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Construção e validação de jogo cognitivo com temas afetivos para idosos*

Construction and validation of a cognitive game with affective themes for the elderly

Construcción y validación de um juego cognitivo con temas afectivos para personas mayores

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RESUMO

Objetivo: construir e validar um recurso de estimulação cognitiva para idosos que associa memória a temas afetivos. **Métodos**: estudo metodológico com desenvolvimento de jogo de cartas denominado Memória Afetiva, validado por 19 juízes especialistas e avaliado posteriormente por 14 idosos. Realizada revisão de escopo através de pesquisas em bases de dados acerca de estratégias para estimulação cognitiva com pessoas idosas. Foram considerados válidos os itens com Índice de Validade de Conteúdo (IVC) maior que 0,78, sendo realizados os ajustes sugeridos. **Resultados:** o jogo de cartas apresentou 6 categorias para estimulação cognitiva com temas afetivos e instruções, distribuídas em 62 cartas. O IVC teve média de 0,87 pelos juízes e 0,96 pelos idosos. **Conclusão**: o jogo de cartas para estimulação cognitiva com idosos foi validado quanto ao seu conteúdo e aparência, com boa compreensão por parte dos gerontes, podendo ser utilizado para este público por profissionais de saúde nos diferentes serviços.

DESCRITORES: Idoso; Memória; Treino cognitivo; Terapia ocupacional; Ludoterapia.

ABSTRACT

Objective: build and validate a cognitive stimulation resource for the elderly that associates memory with affective themes. **Methods:** methodological study with the development of a card game called Affective Memory, validated by 19 expert judges and subsequently evaluated by 14 elderly people. Scope review carried out through research in databases on strategies for cognitive stimulation with elderly people. Items with a Content Validity Index (CVI) greater than 0.78 were considered valid, and the suggested adjustments were made. **Results:** the card game presented 6 categories for cognitive stimulation with affective themes and instructions, distributed across 62 cards. The CVI had an average of 0.87 for the judges and 0.96 for the elderly. **Conclusion:** the card game for cognitive stimulation with the elderly was validated in terms of its content and appearance, with good understanding from seniors, and can be used with this audience by health professionals in different services.

DESCRIPTORS: Elderly; Memory; Cognitive training; Occupational therapy; Play therapy.

RESUMEN

Objetivo: construir y validar un recurso de estimulación cognitiva para personas mayores que asocie la memoria con temas afectivos. **Métodos:** estudio metodológico com El desarrollo de un juego de cartas denominado Memoria Afectiva, validado por 19 jueces expertos y posteriormente evaluado por 14 personas mayores. Revisión de alcance realizada a través de investigaciones em bases de datos sobre estrategias de

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estimulación cognitiva con personas mayores. Se consideraron válidos los ítems com un Índice de Validez de Contenido (IVC) superior a 0,78 y se realizaron los ajustes sugeridos. **Resultados:** el juego de cartas presentó 6 categorías de estimulación cognitiva con temas afectivos e instrucciones, distribuídas en 62 cartas. El CVI tuvo um promedio de 0,87 para los jueces y 0,96 para las personas mayores. **Conclusión:** el juego de cartas para estimulación cognitiva com ancianos fue validado encuanto a su contenido y apariencia, com buena comprensión por parte de los ancianos, pudiendo ser utilizado para este público por profesionales de lasaluden diferentes servicios.

DESCRIPTORES: Adulto mayor; Memoria; Entrenamiento cognitivo; Terapia ocupacional; Terapia de juego.

