RACIAL BIAS IN DATA ASSESSMENT TOOL

OVERVIEW

The Racial Bias in Data Assessment Tool will assist users in assessing the risk of racial and ethnic bias in datasets for secondary analysis. The tool is rooted in literature that highlights issues related to racial and ethnic bias in datasets and proposes best practices for collecting race and ethnicity data to promote racial equity. The remainder of this document contains the following sections: 1) Structure of the Tool, 2) Instructions, 3) Data Assessment Instrument, and 4) Supplemental Information.

USING THE DATA ASSESSMENT TOOL

WHY

USE THIS TOOL?

Use this tool to assess the risk of racial and ethnic bias in a survey dataset before conducting secondary analysis. The tool will assist the user in identifying specific and overall risks of racial and ethnic bias and provide recommendations to address these risks.

WHO

SHOULD USE THIS TOOL?

Researchers, analysts, or anyone who is interested in using previously collected survey data for analysis.

WHEN

SHOULD YOU USE THIS TOOL?

This tool should be used when considering survey datasets for secondary analysis. It can also be used when designing a study that collects survey data, although this is not the primary purpose of the tool.

WHAT

DATASETS CAN BE ASSESSED USING THIS TOOL?

This tool can be used with any size survey dataset. This tool was not designed to be used with administrative data or data created using machine learning or algorithms.

STRUCTURE OF THE DATA ASSESSMENT TOOL

The tool has two components: A) the data assessment instrument, or the actual questions that the data user will answer about the proposed dataset; and B) supplemental information to help the user answer the questions.

A. DATA ASSESSMENT INSTRUMENT

The instrument is composed of three sections that ask the data user 25 questions about the dataset, focusing on data collection approaches and data structure.

- **Section 1 High Priority Questions:** These questions indicate elements of the dataset that critically influence the risk of bias. Users should pay careful attention to the questions in Section 1, as an answer other than "yes" to any of these questions might indicate that the risk of bias is high.

- **Section 2 Design and Approach:** This section includes questions about the data collection processes including study design and approach, data collection team, sample selection, and informed consent.

- **Section 3 Data Structure:** This section includes questions about the data structure including measuring race and ethnicity, missing data, and validating measures across racial groups.

B. SUPPLEMENTAL INFORMATION

The Supplemental Information component includes information from the literature to help the user better understand each question, as follows:

- **Context:** This information can help the user understand the question (e.g., significance of the question, definition of terms).

- **Possible Actions to Take:** This information suggests possible actions for the data user to take if the answer to the question is not "yes," suggesting the potential for bias in the dataset. If there is no action the user can take to remedy the issue, we recommend that at a minimum, the user note this as a limitation in any written products.

- **Resources:** Additional references to deepen understanding of the topic.

INSTRUCTIONS

The recommended steps for completing the data assessment instrument are listed below.

1. **Review the tool: Read through the entire tool to get a sense of the data assessment instrument questions (pp. 4-12) and the supplemental information provided for each question (pp. 13-27). Each question in the instrument contains a link to its supplemental information.**

2. **Gather documentation: Gather relevant documentation about the proposed dataset (e.g., final design report, sampling plan, codebook).**

3. **Answer the questions: Read each question in the data assessment instrument, look for documentation to answer the question, and mark the answer (Yes/No/Not documented/Not applicable).**

   a. Select "Not documented" if there is no documentation available to answer a question. Note that some questions do not have this response option.

   b. Select "Not applicable" if the question does not apply to the dataset being assessed. Note that some questions do not have this response option.

   c. As you work through each question, take notes with the pertinent information for each question, particularly if there is any discrepancy or confusion about the answer. Use the Supplemental Information (pp. 13-27) for each question to obtain additional context, resources, and suggestions.

4. **Assess overall risk of bias: Once all questions are answered, assess the overall risk of racial bias in the proposed dataset (p. 12). Note that this tool does not recommend a scoring system but rather provides detailed information on practical considerations for assessing the overall risk of racial bias in a dataset.**

For reliability, we recommend that at least two individuals complete this tool by independently reviewing the data and documentation and answering the questions (double coding). If only one person completes the tool, they should review and discuss the responses with a team for consensus.

DATA ASSESSMENT INSTRUMENT

Click on each question in the instrument below to link to the Supplemental Information for that question.

——— SECTION 1: HIGH-PRIORITY QUESTIONS ———

For the following questions, an answer other than "yes" might indicate that the risk of bias is high. The items in Section 1 are especially important when considering the overall risk of bias and whether to use the proposed dataset for analysis.

1. Does the dataset include any race and ethnicity data?

    ❑ Yes

    ❑ No --> If no, skip to #5

    Notes:

2. Were the race and ethnicity data collected through self-report?

    ❑ Yes

    ❑ No

    ❑ Not documented

    Notes:

3. Is the composition of racial and ethnic groups in the dataset representative of the population being studied for the proposed analysis?

    ❑ Yes

    ❑ No

    ❑ Not documented

    ❑ Not applicable (N/A may be an appropriate response if the aim of the dataset was to establish the population, as it may be difficult to determine whether the racial and ethnic composition of the sample is representative of the population.)

    Notes:

4. Do the race and ethnicity categories reflect the context of the community/population being studied? (e.g., Mexican American as an option in a community where this is a large proportion of the population)

❑ Yes

❑ No

❑ Not documented

Notes:

5. Were data collection materials translated to the primary language spoken by participants or verbally collected in their primary language?

❑ Yes

❑ No

❑ Not documented

Notes:

6. Does the dataset incorporate measures validated on the racial and ethnic groups in the dataset important to the user's proposed analysis?

