

SUPPLEMENTAL ONLINE CONTENT

Supplement to [Blinded First Author], et al., An Evaluation of the Literacy Demands of Online Natural Disaster Preparedness Materials for Families

Supplemental Table 1. Textual and image-based indicators used for classifying the information source and primary target audience of websites within an evaluation of the literacy demands of self-directed learning resources on emergency preparedness for U.S. families

Supplemental Table 2. Necessary modifications, operationalization, and rationale applied for each assessment tool used for an evaluation of the literacy demands of self-directed learning resources on emergency preparedness for U.S. families

Supplemental Table 1. Textual and image-based indicators used for classifying the information source and primary target audience of websites within an evaluation of the literacy demands of self-directed learning resources on emergency preparedness for U.S. families

<i>Information Source</i>	
Types	Potential indicators
Government Institution	.gov URL, “[local/state/federal] government”, “[local/state/federal] agency”, “National Advisory Committee”, “National Commission”
Educational Institution	.edu URL, “elementary school”, “K-12”, “public school”, “school district”, "university"
Healthcare Institution ^a	.org URL, “Hospital”, “Health Center”, “Clinic”, “Medical Center”
Non-Profit Organization	.org URL that is NOT a healthcare institution, “501c(3)”, “non-profit”, “non-governmental organization”, “foundation”
Private Company	.com URL
Other	Any website that does not fulfill above criteria
<i>Target Audience</i>	
Types	Potential indicators
Parents/caregivers of CSHCN	“Children with Special Needs”, “Children with Special Healthcare Needs”, “Child with [insert specific condition, ^b e.g., Autism]”, Photos of CSHCN or Families with CSHCN
Parents/caregivers of children (no special healthcare needs)	“Your children”, “Your grandchildren”, “The children in your care”, Photos of Children or Families
Children ^a	“Activity Book”, “For Kids”, “For children” Photos/language that indicates the resource is speaking to a young person or child
Other clearly specified audience ^c	“[Insert specific audience group, e.g., Veterinarians] should/can...”, Photos of [insert specific audience group, e.g., Veterinarians]
General (none of the above)	Any website that does not fulfill above criteria

^a This category was included in the assessment, but no actual webpages were ultimately identified that fit within these categories.

^b Conditions that qualified as a special healthcare need in the coding process were identified consistent with Maternal and Child Health Bureau categories.¹

^c Target audiences of webpages classified as “other clearly specified audience” ultimately included business owners, veterinarians, child care staff, public health professionals, educators, faith communities, family physicians, farmers, hospital administrators, pet and livestock owners, and residents of specific geographic regions.

Supplemental Table 2. Necessary modifications, operationalization, and rationale applied for each assessment tool used for an evaluation of the literacy demands of self-directed learning resources on emergency preparedness for U.S. families

Assessment Tool	Items modified or further operationalized	Rationale for change
Flesch-Kincaid Grade Level	Round all scores down to the nearest integer (e.g. 12.9 = 12)	Recommendation from instrument developers (Kincaid et al., 1975).
Peter Mosenthal and Irwin Kirsch (PMOSE/iKIRSCH) Formula	When determining “Dependency”, score the webpage as “1” (Dependent) only if they provide no information about a specific term.	To provide an operational approach for how to score the dependency rating.
	The individual coder will need to make the determination of whether the product is a “List” or a “Display.”	Many health materials are in document format, which are print material structured as lists, charts, or graphic displays. The coder determines the difference to score the structure of the document.
	When counting “items”, consider “items” as discrete chunks of information beneath “labels” (which are usually headings) that can stand on their own (i.e. one bullet point = 1 item).	To provide an operational approach for how to distinguish between items and labels when coding.
Suitability Assessment of Materials (SAM)	If an item is not applicable, indicate the score as missing for that item.	Individual items may not always be applicable to content of material.
	For the typography question, change to exclude 12-point font criterion. When the coder determines whether to score a “2”, they should base it only on whether the webpage meets 3 of 3 criteria, rather than 3 of 4.	View settings are not identical on all electronic devices (e.g. smart phones, laptops, tablets), and users often have the ability to adjust font sizes through their internet browser. Thus, it is not possible to determine the original font size for each web page.
	For the ‘Graphics: Lists, tables, charts, forms’ question, a bulleted list only qualifies if it is visually distinct from the main text on the page (e.g., called out in a different box or shading).	To distinguish between graphics lists and primary lists.
	For the ‘Layout and Typography: Layout’ question, change to exclude glossy criterion.	Glossy vs. matte does not apply to digital material.
	For the ‘Layout and Typography: Layout’ contrast question, “high contrast between type and paper”, exclude if: type and background are shades of same color; text is white and background is a light color; or text is black and background is a dark color.	This criterion is more pertinent to paper rather than digital material. We modified the question to fit more appropriately to this study assessing only web pages.
	For the ‘Layout and Typography: Subheading and Chunking’ question, lists can refer to basic bulleted lists or graphic lists (as defined above).	To clarify that this question is all encompassing for both list types.
	For the ‘Graphics: Type of Illustration’ question, consider “simple adult appropriate line drawings/sketches” as “simple adult appropriate images.”	Drawings and sketches often do not apply to digital material. We modified the question to fit more appropriately to this study assessing only web pages.
	If graphics on a page also serve as links to other pages, the coder will still count this as a graphic.	To confirm the coder will include such graphics in the page assessment.
	For the graphics questions, with the exception of the ‘Graphics: Cover Graphic, the cover graphic is the first image the coder views from top to bottom of page.	To confirm that standard page banners for an overall website may serve as graphic for the individual page being assessed.
	For the graphics questions, with the exception of the ‘Graphics: Cover Graphic,’ all graphics on the page will be included (not just the cover graphic)	To clarify that the coder will include all graphics in the assessment (all images + cover graphics).
For the ‘Learning Stimulation and Motivation: Desired behavior patterns are modeled’ question, if any mention of a desired behavior (at least 1) is provided, it will receive a ‘1’ or ‘2’ score.	To limit subjectivity when determining the appropriate amount of behaviors mentioned.	

