Article

Content Validation and Usability of an Educational Booklet on Non-Suicidal Self-Injury in Adolescents*

* This article stems from the master's thesis written by the author, Katiane da Silva Mendonça, submitted to the Nursing Graduate Program at the Universidade Federal de Alagoas, Brazil, in 2025.

Katiane da Silva Mendonça

https://orcid.org/0000-0003-3740-9670
Escola de Enfermagem da Universidade Federal de Alagoas, Brasil
katianeksm@gmail.com

Ingrid Martins Leite Lúcio

https://orcid.org/0000-0003-2738-7527
Escola de Enfermagem da Universidade Federal de Alagoas, Brasil
ingridmll@eenf.ufal.br

Rafael Christophe da Rocha Freire

https://orcid.org/0000-0003-3875-4601
Queen's University
Kingston General Hospital Research Institute, Kingston Health Sciences Centre, Canadá
rafaelcrfreire@gmail.com

Ana Paula Nogueira de Magalhães

https://orcid.org/0000-0002-5071-0778
Universidade Federal de Alagoas, Campus Arapiraca, Brasil
paula_nog@arapiraca.ufal.br

Jorgina Sales Jorge

https://orcid.org/0000-0001-5887-4446
Escola de Enfermagem da Universidade Federal de Alagoas, Brasil
jorgina.jorge@eenf.ufal.br

✉ ***Verônica de Medeiros Alves***

https://orcid.org/0000-0002-4343-2941
Escola de Enfermagem da Universidade Federal de Alagoas, Brasil
veronica.alves@eenf.ufal.br

Received: 13/08/2025
Sent to peers: 07/10/2025
Accepted by peers: 04/05/2026
Approved: 28/05/2026

DOI: 10.5294/aqui.2026.26.3.4

Para citar este artículo / To reference this article / Para citar este artigo
Mendonça KS; Lúcio IML; da Rocha Freire RC; Magalhães AN; Jorge JS; Alves VM. Validação de conteúdo e usabilidade de uma cartilha educativa sobre autolesão não suicida em adolescentes. Aquichan. 2026;26(3):e2634. DOI: https://doi.org/10.5294/aqui.2026.26.3.4

Theme: Technologies for healthcare

Contribution to the field: The contribution of this article to the field of nursing resides in providing an innovative and validated educational technology, filling a significant gap in the literature, given the scarcity of validated materials specifically focused on non-suicidal self-injury (NSSI). The study equips nurses, especially those working in primary healthcare and the School Health Program, by offering a resource grounded in technical and scientific evidence that reduces professional uncertainty and anxiety when addressing a sensitive and complex theme. Furthermore, the article highlights the vital role of nurses as coordinators of the intersectoral care network, strengthening their ability to detect risks early, provide immediate support, and organize effective referral pathways between schools and healthcare services.

Abstract

Introduction: Non-suicidal self-injury in adolescents constitutes a growing public health problem, for which there is still a lack of validated educational materials to assist healthcare and education professionals in identifying and adequately managing these cases. **Objective:** To analyze the evidence regarding the content validity and usability of an educational booklet on non-suicidal self-injury in adolescents. **Materials and Methods:** The study was conducted in four stages: Initial development of the booklet; preliminary review; evaluation by specialist judges and school professionals; and subsequent revisions. The sample included 10 judges selected through an analysis of their résumés on the Lattes Platform, based on criteria such as academic qualifications, experience in the field, teaching experience, and scientific output, as well as 22 school professionals, selected through snowball sampling, with experience in providing academic support to adolescents. The booklet, titled *Marcas que doem* (Scars that Hurt), which contains 42 pages and 14 topics, was developed based on a scoping review of school practices regarding non-suicidal self-injury. For content validation, the Suitability Assessment of Materials instrument was used to calculate the content validity index; for usability, the System Usability Scale was applied. **Results:** The overall content validity index was 0.9, which is considered excellent. The mean score on the System Usability Scale indicated excellent usability, with 84.6% of the professionals considering the booklet suitable for use in schools. **Conclusion:** The booklet provides evidence of content validity and usability, making it a valuable educational resource to support health and education professionals in the prevention and care of non-suicidal self-injury in adolescents.

Keywords (Source: MeSH)
Self mutilation; school health services; health promotion; educational technology; validation study.

Validación de contenido y usabilidad de una cartilla educativa sobre autolesiones no suicidas en adolescentes*

* Este artículo deriva de la tesis de maestría de la autora Katiane da Silva Mendonça, presentada al Programa de Posgrado en Enfermería de la Universidade Federal de Alagoas, Brasil, en 2025.

Resumen

Introducción: La autolesión no suicida en adolescentes representa un problema creciente de salud pública, aún careciendo de materiales educativos validados que ayuden a los profesionales de la salud y la educación a identificar y gestionar adecuadamente estos casos. **Objetivo:** analizar la evidencia de validez del contenido y la usabilidad de una cartilla educativa sobre autolesiones no suicidas en adolescentes. **Materiales y método:** el estudio se desarrolló en cuatro etapas: construcción inicial de la cartilla, revisión preliminar, evaluación por jueces expertos y profesionales escolares, y ajustes posteriores. La muestra incluyó a 10 jueces seleccionados mediante análisis de planes de estudio en la Plataforma Lattes, basándose en criterios de título, experiencia en el área, enseñanza y producción científica, y 22 profesionales escolares, seleccionados mediante muestreo bola de nieve, con experiencia en el seguimiento escolar de adolescentes. La cartilla, titulada *Marcas que doem*, que contiene 42 páginas y 14 temas, fue preparada desde una revisión exhaustiva de las prácticas escolares frente a autolesiones no suicidas. Para la validación de contenido, se utilizó el instrumento de Suitability Assessment of Materials, con el cálculo del índice de validez de contenido; para la usabilidad, se aplicó el instrumento System Usability Scale. **Resultados:** El índice global de validez de contenido obtenido fue de 0,9, considerado excelente. La puntuación media de la Escala de Usabilidad del Sistema indicó una excelente usabilidad, con un 84,6 % de los profesionales considerando que el folleto era adecuado para uso escolar. **Conclusión:** La cartilla presenta pruebas de validez y usabilidad del contenido, configurándose como un recurso educativo relevante para apoyar a los profesionales de la salud y la educación en la prevención y atención de autolesiones no suicidas en adolescentes.