❑ Yes

❑ No

❑ Not documented

❑ Not applicable (N/A may be an appropriate response if the survey did not contain standardized scales)

Notes:

SECTION 2: DESIGN AND APPROACH

7. <u>Were individuals from the population/community being studied involved in the planning process or designing of the study (e.g., deciding the project scope, developing the research questions, developing the survey)?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable

Notes:

8. <u>Is there evidence that diverse perspectives were included on the team designing the study?</u>

❑ Yes

❑ No

❑ Not applicable

Notes:

9. <u>Is there evidence that the team designing the data collection methods considered whether the methods were appropriate for the population being studied?</u>

❑ Yes

❑ No

❑ Not applicable

Notes:

10. <u>Does the dataset include variables that are conceptually related to the social constructs of race and ethnicity (e.g., neighborhood/census tract, socioeconomic status, age, gender, and other relevant demographic variables) so that any observed differences can be more appropriately interpreted?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable

Notes:

DATA COLLECTION

11. <u>Were the data collection staff diverse, reflective of the population being studied, and/ or trained in cultural humility?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable

Notes:

12. <u>Did study materials and questions use culturally sensitive language?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable

Notes:

SAMPLE SELECTION

13. <u>If your target population of interest is underrepresented, does the dataset oversample the underrepresented target population?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable (N/A may be an appropriate response if the target population is not underrepresented)

Notes:

14. <u>Is there enough statistical power to analyze disaggregated data and detect meaningful differences for different racial and ethnic groups?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable (N/A may be an appropriate response if the dataset does not contain race and ethnicity data)

Notes:

15. <u>Are the geographic boundaries used in the dataset meaningful to the communities/ populations who live there? For example, were community members consulted about the geographic boundaries, or were geographic boundaries defined based on prior qualitative research on the topic?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable (N/A may be an appropriate response based on the type of study, e.g., a nationally representative sample requires a method of establishing geographic boundaries where community input may not be feasible)

Notes:

PRIVACY AND INFORMED CONSENT

16. <u>Did the informed consent and the dataset documentation explain how race and ethnicity data would be (or were) protected (e.g., aggregated or recoded) to preserve privacy?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable (N/A may be appropriate if the sample does not contain any small populations)

Notes:

17. <u>If record linkage and/or data imputation have been performed to add race and ethnicity data, is this procedure and its associated risks acknowledged in an informed consent procedure?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable (N/A if record linkage or data imputation were not used to add race and ethnicity data)

Notes:

18. <u>Does the informed consent identify how participation in the study will benefit the community/population being studied?</u>

❑ Yes

❑ No

❑ Not documented

❑ Not applicable

Notes:

MEASURING RACE AND ETHNICITY

19. <u>Are race and ethnicity data combined as one variable, rather than two separate variables (race as one variable, ethnicity as another variable)?</u>

   ❑ Yes

   ❑ No

   ❑ Not applicable (N/A if the dataset does not contain race and ethnicity data)

   Notes:

20. <u>When the race and ethnicity data were collected from participants, did the questions reflect culturally responsive terminology for these identities (e.g., "Native Hawaiian or Other Pacific Islander" instead of "Asian or Pacific Islander")?</u>

   ❑ Yes

   ❑ No

   ❑ Not documented

   ❑ Not applicable (N/A if race and ethnicity data were not collected from participants)

   Notes:

21. <u>Are race and ethnicity measured consistently throughout the dataset (e.g., same categories over time or same categories throughout the dataset for different levels of data)?</u>

   ❑ Yes

   ❑ No

   ❑ Not documented

   ❑ Not applicable (N/A may be appropriate when the dataset contains only one time point and only one level of data or if the dataset does not contain race and ethnicity data)

   Notes:

22. Can individuals in the dataset be associated with more than one racial and ethnic category?

❏ Yes

❏ No

❏ Not documented

❏ Not applicable (N/A if the dataset does not contain race and ethnicity data)

Notes:

MISSING DATA

23. Did at least 60% of respondents provide race and ethnicity data (that is, are less than 40%of race and ethnicity data missing)?

❏ Yes, there are no missing race and ethnicity data→*Skip to Overall Risk Assessment*

❏ Yes, there are < 40% missing race and ethnicity data

❏ No, there are at least 40% missing race and ethnicity data

❏ Not documented→*Skip to Overall Risk Assessment*

❏ Not applicable *(N/A if the dataset does not contain race and ethnicity data)*→*Skip to Overall Risk Assessment*

Notes:

24. Are the missing race and ethnicity data explained?

❏ Yes

❏ No

Notes:

25. Were the missing race and ethnicity data imputed?

❑ Yes

    a. Was the data imputation process explained?

      ❑ Yes

      ❑ No

    b. Was an appropriate technique/methodology used to impute the missing data?

      ❑ Yes

      ❑ No

❑ No

❑ Not documented

Notes:

OVERALL RISK ASSESSMENT

To assess the overall risk of racial and ethnic bias in the proposed dataset, the user should consider the responses to all questions in the tool. Ideally, most answers are "yes," although the type of dataset and the analysis goals must be considered. The overall risk of racial bias and which questions are most relevant depends on the user's research questions. We offer potential remedies in the "Possible Actions to Take" section for each question in the Supplemental Information section below. There is no scoring system when assessing overall risk of bias, but rather, the user should consider all questions and possible remedies when determining risk.

Low Risk of Bias: This indicates that the dataset has a low of risk of racial and ethnic bias, and the user can feel comfortable using it for analysis. All the high priority questions in Section 1 were answered "yes." In addition, answers to the questions most important to the user were "yes."

Medium Risk of Bias: This indicates that the dataset has a medium risk of racial and ethnic bias, and there are some important concerns about using it. For example, answers to some questions important to the user are "no." The user should consider strategies to minimize the risk of bias and be sure to note concerns in any reports, articles, or presentations.

High Risk of Bias: This indicates that the dataset has a high risk of racial and ethnic bias, and the user should strongly consider not using it for analysis. Users should pay careful attention to the high priority questions (Section 1), as an answer other than "yes" to any of these questions might indicate that the risk of bias is high. If the user plans to use it, they should make attempts to minimize the risk of bias and make clear statements about the bias risk in any publications or presentations.