INTRODUCTION

Aging is a process experienced uniquely by each person, which consists of adapting to certain changes, seeking solutions for their new life condition.[1] In this understanding, aging is seen as a gradual process of learning, development and maturation, being multidimensional, multidirectional and irreversible, encompassing physiological, psychological and social aspects. However, getting older does not necessarily mean getting sick.[2-3]

Like all bodily functions, cognition also undergoes physiological changes caused by ageing. Some cognitive functions begin to decline with age, which is directly proportional to age and inversely proportional to schooling.[4] Some studies have established a direct relationship between cognition and functionality in the elderly.[5]

In Western society, the search for the meaning of successful ageing began in 1944,[6] with a view to engagement with life and well-being, social participation, high physical and cognitive functioning, absence of disabling diseases and maintenance of productive activities. It is believed that such knowledge is imperative for the effective promotion of the health of the elderly.[1,7] It does not begin in old age, but is a lifelong process, as it is characterized by a process that allows certain personal goals to be successfully managed throughout life and revolves around the preservation of autonomy, independence and functional capacity.[1-2]

Successful ageing is closely related to another concept, called "generativity", which consists of a person's ability to teach, pass on their experiences to others, give advice and care for others, acting as a bridge between their generation and younger generations and, in this way, combining affection and life experience by passing on their story.[8-9]

Thus, in order to build healthy and successful ageing, it is understood that the functional capacity of the elderly is based on an expanded concept of health, which includes people being and doing what they value. It consists of the individual's intrinsic capacity, which is defined as all the

physical and mental abilities available to an individual, represented by cognition, mood, mobility and communication.[10]

One study showed a tendency for cognitive practices to have a positive impact on the cognitive performance of octogenarians. These results have direct implications, above all, for low-cost strategies to be implemented with the aim of building cognitive reserves in the population recently entering old age. This means that people who are 60 today must be stimulated so that, by the age of 80, they have sustainable autonomy for activities of daily living.[11]

Cognitive stimulation is not just about exercising memory. There are several cognitive components that can be worked on in workshops with the elderly: attention (selective, sustained), concentration, memory (working, short and long term, episodic, semantic and sensory), association, language, calculation, temporal and spatial orientation, perception, executive function (responsible for planning and organizing abstract thought), praxis, problem solving and visual-spatial ability.[12-14]

However, in this study, special emphasis will be placed on the cognitive component of memory and its relationship with affective aspects. Memory represents a complex and multiple system that combines arrangements and codifications, which store and retrieve information in the brain through visual, tactile, auditory, gustatory and olfactory stimuli.[15]

In old age, difficulties are observed in the ability to recall memories. This problem can be explained by the fact that, in the past, culture was transmitted orally, from generation to generation, in order to preserve stories, customs and beliefs, something that has been changed by globalization and technology.[2] In this way, we can see the growing importance of cognitive stimulation so that elderly people can maintain skills that support the performance of daily life activities through the living archive of their stories.

Non-pharmacological treatments include interventions aimed at improving cognitive abilities that are still preserved, as well as rehabilitating those that are declining, characterized as actions that take place in the patient's real context. These actions aim to stimulate cognitive functions through exercises that reproduce everyday situations, taking into account the patient's preferences, in pursuit of realistic goals.[16]

Cognitive stimulation workshops can be considered an important resource for promoting quality of life. Most studies suggest that post-training gains are maintained for 6 months to 1 year.[4,12] A study suggests that cognitive rehabilitation oriented towards the patient's goals is

effective in promoting functional improvements, strengthening the patient's commitment to treatment, with less functional decline being noted after the 24th month of follow-up.[16]

Elderly people who took part in a cognitive stimulation workshop showed a significant improvement in memory in the three basic stages of processing: encoding, storing and retrieving information.[17] A study with elderly people in Portugal found that the cognitive stimulation program significantly improved the cognition of the elderly, demonstrating the benefits for institutionalized elderly people and contributing to the maintenance of their mental health.[18]

Games have been used to stimulate the cognitive functions of elderly people with mild cognitive disorder.[5] They provide entertainment, relaxation, mental challenges, increased social interactions and an option for learning new activities; they can stimulate reasoning and questioning, even helping to form opinions on different topics.[19]

Considering these benefits, it is important to develop games that meet their interests. For this reason, the study sought to answer the following guiding question: does the card game designed for the elderly, addressing issues related to memory linked to affective themes, have content validity, as assessed by expert judges, and is it understood by the target audience? In view of the above, this research aims to build and validate a cognitive stimulation resource for the elderly that associates memory with affective themes.