Palabras clave (Fuente DeCS)

Automutilación; servicios de salud escolar; promoción de la salud; tecnología educativa; estudio de validación.

Validação de conteúdo e usabilidade de uma cartilha educativa sobre autolesão não suicida em adolescentes*

* Este artigo deriva da dissertação de mestrado da autora Katiane da Silva Mendonça, apresentada ao Programa de Pós-Graduação em Enfermagem da Universidade Federal de Alagoas, Brasil, em 2025.

Resumo

Introdução: A autolesão não suicida em adolescentes representa um problema de saúde pública crescente, ainda carente de materiais educativos validados que auxiliem profissionais da saúde e da educação na identificação e manejo adequado desses casos. **Objetivo:** analisar as evidências de validade de conteúdo e usabilidade de uma cartilha educativa sobre autolesão não suicida em adolescentes. **Materiais e método:** o estudo foi desenvolvido em quatro etapas: construção inicial da cartilha, revisão preliminar, avaliação por juízes especialistas e profissionais escolares, e ajustes posteriores. A amostra incluiu 10 juízes selecionados por análise de currículos na Plataforma Lattes, a partir de critérios de titulação, experiência na área, docência e produção científica, e 22 profissionais de escolas, escolhidos por amostragem em bola de neve, com experiência no acompanhamento escolar de adolescentes. A cartilha, intitulada *Marcas que doem*, que contém 42 páginas e 14 tópicos, foi elaborada com base em revisão de escopo sobre práticas escolares diante da autolesão não suicida. Para a validação de conteúdo, utilizou-se o instrumento Suitability Assessment of Materials, com cálculo do índice de validade de conteúdo; para a usabilidade, aplicou-se o instrumento System Usability Scale. **Resultados:** O índice de validade de conteúdo global obtido foi de 0,9, considerado excelente. A pontuação média do System Usability Scale indicou usabilidade excelente, com 84,6 % dos profissionais, considerando a cartilha adequada para uso escolar. **Conclusão:** A cartilha apresenta evidências de validade de conteúdo e de usabilidade, configurando-se como recurso educativo relevante para apoiar profissionais da saúde e da educação na prevenção e cuidado da autolesão não suicida em adolescentes.

Palavras-chave (Fonte DeCS)
Automutilação; serviços de saúde escolar; promoção da saúde; tecnologia educacional; estudo de validação.

Introduction

Non-suicidal self-injury (NSSI) refers to behavior in which an individual inflicts injuries on themselves without suicidal intent, which can result in serious injuries. NSSI is related to coping mechanisms for negative emotions, such as anxiety and frustration, among others, and is used as a strategy to reduce tension or alleviate suffering (1).

The severity of NSSI is typically classified based on how often the person engages in the behavior, the number of episodes that have occurred over the course of their life, the need for medical care, and the methods used. The most common methods used in NSSI include cutting the arms and legs, causing minor burns, scratching until bleeding occurs, inserting objects under the fingernails or into the skin, and picking at or aggravating existing wounds, among others (2).

Approximately 15% of adolescents engage in self-harm, a condition that is more common in females and peaks in onset between the ages of 12 and 14 (3, 4). Among the risk factors described in the literature, the following stand out: the presence of mental disorders, adolescence, female sex, the occurrence of adverse life events, and exposure to bullying (4-7).

School is usually the place where adolescents spend most of their day, making it their primary environment for socialization. In addition to being an educational setting, it is a space that promotes health and is more accessible than most healthcare services. In this context, less stigmatizing interventions may facilitate the achievement of the desired outcomes (8). Thus, the school should serve as a social framework for guidance, support in building self-esteem, creating a welcoming environment, and promoting student autonomy and empowerment; students should feel comfortable discussing their problems, whether with a teacher or some other healthcare professional who can provide emotional support (9). In this sense, nursing performs an important role in providing mental healthcare to these students.

However, a hostile and unwelcoming school environment, characterized by bullying and a lack of support from healthcare and education professionals, can intensify psychological distress and, consequently, increase the risk of NSSI (3). Furthermore, organizational practices can contribute to the invisibility of NSSI, which may hinder the implementation of preventive strategies or comprehensive interventions, given that schools influence the health-related behaviors of adolescents (10). In this scenario, schools can serve as either a positive or negative environment for NSSI in adolescents, as well as promoting health and facilitating preventive approaches and nursing care interventions for this population. A scoping review shows that there are still only a few documented initiatives and that many schools lack defined policies, but it highlights that schools are strategic settings for welcoming, guiding, and referring adolescents who engage in self-harm (11).

To help promote a welcoming environment within the school, it is necessary to train healthcare and school professionals so that they can identify, welcome, and refer students with NSSI. This can be achieved through the use of educational technologies, such as "light" or "light-hard" technologies, which can be described as an organized body of knowledge that enables the planning, execution, control, and monitoring of the educational process. Furthermore, they can also be understood as encompassing the development, use, and management of technological processes and resources, whether physical or digital, with the aim of supporting and facilitating learning (12, 13).