SECTION 1: HIGH-PRIORITY QUESTIONS

1. Does the dataset include any race and ethnicity data?

Context: Collecting race and ethnicity data is essential for understanding disparities and to inform policies and practices for progress toward eliminating racial disparities.[1-3] Yet many health care studies analyze data with missing race and ethnicity information[4] or do not report race and ethnicity of patients.[5-8] Education research has also omitted race and ethnicity in reporting.[9] Without race and ethnicity data, researchers cannot document or study racism or racial disparities.[1]

Possible Actions to Take: If the dataset does not contain race or ethnicity data, consider not using this dataset. The data cannot be used to understand any disparities by race and ethnicity. In addition, lack of race and ethnicity information means that the sample could be racially homogeneous, and any findings would only be generalizable to that unknown population.

i **Key References:** 3. Annie E. Casey Foundation. *By the Numbers: Using Disaggregated Data to Inform Policies, Practices, and Decision-Making. A Race for Results Case Study.* 2016. https://assets.aecf.org/m/resourcedoc/aecf-ARaceForResultsCaseStudy2-2016.pdf **Back to question**

2. Were the race and ethnicity data collected through self-report?

Context: Participants should be allowed to self-report their racial and ethnic identities.[5,10] Self-response improves accuracy of race and ethnicity data.[11]

Possible Actions to Take: The user of a dataset should acknowledge how the race and ethnicity data were collected. If they are not self-reported and the data collector selected the participant's race and ethnicity, then the user should acknowledge that these data might not be accurate. If documentation is not available, the user cannot be confident that this variable is not biased and should consider not using this dataset.

i **Key References:** 11. Humes K, Hogan H. Measurement of race and ethnicity in a changing, multicultural America. *Race Soc Probl.* 2009;1(3):111-131. **Back to question**

3. Is the composition of racial and ethnic groups in the dataset representative of the population being studied for the proposed analysis?

Context: Racial and ethnic diversity is underrepresented in many research fields (e.g., health, social science, biomedical, clinical trials).[2,6,12-13] Efforts to increase representation of diverse populations and to reduce inequity resulting from a lack of research data in underrepresented populations should be emphasized by the research community.[5-6,14-15] It is important to identify strategies for recruiting racially and culturally underrepresented populations.[16] Recruitment strategies that do not involve the community are less effective in recruiting people of color than strategies that do involve the community.[16]

Note: If the aim of the dataset was to establish the population, then it may be difficult to determine whether the racial and ethnic composition of the sample is representative of the population. For example, the NSECE 2012 Workforce Questionnaire was administered to determine the population of center-based childcare workers; thus, the user would not be able to easily determine whether the composition of racial and ethnic groups in the dataset was representative.

Possible Actions to Take: If the sample is not racially and ethnically representative of the population being studied, the user should not use the data. If the data are aggregated in this dataset but there is another version of the dataset with original response data (e.g., restricted-use data file), the user should request access for the more complete dataset. If this is unclear due to insufficient documentation, note this as a limitation at a minimum in reporting results of the analysis.

Key References: 14. Brown S, MacDonald G, Bowen C. How the federal government can use data to make the most of the executive order on racial equity. Urban Institute. Published January 29, 2021. Accessed March 31, 2021. https://www.urban.org/urban-wire/how-federal-government-can-use-data-make-most-executive-order-racial-equity

16. Burlew AK, Peteet BJ, McCuistian C, Miller-Roenigk BD. Best practices for researching diverse groups. *Am J Orthopsychiatry.* 2019;89(3):354-368. **Back to question**

4. **Do the race and ethnicity categories reflect the context of the community/population being studied (e.g., Mexican American as an option in a community where this is a large proportion of the population)?**

Context: Researchers can use expanded, population-specific modules designed to assess the ethnic diversity and any disparities within population groups in each community/region.[17] For example, research in Southern California could use an expanded module for Asian Americans, with subcategories such as Korean, Chinese, Japanese, Vietnamese, etc.[17] Then if researchers wanted to compare these data with Census estimates and/or other research, they could combine these data into the broader demographic categories.[17]

Possible Actions to Take: Consider whether the racial and ethnic categories fit the population being studied. If the categories were not aligned with the community/population, note this as a limitation at a minimum. If the population being studied is not represented in these categories, we recommend not using this dataset.

Key References: 17. Ford ME, Kelly PA. Conceptualizing and categorizing race and ethnicity in health services research. *Health Serv Res.* 2005;40(5 Pt 2):1658-1675. **Back to question**

5. **Were data collection materials translated to the primary language spoken by participants or verbally collected in their primary language?**

   Context: Data collection materials should be translated to the primary languages of participants.[13,18-19] All research materials (e.g., recruitment documents, informed consent forms, surveys) should be translated to the primary languages of participants and then back translated to the original language by a second translator to check for accuracy. Otherwise, the original intent of the items can get lost in translation.[20]

   Possible Actions to Take: It is important to know the primary language of the respondents and if the survey was conducted [or administered] in that language. If there is no documentation or the answer is no, the user should be cautious when using the data. The risk of bias is higher if the questions asked are more elaborate, more complex, or very long.

   Key References: 19. Parekh J, Ramos MF. *Racial Equity Considerations and the Institutional Review Board.* 2020. https://www.childtrends.org/publications/racial-equity-considerations-and-the-institutional-review-board. **Back to question**

6. **Does the dataset incorporate measures validated on the racial and ethnic groups in the dataset important to the user's proposed analysis?**

   Context: Measures should be validated across racial/ethnic groups to ensure that their concepts, constructs, and questions are understood and are appropriate for various groups included in the study samples.[20-22] Culturally responsive data collection procedures that consider the language, content and design of the measures can strengthen the rigor and application of the research.[23] If it is not feasible to conduct full psychometric testing of the measures with the specific population, cognitive testing is still recommended for examining how respondents interpret and respond to questions and instructions on measures.[21] This allows researchers to examine the quality of the measures with the study population and adapt their measures to better capture the environment/populations under consideration.