MÉTHODS

This is a methodological study aimed at constructing and validating a cognitive stimulation resource for the elderly, which includes various cognitive components. Methodological research seeks to create a reliable, objective instrument that can be used by all types of people, involving the creation, validation and evaluation of the tool.[20]

It was developed in three stages. Initially, a scoping review was carried out as theoretical support for the creation of the tool. Secondly, a card game was developed for use with the elderly. The aim of the game is to stimulate cognitive functions in the elderly by associating information with emotional memories from their socio-cultural context and life history. To this end, a number of factors were taken into consideration: being easy to understand; intuitive to use; and an attractive appearance.

The product called Affective Memory was built using data obtained from the scoping review. The content was prepared in advance; the images were created with the help of a graphic design professional. After creating the artwork, the number of letters, font, pictures, categories and

writing content were defined. The layout and language used focused on the target audience.

The third stage was validation by expert judges, online. The criteria adopted for their selection were: being an occupational therapist, geriatrician, psychologist or speech therapist; teaching or working in clinical practice; a minimum degree of specialist; and at least 3 years of professional experience in the gerontological field.

Nineteen judges took part, including occupational therapists, geriatricians, psychologists and speech therapists. The participants were selected on the basis of recommendations from specialists in the field of study. Contact was made via messaging application or e-mail, inviting them to take part in the research and explaining its purpose.

The data collection instrument was developed using Google forms, with questions relating to the sociodemographic characterization of the participants and also pertinent to the card game, as well as instructions for use, a Free and Informed Consent Form and images of the game. After organizing the data, adjustments were made to the judges' evaluations and the next step was taken.

In this context, the target audience also evaluated the material after the adjustments suggested earlier. In this way, elderly people admitted to the Lauro Wanderley University Hospital/HULW were selected, as well as participants in the activities of the Paraibano Institute of Ageing/IPE, of the Federal University of Paraíba, in person. In order to select participants from the game's target audience, the criteria adopted were: being hospitalized at HULW, in the medical clinic sector, or being a participant in the IPE/UFPB groups for the elderly; and not having cognitive impairment, as measured by the Mini-Mental State Examination. This is a test used to assess cognitive function, which is easy to apply and does not require specific equipment. It is an instrument that has been validated and adapted for the Brazilian population.

A sample of 18 people was recruited, 12 participants from the IPE/UFPB and the others from the HULW/UFPB. However, 4 were excluded for not answering all the questions in the game evaluation. None of the elderly participants had severe cognitive impairment.

The survey was administered to the geronts using a printed form, similar to the one sent to the specialists, with minor adaptations regarding language. After signing the Free and Informed Consent Form, the sociodemographic characterization form and the specific instrument for validating the product were applied.

The study complied with Resolution 466/12 and was approved by the HULW Research Ethics Committee (CAAE no.

69872923.2.0000.5188), guaranteeing the anonymity of the participants and the confidentiality of all the information obtained.

The results were organized in a database and tabulated using Microsoft Excel, displayed in tables and charts. The information was analyzed using descriptive statistics and the Content Validity Index (CVI). The responses were calculated using the following formula:

Figure 1- Content Validity Index formula. João Pessoa, PB, Brazil, 2024.

$$IVC = \frac{\text{Número de respostas 3 ou 4}}{\text{Número Total de Respostas}}$$

The CVI measures the experts' level of agreement with a given aspect of the technology or instrument and its items. In this context, a Likert scale was used as follows: 1= Inadequate; 2= Partially adequate; 3= Adequate and 4= Totally adequate.