This research is relevant because NSSI in adolescents is a growing public health challenge. Early identification is essential to providing adequate support, and the role of nursing is crucial in preventing serious complications. In view of this, the development of a tool in Portuguese adapted to the ethnic, cultural, and socioeconomic diversity of Brazil is justified, initially targeting Maceió, the capital of the state of Alagoas, located in the Northeast region of Brazil. This tool will empower healthcare professionals and nursing schools to respond in a sensitive and effective manner, promoting a welcoming environment and referrals that support the recovery of students in the medium and long term. The tool may also be adapted for other regions of the country and used by varying professionals, fostering an integrated and multidisciplinary approach. Thus, the objective of this study was to analyze the evidence regarding the content validity and usability of an educational booklet on NSSI in adolescents.

Materials and Methods

Type of Study

This is a methodological study designed to develop and analyze evidence regarding the content validity and usability of an educational technology in the form of an educational booklet. This study assessed the content validity of an educational booklet on NSSI in adolescents through specialist evaluation and calculation of the Content Validity Index (CVI) (14).

Sample

The sample consisted of 10 specialist judges with expertise in NSSI care and/or child and adolescent mental health who participated in the assessment of the booklet's content validity, and 22 school professionals who participated in the assessment of the booklet's usability.

Inclusion and Exclusion Criteria

The study participants were selected through an analysis of the résumés of researchers in the health field on the Lattes Platform.

The specialist judges were selected based on specific criteria, and each of them obtained a minimum score of five points, according to the following criteria: Academic degree (Ph.D. = 2 points); at least two years of professional experience in the field (1 point); teaching courses in the health field, with an emphasis on mental health and/or pediatrics (1 point); and published articles involving care for individuals with NSSI and/or child and adolescent mental health (1 point) (15-17).

Procedures

Given that the educational booklet was intended to provide guidance on how to cope with NSSI among students, a search was conducted for scientific evidence to justify and support an educational strategy aimed at promoting mental health in the school setting. The development of the booklet was based on a scoping review of practices implemented in schools in response to cases of NSSI in adolescents (18). The identified practices related to support, promotion, and prevention of mental health, as well as the management of NSSI-related behavior, supported the development of this educational material.

The educational booklet entitled *Marcas que doem* (Scars that Hurt) was developed in PDF format, consisting of 42 pages, using the Canva platform. The material is intended for healthcare and education professionals who directly work with adolescents aged 10 to 19. Its content covers 14 topics related to NSSI, including its definition, risk factors, warning signs, strategies for promoting mental health in schools, guidelines for welcoming and referring students, a care flowchart, a map of the health districts of Maceió (Alagoas, Brazil), and references. The booklet is available under the "Where to Find Help?" tab on the website http://eenf.ufal.br/projeto/acolheteen.

The educational booklet is one of the products of a research project that studies the use of educational technology aimed at identifying, addressing, and managing children and adolescents with NSSI in schools, funded by the National Council for Scientific and Technological Development.

Validation and Usability of the Booklet

Two data collection instruments were used, one for the specialist judges and one for school professionals. For the judges, a content validation instrument was provided, based on the Suitability Assessment of Materials (SAM) (19). For school professionals, a usability validation instrument was provided, based on the System Usability Scale (20).

The booklet was evaluated in terms of general aspects: Content, vocabulary, learning, illustrations, layout and presentation; its capacity to stimulate and motivate; and the references. The specialists assigned scores from 0 to 4 (0 = Poor; 1 = Fair; 2 = Good; 3 = Very

Good; 4 = Excellent) (21) and were able to provide any comments and suggestions they deemed necessary. The reviewers were invited via the email address provided on the Lattes Platform. To calculate the CVI in the responses of the groups, the proportion of responses rated as 3 or 4 was divided by the total number of responses. The evaluation criteria were as follows: A CVI ≥ 0.78 was considered excellent; a CVI between 0.60 and 0.77 was classified as good; and a CVI < 0.59 was considered poor. To calculate the overall CVI of the instrument, the mean of the individual CVIs of the items was calculated (21).

After the content was validated by specialist judges, the booklet was evaluated by school professionals, who were recruited using snowball sampling, with the first stratum selected based on the prior knowledge of the authors. To minimize the risk of selection bias and ensure the validity of the results, a selection process was conducted for the school professionals, ensuring that all those involved were selected based on their experience working with students with NSSI. In addition, the researchers took measures to ensure the confidentiality of the information provided by the participants to avoid any type of external influence or perception of judgment.

The school professionals evaluated the usability of the booklet in the school environment. The assessment was conducted using a scale ranging from 0 to 4 (0 = Strongly Disagree; 1 = Disagree; 2 = Neutral/Indifferent; 3 = Agree; and 4 = Strongly Agree) (21). The System Usability Scale ranges from 0 to 100 points, with higher scores indicating better usability. The interpretation of the results varies according to the classification: ≤ 25 is considered the worst possible usability; between 26 and 40, poor; between 41 and 50, reasonable; between 51 and 75, good; between 76 and 85, excellent; and between 86 and 100, the best possible usability. Scores above 70 are considered acceptable for good usability. Products with scores below 70 indicate problems that must be identified and solved (22).

Ethical Considerations

The study was approved by the Research Ethics Committee of the Universidade Federal de Alagoas, under approval number 6,717,641. The research participants received all the necessary information from the researcher. Participants who agreed to participate in the study signed the informed consent form (ICF), in compliance with Resolutions 466/2012, 510/2016, and 580/2018 of the National Health Council. A copy of the ICF was provided to the research participants.

Upon clicking the provided access link, interested participants were immediately directed to the ICF, which contained all the information regarding the study and a communication channel with the researchers. After reading the ICF, each participant se-

lected one of the following options: (a) I agree to voluntarily participate in this study; (b) I do not agree to participate in this study. Only after agreeing with the ICF terms were those interested in participating in the study granted access to the educational booklet and the Google Forms questionnaire.