	For the ‘Cultural Appropriateness: Cultural Match LLE’ question, we consider a cultural match as being relevant to English-speaking people in the U.S.	To define which cultural match the coder should refer to.
	Remove the ‘Suitable for your population?’ question.	This question asks how likely the reader is to recommend the <i>Beginnings Guides Curriculum</i> to their target population, which is an unnecessary question for the purposes of this study.
	Coder must manually determine the # of points possible; once that is done, a formula dividing # of points earned by the # of points possible will provide the overall SAM Score (22 items worth 2 points each; need to subtract any items that were scored as ". " (N/A)).	To clarify how to calculate the score and confirm that the coder must do this manually.
	To interpret final score, the coder will apply the approach used in previous studies (e.g., Friedman, et al., 2008): 70-100%: Superior 40-69%: Adequate/below average 0-39%: Not suitable	To determine an appropriate scoring convention based on the assessment tool developers.
National Library of Medicine / National Institute on Aging (NLM/NIA) Web Usability Guidelines	Coder may only score an item as “0” or “1.”	To confirm possible scores for coder.
	Remove type size criterion.	View settings are not identical on all electronic devices (e.g. smart phones, laptops, tablets), which makes it nearly impossible to accurately determine the original font size for each web page.
	For ‘Physical spacing recommendation’ question, if the text is clearly single-space do not count it. Anything that could be perceived to be 1.5, double, or larger spacing should be counted as fulfilling that criteria.	To more clearly define the spacing question, taking into consideration that view settings are not identical on all electronic devices (e.g. smart phones, laptops, tablets), making it difficult to determine the original font size for each web page.
	For the ‘Backward/Forward Navigation Criteria,’ if the webpage lacks this item it should be scored as a 0, rather than missing.	To more clearly define this criterion.
	For the ‘Simplicity Recommendation’ question, refer to the estimated grade level score from Flesch Kincaid Grade Level tool: if <= 8th grade, gets a "1"	To confirm the coder must convert score manually from the Flesch-Kincaid tool.
	The ‘Animation, Video, Audio Recommendation’ question will usually be missing unless the page has an animation, video, or audio feature in addition to the main text.	Most pages with animation, video, audio only will have already been eliminated in the inclusion screening phase. This clarifies what may still be included related to animation, video, and audio.
	The ‘Text Alternatives Recommendation’ question will usually be missing, unless the page has open-captioning or access to a static version of the text for all animation, video, and audio in addition to the main text.	Most pages with animation, video, audio only will have already been eliminated in the inclusion screening phase. This clarifies that what may still be included related to animation, video, and audio commonly will not include text alternatives.
	Final score is a pure sum and automatically interpreted as % (based on 25 checklist items).	To clarify the coder is not required to manually calculate the final score.
Clear Communication Index (CCI)	For the ‘Numbers: Numbers that the primary audience uses are always presented’ criterion, if proportions are presented, fractions should be used, not %s, in order to score a "1."	Whole numbers are used by most audiences, so ‘1 out of 4’ is more acceptable than ‘25%’ for public-facing health communication materials.
	Calculate manually the number of points possible (20 total, subtract all ‘.’) to enter as denominator.	To confirm the coder must manually determine the # of points possible; once that is done, a formula dividing # of points earned by the # of points possible will provide the overall CCI Score.

REFERENCES

1. Child and Adolescent Health Measurement Initiative (2012). "Who Are Children with Special Health Care Needs (CSHCN)." Data Resource Center, supported by Cooperative Agreement 1-U59-MC06980-01 from the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB). Available at www.childhealthdata.org