

CODE BOOK: Increasing culturally relevant science media coverage: exploring the outcomes of a collaboration in Puerto Rico

This codebook was used to quantify elements that made articles culturally relevant to Puerto Rico and compare their presence in articles authored by members of CienciaPR vs others, to better understand the impact of CienciaPR's collaboration with END on the number of culturally relevant articles published by the newspaper. The categories and criteria described below were modified from a protocol that has been previously used to investigate journalistic coverage of science and technology in Latin American newspapers, including END (Massarani & Buys, 2007; Ramalho e Silva et al., 2012) and from an inductive analysis to discover themes that signaled cultural relevance in the book *¡Ciencia Boricua!* (Llerandi-Román et al., 2013), a book about Puerto Rican science and scientists (González-Espada, Colón-Ramos & Feliú-Mójer, 2011), and combined to constitute the analysis protocol or codebook below. Coders were each sent assigned anonymized articles and a spreadsheet with the categories and criteria described below placed into columns. This codebook has been translated from Spanish into English.

ARTICLE ID		
<i>Description</i>	<i>Category</i>	<i>Variables</i>
Each article was assigned a number, and articles were anonymized by removing the name of the author and any references that could reveal the source. Coders were asked to indicate the number of the article reviewed.	Article number	1 - 159

CULTURAL RELEVANCE

<i>Description</i>	<i>Category</i>	<i>Variable</i>
Eight criteria were used to identify the presence of Puerto Rico-specific culturally relevant elements in the articles (Llerandi-Román et al., 2013). Each criteria had its own column. Coders could enter 0 (Not present) or 1 (Present) to indicate if the criteria was present or not in the article.	Puerto Rico or a specific place in Puerto Rico	Enter 0 (Not present) or 1 (Present)
	Puerto Rican institution	Enter 0 (Not present) or 1 (Present)
	Local landmarks	Enter 0 (Not present) or 1 (Present)
	Puerto Rican person (e.g., someone who is from Puerto Rico a current cultural figure like an athlete or singer)	Enter 0 (Not present) or 1 (Present)
	Colloquial vocabulary or Puerto Rican slang	Enter 0 (Not present) or 1 (Present)
	References to Puerto Rican culture	Enter 0 (Not present) or 1 (Present)
	Popular Puerto Rican phrases or sayings	Enter 0 (Not present) or 1 (Present)
	Puerto Rican scientific or historical figures (e.g., deceased notable or historical individuals, famous scientists such as Agustín Stahl or Ana Roqué de Duprey, both famous botanists who lived in the 19th and early 20th centuries)	Enter 0 (Not present) or 1 (Present)

LOCATION		
<i>Description</i>	<i>Category</i>	<i>Variable</i>
The general geographic setting or region of the article. Coders could indicate a maximum of two locations, each with a separate column (i.e., primary location, secondary location) using numbers 1-6.	Puerto Rico	1
	United States (U.S.)	2
	Latin America or the Caribbean (excluding Puerto Rico)	3
	Another country or region (i.e., not Puerto Rico, the U.S., Latin America or the Caribbean)	4
	Multiple nations (more than one location was present)	5
	No location identified.	6
TOPIC		
<i>Description</i>	<i>Category</i>	<i>Variable</i>
Coders classified articles by topic areas, based on the categories currently used by CienciaPR's website (www.cienciapr.org) for consistency and ease of comparison. Coders were asked to select a primary topic, and if present, a secondary topic for each article, each with a separate column. Coders could enter numbers 1-8 to indicate which topic was present.	Biological or health sciences	1
	Agricultural or environmental sciences	2
	Earth or atmospheric sciences	3
	Science and society	4
	Physical or chemical sciences	5
	Engineering, math, or computer science	6