   Possible Actions to Take: When scales are included in the data but there is no documentation, the user should look for additional information about the scales. The user should be informed about what the scales intend to measure and if they have been validated on the racial and ethnic groups of interest.

   Key References: 21. Andrews K, Parekh J, Peckoo S. *How to Embed a Racial and Ethnic Equity Perspective in Research: Practical Guidance for the Research Process.* 2019. https://www.childtrends.org/wp-content/uploads/2019/09/RacialEthnicEquityPerspective_ChildTrends_October2019.pdf

   23. Cerna O, Condliffe B, Wilson A. *Guiding Questions for Supporting Culturally Responsive Evaluation Practices and an Equity-Based Perspective.* MDRC; 2021. https://www.mdrc.org/sites/default/files/Equity-Guiding_Questions.pdf **Back to question**

7. **Were individuals from the population/community being studied involved in the planning process or design of the study (e.g., deciding the project scope, developing the research questions, developing the survey)?**

    Context: Creating research questions is an integral part of designing and creating data collection methods. Equitable research questions should reflect the community's diverse values and perspectives. The community's cultural and historical context should inform the research design and guide the work toward equitable outcomes.[21]

    Possible Actions to Take: If this is not documented, contact the project director to get more information. At a minimum, note this as a limitation.

    Key References: 21. Andrews K, Parekh J, Peckoo S. *How to Embed a Racial and Ethnic Equity Perspective in Research: Practical Guidance for the Research Process.* 2019. https://www.childtrends.org/wp-content/uploads/2019/09/RacialEthnicEquityPerspective_ChildTrends_October2019.pdf **Back to question**

8. **Is there evidence that diverse perspectives were included on the team designing the study?**

    Context: Studies discuss the value of having a racially and culturally diverse research team for developing and carrying out study design, data collection, analysis, and interpretation.[21,24-25] Having diverse perspectives of the team members whose lived experiences and cultural beliefs differ can contribute to the entire research process. [21,24]

    Possible Actions to Take: If this is not documented, contact the project director to get more information. At a minimum, note this as a limitation.

    Key References: 24. Nelson AH, Jenkins D, Zanti S, Katz MF, Berkowitz E, Burnett TC, Culhane DP. *A Toolkit for Centering Racial Equity throughout Data Integration.* Actionable Intelligence for Social Policy, University of Pennsylvania; 2020. https://www.aisp.upenn.edu/centering-equity/ **Back to question**

9. **Is there evidence that study designers considered whether the data collection methods were appropriate for the population being studied?**

    Context: Researchers emphasize the importance of selecting the methodology "that [is] best suited to answering their research question and that eliminates method or measurement biases."[21] (p. 18) It is important to be culturally sensitive when designing surveys, and to consider the types of survey modes and the length and content of the survey.[18] People from different racial and ethnic groups may respond to data collection instruments differently (e.g., in-person surveys may work better than paper/online surveys for some groups and vice versa).[17,20-21] For example, for the 2012 NSECE, the research team rejected a phone-based sampling plan because it would leave out low-income households who did not have a landline or used only cell phones.[26]

Possible Actions to Take: If this is not documented, contact the project director to get more information. At a minimum, note this as a limitation.

Key References: 18. Sykes LL, Walker RL, Ngwakongnwi E, Quan H. A systematic literature review   on response rates across racial and ethnic populations. *Can J Public Health.* 2010;101(3):213-219.

21. Andrews K, Parekh J, Peckoo S. *How to Embed a Racial and Ethnic Equity Perspective in Research: Practical Guidance for the Research Process.* 2019. https://www.childtrends.org/wp-content/uploads/2019/09/RacialEthnicEquityPerspective_ChildTrends_October2019.pdf **Back to question**

10. **Does the dataset include variables that are conceptually related to the social constructs of race and ethnicity (e.g., neighborhood/census tract, socioeconomic status, age, gender, and other relevant demographic variables) so that any observed differences can be more appropriately interpreted?**

Context: It is essential to collect a range of variables that are related to the social constructs of race and ethnicity, such as socioeconomic status, cultural beliefs and practices, and experiences of racism.[5] In fact, research design should consider any potentially confounding variables related to the race and ethnicity of the study population.[9] While race and ethnicity may be correlated with outcomes and may serve as a proxy for other variables, race and ethnicity should not be used as a causal variable when interpreting results.[1,51]

When conducting secondary analysis of quantitative survey data, the user should consider collecting qualitative data to contextualize the quantitative data. Quantitative data "should be situated within people's actual lived experiences through qualitative data or other modes that show the ways in which the issue is experienced in people's lives."[27] (p. 6) Qualitative data (stories) contextualize quantitative data,[24] but qualitative data collection may not be feasible in a large, nationally representative survey.

Possible Actions to Take: If additional quantitative variables that are conceptually related to race and ethnicity were not included in the dataset, we recommend that the user consider why race and ethnicity data were collected but other related variables were not. At a minimum, note this as a limitation and be cautious in interpreting any results.

Key References: 1. Ward LS. Race as a variable in cross-cultural research. *Nurs Outlook.* 2003;51(3): 120-125.