The literature indicates that for excellent validation of the game's content, a CVI greater than or equal to 0.78 should be adopted.21-22 The index was calculated by adding the items marked as 3 or 4 by the judges (experts), divided by the total number of evaluators, in a specific instrument dealing with the quality and adequacy of the information contained in the game.

RESULTS

Socio-demographic data of the participants

The profile of the 19 judges is shown in Table 1. They were all women, with the majority aged between 41 and 50. Most of the professionals were specialists, working primarily in care, with experience in using resources for cognitive stimulation.

Chart 1 - Sociodemographic profile of the specialist judges. João Pessoa, PB, Brazil, 2024.

Variáveis		N	%
City of residence	João Pessoa-PB	12	63,1
	Cabedelo-PB	02	10,5
	Fortaleza-CE	01	5,2
	Natal-RN	01	5,2
	Petrolina-PE	01	5,2
	São Carlos-SP	01	5,2

Age	25-30 anos 31-40 anos 41-50 anos 51-60 anos 60 anos ou +	02 06 09 01 01	10,5 31,5 47,3 5,2 5,2
Education	T. Ocupacional Psicologia Fonoaudiologia Geriatria	11 01 03 03	57,8 5,2 15,7 15,7
Training time	1-10 anos 11-20 anos 21-30 anos	09 09 01	47,3 47,3 5,2
Degree	Especialização Mestrado Doutorado	09 07 03	47,3 36,8 15,7
Professional activity	Assistência Docência Pesquisa Outro	16 06 03 01	84,2 31,6 15,7 5,2

Source: Prepared by the authors.

Considering the participants' backgrounds and length of professional experience, most of them worked in care activities, and their professional practice contributed to the process of evaluating and validating the game.

With regard to the elderly participants in the study, the majority were female (78.5%), with an average age of 75.3 years. Their level of education was quite heterogeneous: 21.4% were not literate, while 42.8% had completed higher education. 92.9% were retired and 50% were married or living with a partner.

The vast majority were diagnosed with some chronic disease, including hypertension (50%), diabetes (21.4%), hypothyroidism (7.1%), fibromyalgia (7.1%), osteoporosis (14.3%), liver disease (7.1%) or others (14.3%). 85.7% used medication daily, while 71.4% reported feeling good about their health, including some of those admitted to HULW.

4.2 Approach to the Technological Product - Validation of the Affective Memory Game

With regard to the validation of the game, the results of each of the three domains and their respective items were analyzed. The data on the expert judges' perception of the game's objective, judging whether it was coherent with the peculiarities of the elderly; the game's contribution to

the quality of life of the elderly; cognitive elements stimulated; suitability for circulation in the scientific environment for use by health professionals; objectives and coherence were judged in this domain, as shown in Table 1.

Table 1 - Evaluation of the "Objectives" domain of the "Affective Memory" game. João Pessoa, PB, Brazil, 2024.

Objectives: These refer to the purposes, goals or the like that you want to achieve by using the Game.		1 In	2 PA	3 Ad	4 TA	CVI
.1 The information in the Game is consistent with the eculiarities of older people.	Judge	0	01	14	04	0,94
	Elderly	0	01	06	07	0,92
.2 Its use contributes to the quality of life of the elderly.	Judge	0	0	11	08	1
	Elderly	0	0	05	09	1
.3 Stimulates components such as memory, space-time rientation, language and executive functions	Judge	0	02	09	08	0,89
	Elderly	0	01	04	10	1
.4 It can be circulated in scientific circles for use by rofessionals with the elderly in their care.	Judge	0	0	12	07	1
	Elderly	0	01	07	06	0,92
.5 It meets the objectives it sets out to achieve with the udience it was designed for.	Judge	0	01	13	05	0,94
	Elderly	0	0	07	07	1
.6 The topics covered in the game are consistent with the lderly population.	Judge	0	01	10	08	0,94
	Elderly	0	0	03	11	1
VI Total Judges						0,95
VI Total Elderly						0,97

Source: Field research.
Legend: In=Inadequate; PA=Partially Adequate; Ad=Adequate; TA=Totally Adequate.