Data Analysis

For the responses of the specialist judges, the CVI was calculated using the SAM instrument, while usability was assessed by school professionals using the System Usability Scale. Based on the suggestions of the specialist judges, a second version of the booklet was developed. This second version of the booklet was then submitted to school professionals for a usability evaluation.

Results

Ten judges participated in the content validation stage of the educational booklet. The mean age of the judges was 52.6 years. Seven (70%) were female. The mean length of service was 24.1 years in their current position and 27 years in the field. Six (60%) judges held a Ph.D., and 4 (40%) had completed postdoctoral studies. The interviewees included nurses (n = 3; 30%), psychologists (n = 5; 50%), and psychiatrists (n = 2; 20%) (Table 1). Fifty-four school professionals participated in evaluating the usability of the educational booklet. The mean age of these professionals was 43.2 years. The majority were female (85.2%) and school healthcare professionals (57.4%). The mean length of service was 14 years in their current position and 15.5 years in the field (Table 1).

Table 1. *General Characteristics of the Specialist Judges and School Professionals. Alagoas, Brazil, 2025*

	Specialist Judges (n = 10)			**School Professionals (n = 54)**		
Variables	**Mean (SD)**	**Minimum**	**Maximum**	**Mean (SD)**	**Minimum**	**Maximum**
Age	52.6(12.5)	37	72	43.2(9.0)	23	59
Time of stufy	29.3(13.1)	14	49	-	-	-
Time at the current job/school	24.1(12.5)	4	43	14.0(10.2)	8 months	30
Time working in the field	27.0(14.0)	8	49	15.5(9.6)	1	36
Sex	**N**		**%**	**N**		**%**
Female	7		70.0	46		85.2
Male	3		30.0	8		14.8

Education	**N**	**%**		
Psychologist	5	50.0	-	-
Nurse	3	30.0	-	-
Psychiatrist	2	20.0	-	-
Teacher	-	-	23	42.6
School healthcare professional	-	-	31	57.4
Degree	**N**	**%**	**N**	**%**
Doctorate	6	60.0	-	-
Postdoctoral	4	40.0	-	-

Key: SD (standard deviation); N (number).

Source: Prepared by the authors.

The responses of the judges yielded a CVI of 0.9 in the overall evaluation. Only the "layout and presentation" dimension scored a good CVI. The others were rated as excellent (Table 2).

Table 2. *Classification of the CVIs of the Booklet, Based on the Analysis by the Specialist Judges. Alagoas, Brazil, 2025*

1. General Aspects	**N**	**%**	**CVI**
1.1 Presence of the booklet's authorship	10	100.0	1
1.2 Graphic design of the book cover	7	70.0	0.7
1.3 Clear objective	9	90.0	0.9
1.4 Organization of topics in the table of contents	8	80.0	0.8
Mean score in this dimension			0.8
2. Contents	**N**	**%**	**CVI**
2.1. Does the content address information related to the theme of the material?	10	100.0	1
2.2. Is the information clear?	10	100.0	1
2.3. Is the material adequately organized?	9	90.0	0.9
2.4. Is the reading level suitable for elementary and high school teachers to understand?	10	100.0	1
Mean score in this dimension			1
3. Vocabulary and Learning	**N**	**%**	**CVI**
3.1. Does the vocabulary include common words?	10	100.0	1
3.2. Is the learning experience streamlined by the use of topics?	9	90.00	0.9
Mean score in this dimension			0.9

4. Illustrations	N	%	CVI
4.1. Are the illustrations used relevant?	10	100.0	1
4.2. Do the illustrations used draw the attention of elementary and high school teachers?	10	100.0	1
4.3. Are the illustrations adequate in relation to the content of the material?	10	100.0	1
Mean score in this dimension			1
5. Layout and Presentation	**N**	**%**	**CVI**
5.1. Are the layout characteristics, such as font size and type, adequate?	10	100.0	1
5.2. Presence of grammatical errors	4	40.0	0.4
Mean score in this dimension			0.7
6. Stimulation/Motivation	**N**	**%**	**CVI**
6.1. Are there motivations for a change in the behavior of the reader?	10	100.0	1
6.2. Are the guidelines specific and do they include examples?	10	100.0	1
Mean score in this dimension			1
7. References	**N**	**%**	**CVI**
7.1. Are the references up to date?	10	100.0	1
7.2. Are the references relevant?	10	100.0	1
Mean score in this dimension			1
Overall total score	9.3	93.00	0.9

Source: Prepared by the authors.

The individual agreement percentage among school professionals, as measured by the usability instrument, was 84.6% (Table 3). The overall score for the booklet was calculated based on the mean of the individual scores on the System Usability Scale. The results were interpreted according to the following classification: ≤ 25 (Worst Usability Imaginable); 26–40 (Poor); 41–50 (Reasonable); 51–75 (Good); 76–85 (Excellent); and 86–100 (Best Usability Imaginable). As recommended in the literature, scores of ≥ 70 were considered indicative of good usability (22).

Table 3. *Usability Evaluation by School Professionals. Alagoas, Brazil, 2025*

Items to be Analyzed	N	%
I think I would like to use this booklet often.	49	90.7
I found this booklet easy to use.	51	94.4
I felt quite confident using this booklet.	46	85.2
I did not find this booklet too complex.	42	77.8
I do not think I would need any support to be able to use this booklet.	40	81.5
Do you find the information in the booklet interesting or inspiring?	52	96.3

Items to be Analyzed	N	%
Did you find this booklet useful?	52	96.3
Do you think these guidelines are important for your daily life?	49	90.7
Do you think the booklet provided important information about learning and self-harm?	50	92.6
Is the information in the booklet clear and easy to understand?	50	92.6
Do you feel motivated to continue using this booklet and to recommend it to other professionals?	50	92.6
Total	48.3	84.6

Source: Prepared by the authors.