51. Krause H. Proxy Variables Part 2: Race. We All Count. Published June 26, 2020. Accessed August 1, 2021. https://weallcount.com/2020/06/26/proxy-variables-part-2-race **Back to question**

DATA COLLECTION

11. Were the data collection staff diverse, reflective of the population being studied, or trained in cultural humility?

Context: Researchers should pursue ways to incorporate the perspectives of communities being engaged in the study—for example, by including staff collecting data who are more proximate to the communities in the study.[25] Assemble a team that includes diverse perspectives and lived experience when possible.[23] Consider how researchers' characteristics, such as race, language, and culture, can differ from those of the population being engaged in a study, and how the study can reduce the effects of any power differentials between researchers and study participants.[28] Research teams should be trained in cultural humility, which is a process of critical self-reflection and lifelong learning, recognizing diversity and power imbalances, and being open and self-aware.[29]

Specifically, consider the following questions as you examine a dataset:[21]
- Were the data collected by a diverse research team that can bring their perspectives into the construction of the entire research process?

- Has the research team been trained to listen intently and collect credible evidence with cultural humility?[29]

- How will the data design and methods address inherent power differentials and dynamics that arise in the research?

- How will power differentials be addressed in agreements and contracts necessary for the study?[21]

Possible Actions to Take: If no information is provided about the study team, contact the project director to ask if the data collection team was diverse and trained in cultural humility.

Key References: 21. Andrews K, Parekh J, Peckoo S. *How to Embed a Racial and Ethnic Equity Perspective in Research: Practical Guidance for the Research Process.* 2019. https://www.childtrends.org/wp-content/uploads/2019/09/RacialEthnicEquityPerspective_ChildTrends_October2019.pdf

23. Cerna O, Condliffe B, Wilson A. *Guiding Questions for Supporting Culturally Responsive Evaluation Practices and an Equity-Based Perspective.* MDRC; 2021. https://www.mdrc.org/sites/default/files/Equity-Guiding_Questions.pdf

29. Foronda C. A theory of cultural humility. *J Transcult Nurs.* 2020;31(1):7-12. **Back to question**

12. Did study materials and questions use culturally sensitive language?

Context: If data collection materials were translated, documentation should be provided in all the languages in which they were administered so the user can assess each version. The research instruments should use culturally sensitive language, such as people-first language or the terminology preferred by participant groups[30] and apply rhetoric that is relevant to the participants (e.g., language unique to a particular racial and ethnic group).[31] Research teams should consider whether and how questions in a research instrument might reinforce negative stereotypes about historically marginalized groups.[23]

Possible Actions to Take: The user should contact the project director or the developers of the instrument if documentation is unavailable. The English version of the instruments may contain culturally sensitive, inclusive language, but if the instrument was administered in other languages, then the user should also assess those versions of the instrument.

ℹ️ **Key References:** 23. Cerna O, Condliffe B, Wilson A. *Guiding Questions for Supporting Culturally Responsive Evaluation Practices and an Equity-Based Perspective.* MDRC; 2021. https://www.mdrc.org/sites/default/files/Equity-Guiding_Questions.pdf

30. Okeke C, La Vigne NG. *Reckoning with Structural Racism in Research: LBJ's Legacy and Urban's Next 50.* Urban Wire: The Blog of Urban Institute. Published April 8, 2019. Accessed March 31, 2021. https://www.urban.org/urban-wire/reckoning-structural-racism-research-lbjs-legacy-and-urbans-next-50 **Back to question**

SAMPLE SELECTION

13. If your target population of interest is underrepresented, does the dataset oversample the underrepresented target population?

Context: Research that includes demographic variability is critical.[13] Studies should be designed to detect meaningful differences in outcomes across racial and ethnic and socioeconomic groups.[32] In order to produce representative and generalizable estimates of the diverse group of study participants, it can be beneficial to oversample in stratified designs, in that strata that are underrepresented within the population can be oversampled (surveying a disproportionately larger number of participants of that population) reducing the overall N required.[10,33] The National Research Council recommends oversampling specific subgroups (e.g., Chinese), rather than broad groups (e.g., Asian).[10] Sample weights can then be applied to the data to produce estimates that are generalizable to the total population.[33]

Possible Actions to Take: If there is a population of interest to the user, and the survey did not oversample that population, the dataset may not provide the information the user is looking for. If it is a particularly small population, even if oversampled, the user might not be able to report findings for the particular group of interest due to aggregated data (used to protect identities). If the user does not know whether underrepresented groups were oversampled because the data are aggregated in this dataset, find out if there is another version of the dataset with original response data (e.g., restricted-use data file) and request access.

ℹ️ **Key References:** 33. Bornstein MH, Jager J, Putnick DL. Sampling in developmental science: Situations, shortcomings, solutions, and standards. *Dev Rev.* 2013;33(4):357-370. **Back to question**

14. Is there enough statistical power to analyze disaggregated data and detect meaningful differences for different racial and ethnic groups?

Context: Disaggregated data allow researchers to report more accurate statistics on diverse subpopulations and help to elucidate racial trends and disparities.[3,34] However, power analyses should be conducted on

sample-based datasets, otherwise these data should not be disaggregated further than a cell size of [20.35] Validation studies should be conducted for a sample of respondents and designed with enough power to detect meaningful differences for different racial and ethnic and socioeconomic groups.[32]

Possible Actions to Take: If the study is focused on a specific racial and ethnic group and the data do not provide enough power to make inferences about that group, then the user should not use the data for that purpose.

Key References: 2. Annie E. Casey Foundation. *By the Numbers: Using Disaggregated Data to Inform Policies, Practices, and Decision-Making. A Race for Results Case Study.* 2016. https://assets.aecf.org/m/resourcedoc/aecf-ARaceForResultsCaseStudy2-2016.pdf

35. National Center for Mental Health Promotion and Youth Violence Prevention. *The Importance of Disaggregating Student Data: National Center Brief.* 2012. http://www.educationnewyork.com/files/The%20importance%20of%20disaggregating_0.pdf **Back to question**

15. **Are the geographic boundaries used in the research meaningful to the communities/ populations who live there? For example, were community members consulted about the geographic boundaries, or were geographic boundaries defined based on prior qualitative research on the topic?**

Note: N/A can be an appropriate response based on the goal of the study. For example, a sample that was nationally representative requires a systematic method of establishing geographic boundaries where community input may not be feasible.