As for the target audience, in the first domain (Objectives), a CVI of 0.97 was obtained, indicating that they rated it as Adequate or Fully Adequate. It was also found that all the items had a CVI≥0.92, as shown in Table 1.

The second domain evaluated, relating to structure and presentation, assessed whether the Game's instructions were clear; the presentation appropriate; the topics presented in a clear and objective manner; the material's suitability for different levels of knowledge; expressive and sufficient illustrations; and the visuals appropriate for the target audience. Table 2 shows the data for this domain.

In this area, the majority of judges rated the structure and presentation of the game as

adequate or totally adequate. Even so, the average CVI was 0.74. Although some of the items in this domain were satisfactory (CVI≥0.78), other aspects assessed were below the threshold (clear and easy-to-understand Game instructions; suitability for different levels of user knowledge; expressive and sufficient illustrations), as some only partially agreed.

Table 2 - Evaluation of the "Structure and Presentation" domain of the "Affective Memory" game. João Pessoa, PB, Brazil, 2024.

Structure and presentation: This refers to how the guidelines are presented. It includes their general organization, structure, presentation strategy, coherence and formatting.		1 In	2 PA	3 Ad	4 TA	IVC
2.1 The Game instructions are clear and easy to understand.	Judge	0	05	08	06	0,73
	Elderly	0	02	03	09	0,85
2.2 The structure and presentation are suitable for use with the elderly.	Judge	0	04	11	04	0,79
	Elderly	0	01	04	09	0,92
2.3 The topics are presented in a clear and objective manner, making them easy to understand.	Judge	0	03	11	05	0,84
	Elderly	0	0	06	08	1
2.4 The material is suitable for different levels of user knowledge.	Judge	0	06	11	02	0,68
	Elderly	0	0	08	06	1
2.5 The illustrations are expressive and sufficient.	Judge	0	07	11	01	0,63
	Elderly	0	01	05	08	0,92
2.6 2.6 The material is visually appropriate for the elderly.	Judge	0	04	10	05	0,79
	Elderly	0	02	03	09	0,85
CVI Total Judges						0,74
CVI Total Elderly						0,93

Source: Field research.
Legend: In=Inadequate; PA=Partially Adequate; Ad=Adequate; TA=Totally Adequate.

Changes were suggested, such as: tones that favored contrast; using symbols instead of drawings; graphic support for the theme; naming the categories; changing the font; improving the game's guidelines. It should be noted, however, that the experts only had access to the files and had no contact with the physical printed game. In addition, the detailed instructions were sent in a separate file, which may have made it difficult to understand that the information contained in the file would be included with the game, justifying the lower score for items 2.1 and 2.4. As for the illustrations, which also scored below the ideal (item 2.5), the researchers were careful to choose images that were not childish and sufficient to avoid a confusing or excessive presentation.

After analyzing their considerations, the game was restructured textually and illustratively.

The suggestions made were accepted and, only after the proposed adjustments had been made, a new version of the game was submitted for evaluation by the geronts.

As can be seen, in the second domain, the target audience rated the game as satisfactory, with a CVI of 0.93. All the items evaluated in this area obtained CVI≥0.85. Thus, the game was analyzed positively in terms of structure and presentation, considering it suitable for use. Even so, they reported sensory (visual - due to not wearing glasses) and cognitive (illiteracy) difficulties, suggesting more clarification in the instructions, as well as tips in the statements, playful themes and increasing the font size.

The third and final domain, which concerns the relevance of the Affective Memory Game, asked whether it portrays aspects that should be stimulated in the context of the elderly person's life; whether the material allows different cognitive components to be reinforced in the daily context of family life; whether it proposes improvement or maintenance of cognitive performance in the elderly; and whether it was suitable for use by professionals during therapeutic intervention with the elderly. The organized data is shown in Table 3.

