the instrument becomes as reliable as possible.

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