Context: Some researchers suggest a "tract-free approach" where census tracts are replaced with local environments that are theoretically meaningful.[36-37] This approach could facilitate researchers' careful examination of how inequality is related to neighborhood advantage or disadvantage.[36] These recommendations may only apply to smaller, community-based studies. For a nationally representative survey, community input on geographic boundaries may not be feasible.

Possible Actions to Take: If community members were not consulted about the geographic boundaries and the sample was not nationally representative, it should be noted in publications that the geographic areas might not reflect community areas that are meaningful to the residents.

Key References: 36. Lee BA, Reardon SF, Firebaugh G, Farrell CR, Matthews SA, O'Sullivan D. Beyond the census tract: Patterns and determinants of racial segregation at multiple geographic scales. *Am Sociol Rev.* 2008;73(5):766-791.

37. Riley AR. Neighborhood disadvantage, residential segregation, and beyond—lessons for studying structural racism and health. *J Racial Ethn Health Disparities.* 2018;5(2):357-365. **Back to question**

PRIVACY AND INFORMED CONSENT

16. Did the informed consent and the dataset documentation explain how race and ethnicity data would be (or were) protected (e.g., aggregated or recoded) to preserve privacy?

Note: N/A may be appropriate if the sample does not contain any small populations.

Context: Emphasis on protecting privacy of research participants should be reflected in the research design, data collection, and analysis stages. There have been ongoing debates on equitable privacy protections and societal benefits.[25,34] Tools such as privacy impact assessments can help researchers assess and reduce privacy risks for their projects.[25] Researchers should acknowledge and account for the limitations of data accuracy for small, disaggregated populations, whose data may need to be manipulated to preserve their privacy.[14] For example, data may be recoded to minimize risk of disclosure, as they did with the 2012 NSECE Workforce Questionnaire.[38] Reporting of survey results often includes a threshold for the minimum number of respondents per cell to protect sensitive cells, otherwise cells are suppressed.[39]

Possible Actions to Take: If this is not documented, note this as a limitation.

Key References: 39. Federal Committee on Statistical Methodology, Revised by Confidentiality and Data Access Committee. *Report on Statistical Disclosure Limitation Methodology. Statistical Policy Working Paper 22* (Second Version, 2005). Statistical and Science Policy, Office of Information and Regulatory Affairs, Office of Management and Budget; 2005 **Back to question**

17. If record linkage or data imputation have been performed, is this procedure and its associated risks acknowledged in an informed consent procedure?

Context: When using advanced analytical methods (e.g., imputation) to fill in missing race and ethnicity data, researchers need to recognize that this practice may violate privacy and potentially harm Black, Indigenous, and other people of color.[25] Thus, it is essential to explicitly acknowledge in informed consent procedures (in accessible language) the possibility of reidentification through data linkages or by imputation, as well as other risks related to research participants.[19,22,25] The research team should also carry out the study so as not to collect and analyze data beyond the consented-to purposes.[25] It is important to keep in mind that study participants who consented to provide sensitive data may not have chosen to do so if plans to append race or ethnicity to their data were fully disclosed. Additionally, if a participant declines to report their race or ethnicity in a survey, generating that value through data imputation overrides the initial refusal.[25] Self-reported race and ethnicity data is the gold standard and collecting new data to obtain that information when it is missing is ideal.[34]

Possible Actions to Take: If the informed consent process did not acknowledge the possibility of record linkage or imputed values for race and ethnicity, consider not using the imputed values.

Key References: 19. Parekh J, Ramos MF. *Racial Equity Considerations and the Institutional Review Board.* 2020. https://www. childtrends.org/publications/racial-equity-considerations-and-the institutional-review-board

22. Chicago Beyond. *Why Am I Always Being Researched? A Guidebook for Community Organizations, Researchers, and Funders to Help Us Get from Insufficient Understanding to More Authentic Truth.* Chicago Beyond Equity Series; 2018.

25. Randall M, Stern A, Su Y. *Five Ethical Risks to Consider before Filling Missing Race and Ethnicity Data Workshop Findings on the Ethics of Data Imputation and Related Methods.* Urban Institute; 2021. https://www. urban.org/sites/default/files/publication/103830/five-ethical-risks-to-consider-before-filling-missing-race-and-ethnicity-data-workshop-findings_0.pdf

34. Brown KS, Ford L, Ashley S. *Ethics and Empathy in Using Imputation to Disaggregate Data for Racial Equity.* Urban Institute; 2021. https://www.urban.org/sites/default/files/publication/104512/ethics-and-empathy-in-using-imputation-to-disaggregate-data-for-racial-equity_1.pdf **Back to question**

18. Does the informed consent identify how participation in the study will benefit the community/population being studied?

Context: Applying a racial equity lens in the informed consent procedures can maximize ethical research. Often the community engaged in the study has limited access to information about research options, methods, benefits, and risks.[22] A consent process should clearly inform participants, in accessible language, about research methods, participants' rights, risks, and options, and how the study will benefit the community. Community members should be included in reviewing and pilot testing research materials, including consent forms, which demonstrates respect for persons and beneficence.[19] (Consider #8 of this tool regarding engaging diverse perspectives to ensure racial equity considerations in research design.)

Possible Actions to Take: If the informed consent process does not include this information, note this as a limitation.

Key References: 19. Parekh J, Ramos MF. *Racial Equity Considerations and the Institutional Review Board.* 2020. https://www.childtrends.org/publications/racial-equity-considerations-and-the-institutional-review-board

22. Chicago Beyond. *Why Am I Always Being Researched? A Guidebook for Community Organizations, Researchers, and Funders to Help Us Get from Insufficient Understanding to More Authentic Truth.* Chicago Beyond Equity Series; 2018. **Back to question**

SECTION 3: DATA STRUCTURE

MEASURING RACE AND ETHNICITY

19. Are race and ethnicity data combined as one variable, rather than two separate variables (race as one variable, ethnicity as another variable)?