Even with the high agreement rate and a CVI rating considered excellent, all suggestions and comments from the judges and school professionals were incorporated into the final version of the educational booklet (Table 4).

The evaluating judges provided suggestions on all dimensions assessed in the content validation instrument (Table 4). Modifications were made to improve visual presentation, standardize the layout, ensure racial diversity in the illustrations, and adjust certain technical terms. In addition, the feedback from the participants reflects a concern with ensuring that the material is not only informative but also encourages behavioral change, especially in an educational context (Table 4).

Judges and school professionals noted that the booklet could be clearer regarding certain aspects (Table 4). The suggestions were incorporated into the booklet and indicate that, with specific adjustments, the material may become even more effective in addressing NSSI in schools.

Table 4. *Suggestions and Remarks from Specialist Judges and School Professionals for Improving the Educational Booklet. Alagoas, Brazil, 2025*

Specialist Judges and School Professionals		
Dimensions	**Suggestions/Remarks**	**Decision**
General aspects	There are no images on the cover that represent teenagers. The cover image could reflect more racial diversity. On the cover, I found the shadow on the characters' necks strange; I think it could be removed. Include only the referral flowchart in the table of contents to ensure a better visual presentation.	Modifications were made to include images of adolescents and to reflect racial diversity. The shadow on the characters' necks was removed. The table of contents was updated to reflect the description of the flowchart.

Specialist Judges and School Professionals		
Dimensions	**Suggestions/Remarks**	**Decision**
Contents	Replace the subtitle “Risk Factors” with “Warning Signs.” How to promote mental health in schools seems like a question to me, doesn’t it? Remove the second paragraph from “Risk Factors”, as it is unclear and does not add anything substantial to the text. I suggest reorganizing the guidelines and flowcharts. Having two pages of guidelines and two pages of flowcharts separated like this doesn’t work well. It doesn’t explain which institution fills out the notification form or what the Specialized Social Assistance Reference Center is. When suggesting physical activities, the scope could be broader than just those requiring a punching bag. All physical activities help alleviate this problem.	Modifications were made regarding the replacement of the requested sentences; guidance was provided regarding the notification form and the Specialized Social Assistance Reference Center; the two flowcharts were combined into one; and adjustments were made to the guidelines on physical activity.
Vocabulary and Learning	Modify the phrase “Manage emotional dysregulation” as it is redundant, to “reduce tension and alleviate emotional pain.”	Modifications were made to replace the requested phrase.
Illustrations	Revise the illustration used on the cover.	The cover illustration has been modified.
Layout and Presentation	There is a spelling error in the word “irritability.”	The spelling error has been corrected.
Stimulation/ Motivation	None	No adjustments were made.
References	Suggestion to include other texts.	Five references were included in the booklet.

Source: Prepared by the authors.

Discussion

The booklet *Marcas que doem* is relevant as it aims to promote health education and empower nurses and other healthcare and school professionals, equipping them with the necessary tools to address mental health issues and NSSI. It serves as a guide to aid in the early detection of risk behaviors, while also providing guidance on how to handle these cases empathically and effectively.

In nursing practice, this tool allows professionals to serve as the first link in a support network, offering immediate support to adolescents and providing guidance to families and the school team even before a referral to specialized services becomes necessary.

In the school setting, the booklet transcends its role as a guide; by equipping teachers and administrators to identify subtle signs of emotional distress, it transforms the school into a potentially protective environment, rather than one that is merely reactive. Creating school environments that foster open dialogue about emotions and well-being is essential for promoting mental health. Thus, the booklet is not limited to providing information; it acts as a catalyst for institutional cultural change by encouraging schools to take an active stance in preventing NSSI.

The validation of the booklet ensures that its content is technical, based on scientific evidence, and adequate for the educational context. The CVI analyzed the rate of agreement among the judges regarding the items evaluated (23). A CVI of 0.9 in the overall evaluation of the judges classifies the booklet as excellent. A study on the validation of a booklet entitled "I'm Back at Work, How Do I Breastfeed?" reported a satisfactory/good overall CVI (0.81) (23). Another validation study of the Basic Life Support Booklet showed an excellent overall CVI (0.95) (24). In general, the evaluation of the judges indicates that the booklet was well received by the evaluators; it was considered clear, relevant, and scientific. These findings indicate that, from a technical and scientific standpoint, the booklet presents methodological quality comparable to other educational technologies available in the literature. For nurses working in primary care or in the School Health Program, this means having access to a resource whose theoretical effectiveness has been peer-reviewed, thereby reducing professional uncertainty when addressing a sensitive topic such as NSSI.

Only the "Layout and Presentation" dimension had a good CVI score (0.7). The specialist judges suggested adding images more targeted at children and adolescents, as well as addressing the issue of racial diversity. These modifications were made before the booklet was evaluated for usability by school professionals. The low score in the "Layout" dimension, although still within an acceptable range, highlights a point of improvement for future editions of the booklet. In school settings, materials that are visually unsuitable for the target age group can reduce the engagement of adolescents, compromising the expected effect of the intervention. The incorporation of the suggestions of the judges demonstrates cultural sensitivity, an essential aspect for the booklet to be effectively adopted in schools with diverse student populations, such as those in the city of Maceió.

Educational technologies have an important role in the development of health education, as they facilitate access to information and promote greater adoption of healthy behaviors (25). In this context, the importance of the participation of nurses and other healthcare and school professionals in the use and application of the educational booklet in the school setting becomes evident. In this study, 92.6% of school professionals reported feeling mo-

tivated to use the booklet and recommend it to other professionals. This high percentage indicates that the booklet was perceived by end users as a useful and practical tool in their daily school routines. For the nursing profession, this finding suggests that adopting this technology will not require overcoming resistance or additional persuasion of education professionals, which facilitates the implementation of interdisciplinary initiatives, which is one of the major challenges in promoting mental health in schools.