The results show that domain 3 obtained an average CVI of 0.93 for the expert judges, well above the value adopted, since it was assessed as Adequate or Totally Adequate by the majority. It is worth noting that all the items in this domain had a CVI ≥ 0.90.

As for the target population, a CVI of 0.98 was obtained for the relevance of the game, indicating that almost all of them rated it as Adequate or Fully Adequate. It was also found that all the items had a CVI≥0.92.

Table 3 - Evaluation of the "Relevance" domain of the "Affective Memory" game. João Pessoa, PB, Brazil, 2024.

Structure and presentation: This refers to how the guidelines are presented. It includes their general organization, structure, presentation strategy, coherence and formatting.		1 In	2 PA	3 Ad	4 TA	IVC
3.1 The game portrays aspects that should be stimulated in the context of the elderly person's life.	Judge	0	0	06	13	1
	Elderly	01	0	04	09	0,92
3.2 The material allows different cognitive components to be reinforced in the daily context of family life.	Judge	0	01	07	11	0,94
	Elderly	0	0	07	07	1
3.3 The game aims to improve or maintain cognitive performance in the elderly.	Judge	0	02	09	08	0,9
	Elderly	0	0	05	09	1
3.4 The game is suitable for use by professionals during therapeutic intervention with the elderly.	Judge	0	02	08	09	0,9
	Elderly	0	0	08	06	1
IVC Total Juízes						0,93
IVC Total Idosos						0,98

Fonte: Pesquisa de campo.
Legenda: In=Inadequado; PA=Parcialmente Adequado; Ad=Adequado; TA=Totalmente Adequado.

Based on the evaluation by both groups, the Affective Memory Game obtained an overall average CVI of 0.89, and was considered valid for implementation by health professionals with the public in question. The modifications suggested by the groups were carried out, thus improving the quality of the material and allowing its use to benefit the interaction and stimulation of cognitive components related to memory in geronts.

DISCUSSION

The use of games as a resource for cognitive stimulation in the elderly is growing, with objectives ranging from stimulating these components to providing guidance and raising awareness of health care.

Games can enable improvements in cognitive domains, as well as promoting creativity, perceptual skills, concentration and abstract thinking, working memory, planning, selective and sustained attention, inhibitory control and monitoring. They can also improve functional performance, directly influencing how ADLs are carried out.23

The experience of building a card game for the elderly, developed based on the theories of Emotional Design, Reminiscence Therapy and Narrative Structures, analyzed through the lens of Activity Theory, states that, among the main results, it was possible to identify health benefits from the use of the tool, both cognitively and socially and motorically. In this sense, the game was

created with the aim of stimulating the memory of the elderly in an emotional and leisurely activity, highlighting the concept of "Memory Artifacts" stemming from the strong emotional connection between common artifacts and their users, which mark specific moments, loved ones and special places in memory.24

Another construction of a card game aimed at promoting the health of elderly people undergoing hemodialysis treatment made it possible to reshape their care, encouraging reflection on their perceptions and practices, as well as building empowering knowledge for self-care. This mechanism also made it possible to develop cognitive skills, such as selective attention, concentration, planning and organization, problem-solving and creativity.25

In a study on the construction of a game aimed at the elderly, the following stages were described: 1) Bibliographic review - with the aim of identifying the theories on which to base the development of the product; 2) Exploratory research - to detect which format, material and characteristics would be most suitable for the public in question; 3) Experimental research - to analyze the dynamics of the game, rules and scoring system.24

Another study used a similar methodology to build the game, called action research, which consists of a cyclical method made up of: 1) Diagnosis (literature review and evaluation of existing educational games for the elderly to identify desirable and undesirable characteristics); 2) Planning; 3) Action (product development); 4) Evaluation (testing the game prototype with targeted questions and spontaneous suggestions); and 5) Reflection.26

Games for this clientele should be simple, non-punitive, not require previous experience, with quick rewards, effortless and not require the dedication of several hours a day. They need to offer fun, distraction, learning, social interaction and improve agility and concentration. To build the games, the participatory design strategy was used, learning about the user's values and needs.26