Context: Recent extensive research and usability testing showed that separate race and ethnicity questions were confusing and undercounted Hispanic respondents, while a combined race and ethnicity question with detailed checkboxes is the optimal design for collecting accurate race and ethnicity data. [40-42]

Possible Actions to Take: If race and ethnicity data were asked as two separate questions, at a minimum, the user should note this as a limitation. If the study population contains people of Hispanic/Latino descent, consider that they may be undercounted in this dataset. The user should examine the distribution of responses, compare across fields, and look over time to understand how Hispanic/Latino respondents appear to identify in the dataset.

Key References: 40. González-Hermoso J, Santos R. *Separating race from ethnicity in surveys risks an inaccurate picture of the Latinx community.* Urban Wire: The Blog of Urban Institute. Published 2019. Accessed April 11, 2021. https://www.urban.org/urban-wire/separating-race-ethnicity-surveys-risks-inaccurate-picture-latinx-community

41. Marks R, Jones N. *Collecting and Tabulating Ethnicity and Race Responses in the 2020 Census.* U.S. Census Bureau; 2020. https://www.census.gov/data/academy/webinars/2020/collecting-and-tabulating-ethnicity-and-race-responses-in-2020-census.html

42. Olmsted-Hawala EL, Nichols EM. *Usability Testing of Race/Hispanic Questions in the Census 2012-2020.* Working Paper Number RSM2020-02. Center for Behavioral Science Methods Research and Methodology Directorate; 2020. Accessed March 31, 2021. https://www.census.gov/library/working-papers/2020/adrm/rsm2020-02.html **Back to question**

20. When the race and ethnicity data were collected from participants, did the questions reflect culturally responsive terminology for these identities (e.g., "Native Hawaiian or Other Pacific Islander" instead of "Asian or Pacific Islander")?

Context: Race and ethnicity terminology is ever evolving, and researchers should aim to stay current and informed on preferred terminology and recent research on categories to measure race and ethnicity. When survey respondents do not identify with any of the racial categories available in a survey (known as "racial identity contestation"),[43] they may select a category that does not reflect their identity, which may increase error.[44] Using categories that do not align with respondents' identities may contribute to research inequity, as well as causing the respondents to feel "othered."[44-45]

Researchers have recommended using the racial and ethnic classification standards based on National Institutes of Health (NIH) policies[46] and guidance on appropriate and up-to-date terminology.[5] For federal databases (e.g., U.S. Census data) and federally funded research (e.g., NIH research), race and ethnicity data collection and reporting must adhere to the 1997 standards set by the U.S. Office of Management and Budget (OMB) that require a minimum of five racial categories (American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White) as well as a Hispanic/Latino ethnicity category.[47] However, recent Census Bureau research and usability testing revealed that the OMB standards may not collect the most accurate race and ethnicity data.[42] For example, including a response category for "Middle Eastern or North African" was found to improve data quality.[42] In the 2020 Census, new examples and write-in fields to add country or region of origin were added to the race and ethnicity questions to give respondents the opportunity to self-identify their racial and ethnic identities.[48] For example, the 2020 Census category of "Black or African Am." instructs the respondent to "Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc." to collect more accurate information about the population groups in the U.S.[41 (p. 22)] While the NIH is required to collect race and ethnicity data using the OMB standards at a minimum, NIH policy encourages collection of race and ethnicity data in greater detail designed in a way that can be aggregated into the response categories from the OMB standards.[46]

It is important to consider that both terminology and the composition of the U.S. population continue to change, and the voices of people of color should be incorporated into the race and ethnicity categories included in surveys. As González-Hermoso and Santos (2019) highlight, "Identity is dynamic and evolving—our data collection instruments should be too."[40]

Possible Actions to Take: If the race and ethnicity questions did not use terminology that aligned with the respondents' identities, then there may be data quality concerns.

Key References: 40. González-Hermoso J, Santos R. *Separating race from ethnicity in surveys risks an inaccurate picture of the Latinx community*. Urban Wire: The Blog of Urban Institute. Published 2019. Accessed April 11, 2021. https://www.urban.org/urban-wire/separating-race-ethnicity-surveys-risks-inaccurate-picture-latinx-community

42. Olmsted-Hawala EL, Nichols EM. *Usability Testing of Race/Hispanic Questions in the Census 2012-2020*. Working Paper Number RSM2020-02. Center for Behavioral Science Methods Research and Methodology Directorate; 2020. Accessed March 31, 2021. https://www.census.gov/library/working-papers/2020/adrm/rsm2020-02.html

48. Pew Research Center. *What census calls us: A historical timeline*. Published February 6, 2020. Accessed August 1, 2021. https://www.pewresearch.org/interactives/what-census-calls-us/ **Back to question**

21. Are race and ethnicity measured consistently throughout the dataset (e.g., same categories over time or same categories throughout the dataset for different levels of data)?

Note: N/A can be an appropriate response if the dataset contains only one level of race and ethnicity data and only one time point.

Context: To avoid racial bias, the race and ethnicity data should be collected consistently.[4] When the dataset includes race and ethnicity data at different levels (e.g., individual level, community level, state level), the user should try to understand how those data were measured and collected to confirm their accuracy. For example, in the 2012 NSECE,[38] race and ethnicity were collected at the individual level and the community level but were not necessarily aligned for respondents who were members of racial or ethnic groups with small populations in those communities. To be inclusive and elevate the voices of underrepresented groups, it is especially important to use individual-level data in cases like this.

Possible Actions to Take: If the dataset includes different levels of data with different race and ethnicity categories, the user should look for ways to standardize the categories. If there is no documentation about how the different levels of data were measured and collected, the user should note this as a limitation or consider using only one level of data—individual-level data or the most granular data available.