The booklet was well received by specialist judges and school professionals, mainly due to its relevance to the school setting. They offered several suggestions, helping to make the material more engaging and easier to understand, thereby facilitating its use in the school setting. This contributes to a more comprehensive view of the booklet, incorporating various fields of knowledge and resulting in an educational tool that better addresses the identified health needs (26). Such a participatory validation process has direct implications for practice. When health and education professionals jointly develop an educational tool, the risk of the material being technically correct but pedagogically unsuitable for the school context is reduced. Nurses who use this booklet can do so with the assurance that it has been evaluated from multiple perspectives, including those who understand the real limitations of the setting in which it will be applied.

The use of educational technologies with adolescents aims to improve their acquisition and mastery of knowledge, with a focus on topics related to the transition process during adolescence, from both physiological and psychological perspectives. Using these technologies in health education not only promotes health but also encourages the integration and active participation of adolescents in the activities, primarily through play and dynamic engagement, transforming these young people into individuals capable of changing harmful habits (27). In the specific case of NSSI, this ludic and participatory approach is particularly relevant, as self-harming behavior is often associated with difficulty in naming and communicating emotions. A booklet that can dialogue with adolescents in their own language can serve as a symbolic facilitator for young people to break the silence and seek help.

School professionals (84.6%) rated the booklet as excellent for use in the school setting. Although most agreed that the material was clear, there were suggestions regarding grammatical errors (CVI = 0.4), which led to a review of the Portuguese language in the educational material. It is common that, following evaluation by judges, educational technologies require adjustments to improve the material. In such cases, some information may be reworded or omitted, terms may be replaced, and illustrations may be revised (22). The identification of grammatical errors is a finding that warrants reflection beyond mere aesthetic considerations. In professional practice, material with Portuguese language editing issues can undermine the credibility of the information in the eyes of users. Therefore, correcting these errors

is not a minor detail but a necessary condition for the booklet to be legitimately adopted in the school setting.

The evaluators suggested including instructions in the material on how to fill out the notification form. However, the booklet is intended to serve as a guide for actions implemented in the school setting. A website was developed to complement the booklet, providing more in-depth information on the theme. In addition, the goal is to train nurses and other healthcare and school professionals on how to use the educational booklet. This decision to not include step-by-step instructions for filling out the notification form in the booklet, but rather to make them available on the complementary website, has important implications for practice. Keeping the booklet as a quick, visual guidance tool prevents it from becoming overloaded with information, which could make it less practical for emergency use in schools. For nurses, this means that the booklet should be understood as part of a broader strategy that includes on-site training and access to a virtual support environment.

A study that addresses the development and validation of educational materials aimed at preventing NSSI, albeit not focused on school-based interventions, describes how the development of validated educational materials is an important strategy for promoting health education and the prevention of self-harming behaviors. It offers insights into how health education can be adapted to the specific needs of the population and how the validation process can ensure the effectiveness of these materials (28-30). In contrast to the cited studies, this booklet has a unique feature that makes it particularly relevant for school nursing: it was designed from the outset to be used in school settings by professionals who do not always have specific training in mental health. This means that, in practice, the booklet acts as a skills equalizer, allowing teachers and administrators, even without in-depth technical knowledge, to adopt initially adequate measures until specialized support arrives. This is a contribution that goes beyond the numerical findings of validation and directly impacts the organization of care pathways within the intersectoral network.

The inclusion of flowcharts and healthcare service maps in this educational booklet helps guide healthcare professionals and nursing schools on how to refer students to the necessary care, making the material an important strategy for early intervention in promoting mental health in schools. The use of flowcharts is effective, as they can help users better understand what to do and imprint the processes in their memory (31). In the daily practice of nurses working in primary care, one of the greatest bottlenecks in providing care to adolescents with NSSI is precisely a lack of knowledge about the available service network and the referral and counter-referral processes. By including a specific map of the healthcare districts in the city of Maceió,

the booklet offers a concrete solution to this problem, reducing the time between case identification and adequate referral. This localized feature of the tool, which could be seen as a limitation, is actually its greatest strength for practice in the capital of Alagoas, as it transforms generic knowledge about NSSI into localized and feasible action.

There is a shortage of educational booklets specifically focused on NSSI. Although studies have shown the validity of booklets for various health conditions, such as adolescent health (32), post-cardiac surgery care (33), reproductive health (34), and childbirth (35), there are no records of validated materials focused on NSSI. This gap highlights the importance and relevance of this study, which contributes to the availability of an evidence-based and validated educational resource for healthcare and education professionals. With the validation of this booklet, nurses now have access to a technically sound tool specifically designed for the reality of NSSI, which reduces professional anxiety and increases the probability of early and adequate intervention.

The validation of the current booklet makes it a reliable and effective tool and contributes to the establishment of a school support network that can identify early signs of NSSI and provide adequate support to adolescents (36). In terms of implications for practice, the existence of a validated handbook such as *Marcas que doem* allows nurses to take on a coordinating role within the school mental health network, providing not only direct care but also continuing education for teachers and administrators. More than just a product, this educational technology constitutes a vehicle for organizing interprofessional work by providing a common language and a shared workflow between healthcare and education.

The limitations of the study stem from the fact that the booklet was made available to judges and school professionals in digital format, which compromised the evaluation of aspects related to the print quality of the material. The fact that it was evaluated only by professionals from public schools may diverge from the analysis of professionals from private schools.