These strategies were used in the construction of the game in this research, guided by the data obtained in the review. These include: understandable language, short sentences, alternation between text and images, simplicity, being pleasant and intuitive; size and style of the letters (large with sans serif fonts), colors (red, orange, yellow, green, blue, violet, black and white), simple images without too many details to facilitate use and stimulate memory.27-28

The experience of building and validating this gerontechnology finds common ground in the literature with what was experienced in this research. Thus, a situational diagnosis of the elderly, guided by a semi-structured interview; a literature review on the topic to be addressed to support

the subsequent development of the technology's content; and validation by specialists and the elderly must all take place to guarantee the quality of the material produced.29

In addition, their suggestions were analyzed in accordance with the relevant literature. This essentially recommends that: A) Language: there should be an association of theoretical and practical knowledge; the information should be correct, reliable and up-to-date, with only the necessary information included, easy to read, simple, clear and understandable, with short sentences or key concepts; it should also alternate verbal and non-verbal communication; the appropriate font size - minimum 14, black color and dull; B) Images: clear and understandable, use symbols that are familiar and attractive to the reader; with coherence between texts and images; appropriate layout; participatory, simple and accessible design, with the use of appropriate colors; C) Material of an appropriate size (neither short to the point of compromising the quality of the information, nor long to the point of being tiresome); should be playful, interactive and low-cost to produce; easily reproducible for independent use.29

In the meantime, the development of the game also respected the recommendations considered essential for the construction process, which mainly refer to language, content and appearance.

The data on the validation of the content with regard to the objectives obtained satisfactory CVIs, since most of the judges agreed with the applicability of the "Affective Memory" game for the clinical practice of health professionals with the elderly. It should be noted that other studies that validated printed educational materials also used CVI to validate the content of the material.22,30

Validating material with representatives of the target audience brings important gains, as it enables it to be better adapted from the point of view of those who will actually use it.31 However, despite the numerous benefits, there are still gaps in the market when it comes to products available for this clientele. Many professionals who want to offer stimulating materials to the elderly have to deal with improvising resources based on children's games, generating disinterest and resistance to their use, whether due to the difficulty of handling, readability and/or childish themes.

The limitations of this study are related to the game's specific focus on aspects linked to affective memories, not addressing other perspectives that can contribute to the cognitive function of the elderly. However, the excess of content can make the material long and tiring. In addition, the study was limited by the fact that the material was evaluated with representatives of the target

audience, users of the IPE and HULW/UFPB, so the findings may not include the opinion of those who are treated in other services.

CONCLUSION

This study proved to be relevant, as it allowed us to broaden our knowledge of what has been produced in the scientific environment on the subject, providing the basis for and guiding the construction of the technological product.

The objective was achieved, since the Affective Memory game was built using content disseminated in the scientific sources consulted. The content validation stage was essential for identifying the details in the construction of the game, aspects relating to structure (size and font, color, illustrations), relevance (whether it has the potential to promote the improvement of cognitive components) and objectives (whether it meets the demands of the elderly public).

The participation of expert judges made it possible to refine the characteristics of the game and thus present the elderly with an appropriate product, evaluated from the perspective of the professional expert and the elderly themselves, providing greater reliability and applicability of the product. It also proved feasible to create a cognitive stimulation resource for the elderly that associates memory with emotional themes.

It is also important to carry out more extensive research with the same clientele, over a longer period of time, implementing, monitoring and evaluating the impact of the use of games on improving cognitive components, in order to deepen and perfect the game.

Thus, this study is relevant to expanding knowledge on the subject, based on what has been produced in the scientific environment, to support and guide the interventions of professionals who care for this clientele, to encourage the strengthening of bonds between the elderly and their families and, above all, to promote the quality of life and functionality of the elderly, through resources that stimulate their cognitive functions.

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