Key References: 38. National Survey of Early Care and Education (NSECE) Project Team (National Opinion Research Center). *Codebook for Workforce Public-Use Data File.* Child Care and Early Education Research Connections project, ICPSR 35519; 2012. **Back to question**

22. Can individuals in the dataset be associated with more than one racial and ethnic category?

Context: Participants should be allowed and instructed to select multiple race and ethnicity categories (e.g., "check all that apply), which allows counts of individuals who identify solely or partially with each race group.[11] Additionally, there should be an "Another race or ethnicity" category where respondents can specify their racial or ethnic identity in case the categories do not align with their identity. Approximately 2.8% of the US population identifies with more than one racial or ethnic group.[49] "Multiracial" as a separate response category is not a substitute for allowing multiple selections and does not provide useful racial or ethnicity information about the respondent. Forcing respondents to select only one racial and ethnic category may lead to discordance between their racial identity and the racial categories available in a survey, which Vargas and Kingsbury (2016) refer to as "racial identity contestation."[43]

Possible Actions to Take: If the respondents had to select only one race or ethnic category but it fits the population (e.g., a community where > 99.9% of the population fits into one of the racial or ethnicity categories provided), then risk of bias for this question may be low. However, if the population is diverse and respondents identify with multiple race and ethnic groups but were forced to select only one race or ethnic category, then the risk of bias for this question may be high and the analysis of the data might have some limitations.

Key References: 10. National Research Council. Measuring race, ethnicity, socioeconomic position, and acculturation. In: Ver Ploeg M, Perrin E, eds. *Eliminating Health Disparities: Measurement and Data Needs.* National Academies Press; 2004:41–61.

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MISSING DATA

23. Did at least 60% of respondents provide race and ethnicity data (missing data < 40%)?

24. Are the missing data explained?

Context: Knowing the percentage of missing race and ethnicity data and how researchers handle missing data is necessary to assess potential biases.[4,25] Researchers must carefully examine the data to identify the type and pattern of missingness—that is, whether the data are missing completely at random, missing at random, or not missing at random—and then select an appropriate method for dealing with the missing data.[50]

Possible Actions to Take: If at least 40% of race/ethnicity data are missing, then the user should strongly consider not using this dataset (Advisory Committee Meeting, August 20, 2021). If less than 40% of the race and ethnicity data are missing, the user should examine the pattern of missingness. To do this, divide the sample into those who responded to the race and ethnicity question(s) and those who did not, and then test for differences in other variables (e.g., age, education, neighborhood, outcome measures) to see if missingness in race and ethnicity is related to any other variables.[50] If the missing race and ethnicity data are unrelated to other variables, the dataset could potentially still be usable (see next question for information about data imputation).

If the percentage of missing data is less than 20%, an explanation of missing data is not as relevant as if the missing data were greater. In cases where the proportion of missing data is significant, the users should have information about it to make decisions about analysis and the limitations of their study.

In all cases, the user should note information about missing data levels and potential bias in any publications.

Key References: 25. Randall M, Stern A, Su Y. *Five Ethical Risks to Consider before Filling Missing Race and Ethnicity Data Workshop Findings on the Ethics of Data Imputation and Related Methods.* Urban Institute; 2021. https://www.urban.org/sites/default/files/publication/103830/five-ethical-risks-to-consider-before-filling-missing-race-and-ethnicity-data-workshop-findings_0.pdf

50. Soley-Bori M. *Dealing with Missing Data: Key Assumptions and Methods for Applied Analysis. Technical Report No. 4.* Boston University School of Public Health, Department of Health Policy and Management; 2013.
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25. Were the missing race and ethnicity data imputed?

   a. Was the data imputation process explained?
   b. Was an appropriate technique used to impute the missing data?

Context: When collecting new data is not feasible with secondary data sources, imputation becomes a practical option—and sometimes the only option—for identifying and understanding potential racial and ethnic disparities in data.[34] For imputed race and ethnicity data, researchers should provide details about how and why the data were imputed and how the imputation process aligns with the intended purpose of the imputation. Additionally, community-engaged methods should be used whenever possible to preserve the privacy of people whose identities are more visible in the data after imputation. Consider the potential for the imputed data to result in inaccurate conclusions. The user should check the accuracy of disaggregated data by comparing estimates calculated from the imputed data with disaggregated statistics from a credible source.[34]

Possible Actions to Take: If the missing race/ethnicity data have been imputed, examine whether the imputation methods were appropriate (see technical report by Soley-Bori, 2013).[50] It is recommended that the data imputation methodology be reviewed by researchers with expertise in imputation, survey analysis, and privacy-preserving analytics.[34] Use the recommendations and standards provided by Brown et al. (2021)[34] for using imputation to disaggregate data. If certain groups of interest for the research cannot be sufficiently represented in the imputed data, data imputation is not recommended.[34] Thus, do not use the imputed race and ethnicity data if your research aims are related to a group with a small population in the communities being studied.

Key References: 34. Brown KS, Ford L, Ashley S. *Ethics and Empathy in Using Imputation to Disaggregate Data for Racial Equity.* Urban Institute; 2021. https://www.urban.org/sites/default/files/publication/104512/ethics-and-empathy-in-using-imputation-to-disaggregate-data-for-racial-equity_1.pdf

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STATEMENT OF INDEPENDENCE AND INTEGRITY

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Chapin Hall partners with policymakers, practitioners, and philanthropists at the forefront of research and policy development by applying a unique blend of scientific research, real-world experience, and policy expertise to construct actionable information, practical tools, and, ultimately, positive change for children and families.

Established in 1985, Chapin Hall's areas of research include child welfare systems, community capacity to support children and families, and youth homelessness. For more information about Chapin Hall, visit www. chapinhall.org or @Chapin_Hall.

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