	Social sciences	7
	Other topics	8
FOCUS		
<i>Description</i>	<i>Category</i>	<i>Variable</i>
Refers to the central idea of the article. A maximum of three foci could be selected per article. Each foci below was listed on its own column. Coders could enter 0 (Not present) or 1 (Present).	New scientific research: Discusses the results of a new investigation	Enter 0 (Not present) or 1 (Present)
	Scientific background: Describes the history or background of a scientific concept or topic	Enter 0 (Not present) or 1 (Present)
	New technology or scientific method: Presents a new scientific technique or method, such as a new test or new instrument	Enter 0 (Not present) or 1 (Present)
	Scientific event: Discusses prominent scientific events, such as a total eclipse, or the launch of a shuttle into space	Enter 0 (Not present) or 1 (Present)
	Benefits: Explicitly describes the benefits of science	Enter 0 (Not present) or 1 (Present)
	Scientific controversy: Directly alludes to or discusses a scientific controversy	Enter 0 (Not present) or 1 (Present)
	Scientist: Focused mainly on an individual as a protagonist	Enter 0 (Not present) or 1 (Present)
	Risks: Focused explicitly on the risks of science	Enter 0 (Not present) or 1 (Present)

	Economic impact: Discusses the economic impact of science in general or of a specific scientific topic	Enter 0 (Not present) or 1 (Present)
	Public policy: Presents the public policy implications of science and technology for a country or region	Enter 0 (Not present) or 1 (Present)
	Ethics: Discusses the moral or ethical implications of a scientific topic or issue	Enter 0 (Not present) or 1 (Present)
PROTAGONIST		
<i>Description</i>	<i>Category</i>	<i>Variable</i>
General type of main actors or central figures of an article (i.e., the protagonists.) A maximum of two protagonists could be selected per article. Each type of protagonist was listed on its own column. Coders could enter 0 (Not present) or 1 (Present)	Researchers	Enter 0 (Not present) or 1 (Present)
	Academic or research institutions	Enter 0 (Not present) or 1 (Present)
	Government organizations	Enter 0 (Not present) or 1 (Present)
	Scientific societies or organizations	Enter 0 (Not present) or 1 (Present)
	Industry	Enter 0 (Not present) or 1 (Present)
	Nonprofit organizations	Enter 0 (Not present) or 1 (Present)

	No protagonist	Enter 0 (Not present) or 1 (Present)
AUTHOR AFFILIATION		
<i>Description</i>	<i>Category</i>	<i>Variable</i>
This category identifies whether the article author is a STEM expert, reporter, freelancer, or news wire. A single option could be selected, using number 1- 4.	STEM experts	1
	Reporter	2
	Freelancers	3
	News wire	4
Notes/Comments		
<i>Description</i>	<i>Category</i>	<i>Variable</i>
Coders were provided with space to provide notes or comments.	Notes/Comments	Open Text

References

- González-Espada, W., Colón-Ramos, D. A., Feliú-Mójer, M. (2011). *¡Ciencia Boricua! Ensayos y anécdotas del científico puertorrico [Boricua Science! Essays and anecdotes of the Puerto Rican scientist]*. CAPRI.
- Llerandi-Román, P. A., Colón-Ramos, D., Feliú-Mójer, M., & González-Espada, W. J. (2013). Ciencia Boricua: a culturally-relevant science book. Paper presented at the Annual International Conference of the National Association for Research in Science Teaching (NARST), Wyndham Río Mar, Río Grande, Puerto Rico; part of a related paper set: “Leveraging an Online Scientific Community to Enhance Contextual Science Education”.
- Massarani, L., & Buys, B. (2007). Science in the press in nine Latin American countries. *Brazilian Journalism Research*, 3(2), Article 2. <https://doi.org/10.25200/BJR.v3n2.2007.120>
- Ramalho, R., Polino, C. and Massarani, L. (2012). From the laboratory to prime time: science coverage in the main Brazilian TV newscast. *Journal of Science Communication* 11(2), A1. doi.org/10.22323/2.11020202.