Conclusion

Based on the results regarding content validity (overall CVI of 0.9) and usability (84.6% of professionals rated the booklet as excellent), this educational technology provides a validated tool for NSSI education among adolescents in the school setting. This educational booklet can help strengthen ties between students, nurses, and other healthcare and school professionals, facilitating dialogue on sensitive topics such as mental healthcare. The data indicate that the booklet was considered by the evaluating professionals to be clear, relevant, and easy to use, which may facilitate, in future applications, dialogue between nurses, school professionals, and ad-

olescents about mental health. This promotes a more welcoming environment, where the emotional issues of adolescents are addressed with sensitivity and understanding. The use of this booklet extends to enabling more inclusive educational practices that prioritize the well-being and quality of life of adolescents. It should be noted, however, that the effects of the booklet on the school environment, the welcoming provided to the adolescents, or the overcoming of individual challenges were not directly measured in this study; therefore, future research is needed to assess these outcomes.

Conflict of interest:

There is no conflict of interest.

Funding

National Council for Scientific and Technological Development (Conselho Nacional de Desenvolvimento Científico e Tecnológico [CNPq]), Brazil, under case number 406326/2021-5.

References

1. Gabriel IM, Costa LCR, Campeiz AB, Salim NR, Silva MAI, Carlos DM. Autolesão não suicida entre adolescentes: significados para profissionais da educação e da Atenção Básica à Saúde. Esc Anna Nery. 2020;24(4):e20200050. https://doi.org/10.1590/2177-9465-ean-2020-0050
2. Kamazaki DF, Dias ACG. Intervenções para autolesão não suicida: uma revisão sistemática da literatura. Contextos Clin. 2021;14(1). https://doi.org/10.4013/ctc.2021.141.11
3. Costa LCR, Gabriel IM, Lopes DG, Oliveira WA, Silva JL, Carlos DM. Autolesão não suicida e contexto escolar: perspectivas de adolescentes e profissionais da educação. SMAD, Rev Eletr Saúde Mental Álcool Drog. 2020;16(4):39-48. https://dx.doi.org/10.11606/issn.1806-6976.smad.2020.168295
4. Farooq B, Clements C, Hawton K, Geulayov G, Casey D, Waters K et al. Self-harm in children and adolescents by ethnic group: An observational cohort study from the multicentre study of self-harm in England. Lancet Child Adolesc Health. 2021;5(11):782-91. https://doi.org/10.1016/s2352-4642(21)00239-x
5. Wang YJ, Li X, Ng CH, Xu DW, Hu S, Yuan TF. Risk factors for non-suicidal self-injury (NSSI) in adolescents: A meta-analysis. EClinicalMedicine. 2022;46:101350. https://doi.org/10.1016/j.eclinm.2022.101350
6. Shao C, Wang X, Ma Q, Zhao Y, Yun X. Analysis of risk factors of non-suicidal self-harm behavior in adolescents with depression. Ann of PalliatMed. 2021;10(9):9607-13. https://doi.org/10.21037/apm-21-1951
7. Ferreira BB, Bandeira BE da S, Fonseca MN de A, Freitas GC dos S. Autolesão não suicida em crianças e adolescentes com TDAH: revisão narrativa da literatura. Braz J Health Rev. 2023;6(3):12626-41. https://doi.org/10.34119/bjhrv6n3-329
8. Souza TT, Almeida ACA, Fernandes ADSA, Cid MFB. Promoção em saúde mental de adolescentes em países da América Latina: uma revisão integrativa da literatura. Cien Saúde Colet. 2021;26(7):2575-86. https://doi.org/10.1590/1413-81232021267.07242021
9. Silva MM, Barros LS. A contribuição da escola para a promoção da saúde mental de adolescentes no combate à depressão e ao suicídio. Braz J Dev. 2021;7(3):21078-95. https://doi.org/10.34117/bjdv7n3-017
10. Evans R, Hurrell C. The role of schools in children and young people's self-harm and suicide: systematic review and meta-ethnography of qualitative research. BMC Public Health. 2016;16(401). https://doi.org/10.1186/s12889-016-3065-2
11. Alves VM, Magalhães APN, de Paula CC, Albuquerque MCS, Santos PS, Pedrosa LGM. Practices applied in schools for cases of non-suicidal self-injury in adolescents: a scoping review. J Sch Nurs. 2026:32-45. https://doi.org/10.1177/10598405251348666
12. Santos AS, Oliveira JF, Silva RM, Lima L, Costa M, Lima J. Tecnologia educacional baseada em Nola Pender: promoção da saúde do adolescente. Rev Enferm UFPE online. 2018;12(2):582-8. https://doi.org/10.5205/1981-8963-v12i2a22609p582-588-2018
13. Albuquerque O, Conceição MH, Melis MF, Albuquerque F, Berbel NA, Rodrigues C. O uso da tecnologia educacional e social na formação de sanitarista. New Trends Qual Res. 2020;8:808-21. https://doi.org/10.36367/ntqr.3.2020.808-821

14. Souza AC de, Alexandre NMC, Guirardello EB. Propriedades psicométricas na avaliação de instrumentos: avaliação da confiabilidade e da validade. Epidemiol Serv Saúde. 2017;26(3):649-59. https://doi.org/10.5123/S1679-49742017000300022

15. Benevides JL, Coutinho JFV, Pascoal LC, Joventino ES, Martins MC, Gubert FA et al. Development and validation of educational technology for venous ulcer care. Rev Esc Enferm USP. 2016;50(2):306-12. https://doi.org/10.1590/S0080-623420160000200018

16. Souza MAF, Damasceno SS, Cruz RSBLC, Viana MCA, Silva AVS, Oliveira DR. Construção e validação de tecnologia comportamental para acompanhamento dos marcos do desenvolvimento infantil. Rev Rene. 2018;19:e33808. https://doi.org/10.15253/2175-6783.2018193380 8

