Quantifying Racial and Ethnic Identity in Research

Colby Dean and Addison Glover

Introduction

AI/AN individuals are frequently misclassified, placed in the “two or more races” category, or excluded from research altogether. All research conducted with federal money must offer multi-race responses, since 1997. This creates an obstacle for statistical analysis; one that proves to nurture bias, neglect racial and ethnic intersectionality, and leads many investigators to erase racial and ethnic identity from their statistical analysis. Novel bridging methods offer a promising solution.

Methods

Bridging methods use participant region, sex, age, and Hispanic origin to statistically assign a multi-race response to the single race response statistically most likely to be selected by the respondent; if only allowed to select one racial/ethnic identity. The National Center for Health and Statistics created a regression method using Census 2000 data. Census 2000 data has 63 racial categories; including single race responses and specific combination race responses. Instead of assigning multi-race participants to each of their identifications, many bridging methods allow participants to be wholly or fractionally assigned to their individual race(s). This is critical for traditionally small sample sizes, such as those of AI/AN tribes and groups.

A collaborative effort with AI/AN communities and data from a national survey lends to valuable insights on oral health disparities and potential solutions.

Discussion

Accurate data is crucial to understanding a population’s burden of disease, identifying disparities among population subgroups, monitoring trends over time, and prioritizing programs and resource allocation. In the same manner, consistency in collecting data over time is important to evaluate initiatives aimed to improve burden of disease and disparities. Researchers are to utilize protocols for the proper reporting of small sample sizes, such as AI/AN populations. Researchers must respect that tribes are sovereign nations, and all data collected is to be approved by the tribe to ensure the data reflects the conditions and allows for correct interpretation. A collaboration between several American Indian organizations, including CareQuest Institute for Oral Health®, are investing how the racial misclassification of AI/AN in research impacts oral health equity.

Implications For Policy and Practice

Bridging methods show promise when compared to their statistical predecessors, but these methods are not without their caveats. The NCHS regression model, and its advancements, depend on Census 2000 data. Census 2000 data did not account for tribal identification within the AI/AN identity. Tribal involvement is necessary to accurately fill the gaps created, and increase the statistical sensitivity of these models.

Results

Table 1. Mean Value of Fractional Assignment Weights, by Multiracial Group and Data Source

	AIAN		API		Black		White	
	Private Data	Public Data	Private Data	Public Data	Private Data	Public Data	Private Data	Public Data
AIAN and API	0.404	0.363	0.596	0.637				
AIAN and Black	0.186	0.163			0.814	0.838		
AIAN and White	0.205	0.221					0.795	0.779
AIAN, API, and Black	0.286	0.327	0.253	0.255	0.461	0.418		
AIAN, API, and White	0.024	0.023	0.043	0.084			0.933	0.893
AIAN, Black, and White	0.195	0.192			0.572	0.626	0.233	0.182
AIAN, API, Black, and White	0.01	0.01	0.009	0.009	0.02	0.013	0.96	0.967

Table 2. Fractional Assignment versus Whole Assignment Variables for Three Example Respondents

	AIANPROB	WPROB	ONERACE
Person 1	0	1	white
Person 2	0.101	0.899	white
Person 3	0.546	0.454	AIAN

Table 1 and Table 2 adapted from: Liebler CA, Halpern-Manners A. A practical approach to using multiple-race response data: a bridging method for public-use microdata. *Demography.* 2008;45(1):143-155. doi:10.1353/dem.2008.0004

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