17. Silveira MA, Souza CS, Oliveira L, Oliveira DR, Oliveira DC, Lima R et al. Aplicativos móveis em saúde baseados no método Design Instrucional Contextualizado: revisão integrativa. Contrib Cienc Soc. 2023;16(8):11233-53. https://doi.org/10.55905/revconv.16n.8-127

18. Silva Mendonça K, Alves VM, de Amorim Lima ME, de Paula MJS. Educational technologies used in non-suicidal self-injury situations in adolescents: Scope review protocol. OSF; 2024. https://doi.org/10.17605/OSF.IO/G9X2M

19. Sousa CS, Turrini RNT, Proveda VB. Tradução e adaptação do instrumento "Suitability Assessment of Materials" (SAM) para o português. Rev Enferm UFPE. 2015;9(5):7854-61. https://doi.org/10.5205/1981-8963-v9i5a10534p7854-7861-2015

20. Martins AI, Rosa AF, Queirós A, Silva A, Rocha NP. European Portuguese validation of the System Usability Scale (SUS). Procedia Comput Sci. 2015;67:293-300. https://doi.org/10.1016/j.procs.2015.09.273

21. Polit DF, Beck CT. Fundamentos de pesquisa em enfermagem: avaliação de evidências para a prática da enfermagem. 7ª ed. Porto Alegre: Artmed; 2011.

22. Bangor A, Kortum PT, Miller JT. An empirical evaluation of the System Usability Scale. Int J Hum Comput Interact. 2008;24(6):574-94. https://doi.org/10.1080/10447310802205776

23. Lima ACMAC, Chaves AF, Oliveira MG, Nobre MdS. Construção e validação de cartilha educativa para sala de apoio à amamentação. REM Rev Min Enferm. 2020;24:e1315. https://doi.org/10.5935/1415-2762.20200052

24. Vieira TZX, Prado RT, Faria LR, Alvim ALS, Carbogim FC. Construção e validação de cartilha educativa sobre suporte básico de vida para estudantes do ensino médio. Arq Ciênc Saúde UNIPAR. 2023;27(2):545-55. https://doi.org/10.25110/arqsaude.v27i2.2023-001

25. Pavinati G, Lima LV de, Soares JPR, Nogueira IS, Jaques AE, Baldissera VDA. Tecnologias educacionais para o desenvolvimento de educação na saúde: uma revisão integrativa. Arq Cienc Saude UNIPAR. 2022;26(3):328-49. https://doi.org/10.25110/arqsaude.v26i3.2022.8844

26. Wild CF, Nietsche EA, Salbego C, Teixeira E, Favero NB. Validation of educational booklet: an educational technology in dengue prevention. Rev Bras Enferm. 2019;72(0):1318-25. http://dx.doi.org/10.1590/0034-7167-2018-0771

27. Silva MY da, Gonçalves DE, Martins ÁKL. Tecnologias educacionais como estratégia para educação em saúde dos adolescentes: revisão integrativa. Rev Saúde Digit Tecnol Educ. 2020;5(1):66-82. https://doi.org/10.36517/resdite.v5.n1.2020.a5

28. Silva AC, Miasso AI, Araújo A, Barroso TMMDA, Santos JCP, Vedana KGG. Prevention of non-suicidal self-injury: Construction and validation of educational material. Rev Lat Am Enfermagem. 2022;30(spe):e3735. https://doi.org/10.1590/1518-8345.6265.3735

29. Pereira CCM, Silva AC, Pedrollo LFS, Amaral LC, Chiarelo BM, Zanetti ACG, Vedana KGG. "InspirAção": Development and use of a website to prevent suicidal behavior. Arch Psychiatr Nurs. 2022;39:54-8. https://doi.org/10.1016/j.apnu.2022.03.003

30. Thomas CS, Nielsen TK, Best NC. A Rapid Review of Mental Health Training Programs for School Nurses. J Sch Nurs. 2024;41(1):158-71. https://doi.org/10.1177/10598405241277798

31. Ribeiro NS, Silva DCVR. O uso de fluxogramas como material de apoio. Seminário de Projetos de Ensino. 2022;5(1):1-5. Disponível em: https://jepe.unifesspa.edu.br/images/IV-JEPE/resumo-expandido/proeg/sala-4/103O_USO_DE_FLUXOGRAMAS_COMO_MATERIAL_DE_APOIO.pdf

32. Alves SAA, Silva KND, Machado MFAS, Cavalcante EGR, Albuquerque GA, Bezerra IMP et al. Digital booklet on sustainable practices for promoting adolescent health. Cien Saude Colet. 2023;28(8):2215-26. https://doi.org/10.1590/1413-81232023288.07222023

33. Barcellos SR, Joras ADR, Constanzi AP, Souza EN. Construction and validation of an educational booklet for patients in the postoperative period of cardiac surgery: a methodological study. Rev Bras Enferm. 2023;76(6):e20220621. https://doi.org/10.1590/0034-7167-2022-0621

34. AbdiShahshahani M, Hashemi M, Kohan S. The effect of the reproductive health self-care educational booklet on the self-care ability of female university students. Iran J Nurs Midwifery Res. 2023;28(6):659-64. https://doi.org/10.4103/ijnmr.ijnmr_8_22

35. Gonçalves MTC, Silva ARVD, Furlan MCR, Luchesi BM, Martins TCR. Educational booklet on labor and delivery: Validity study. Rev Bras Enferm. 2024;77(5):e20240138. https://doi.org/10.1590/0034-7167-2024-0138

36. Ma KKY, Anderson JK, Burn AM. School-based interventions to improve mental health literacy and reduce mental health stigma: a systematic review. Child Adolesc Ment Health. 2022;27(1):22-31. https://doi.org/10.1111/camh.12543