

# Racial-Ethnic Health Disparities Research: Measuring Equality in Diverse Samples

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## Introduction

Racial and ethnic samples must be made comparable on other social status and contextual characteristics through statistical controls of those extraneous factors in order to undertake meaningful, epidemiologic research on racial and ethnic health disparities. The racial and ethnic groups must also have equal access to research opportunities, be equally representative of their respective populations, and be equally knowledgeable with and responsive to the methodologies and measurements used to gather health data. Studies of racial-ethnic health inequalities are complicated by a variety of unmeasured, uncontrolled correlates of race ethnicity in the absence of such quantitative equivalency. Because of these correlates, it is harder to attribute observed health differences to racial/ethnicity rather than to their correlates, rendering samples, techniques, and measures incomparable across racial/ethnic groups. In order to improve sample, technique, and scalar measurement equivalence, this work evaluates the non-equivalent yet normative samples, methodologies, and measurements utilised in epidemiologic investigations of racial-ethnic health inequalities.

Health inequalities are patterns of health that are similar to socioeconomic status patterns. When people with high social status positions have better health and people with low status positions have inferior health, there are health disparities. In a hierarchical (stratified) society, social status refers to a group's position (rank) in terms of its power (ownership and control of resources and products), privilege (access to those resources and things), and prestige socio moral judgement, with some people considered as "better" than others. Health disparities research in the United States has looked at social status hierarchies based on race and ethnicity, Socioeconomic Status (SES) position, and other variables.

## Description

Epidemiologic studies compare the health of high and low status groups and provide the fundamental information (such as the information above) on health inequalities. These data influence population projections, inspire new initiatives and regulations, and direct the distribution of funds and the assessment of healthcare offerings. Epidemiologic research on health disparities is crucial to the development of disparity reduction strategies and serves as a gauge of their success. The social status groups being studied (such as racial and ethnic groupings) must be made equal on other status

and social contextual variables through statistical controls of such unrelated characteristics in order to undertake meaningful research of health inequalities. All status groups must also respond similarly to the techniques and measurements, have an equal chance of taking part in the study, and are equally representative of their respective populations. Group comparisons are complicated by a number of variables that are correlated with group membership in the absence of such measurement equivalence, making results difficult to interpret. Group differences in health cannot be attributed to group membership if the samples, methods, and measures are incomparable across groups due to uncontrolled, correlated factors. Therefore, the issue of measuring equivalence in research on health disparities is not an obscure psychometric problem with little to no implications for science, policy, or medicine. Instead, measurement equivalence is crucial for understanding health disparities and for decisions made by the public, scientists, and policymakers.

## Conclusion

In order to improve sample, technique, and scalar equivalence, this work reviewed the issue of measuring non-equivalence in epidemiologic research on racial-ethnic health inequalities. Comprehensive evaluations of issues (such as cultural characteristics, segregation, etc.) with all conflicting data provided were not presented because our focus was on defining and exposing non-equivalence and then recommending measures to increase equivalence. Although it is outside the scope and intent of this work to provide thorough, current literature evaluations, their lack is nonetheless a drawback. Similarly, due to space restrictions, several factors, such as racial and ethnic discrimination, which should be evaluated and controlled in research and are extremely relevant to racial and ethnic health inequalities, could not be considered.

In addition, the other significant categories of measurement equivalence (such as item, construct, translation, impact, etc.) could not be covered due to space constraints, with item equivalence being the most neglected. Item equivalence describes the degree to which the items in surveys and interviews are understood to mean the same thing by all social status groups; it is the degree to which experiences (like sadness), objects (like cigars), and behaviours (like smoking, engaging in strenuous physical activity, and consuming fruits and vegetables) have the same referents for everyone. We highlight here that many of the supposedly simple, straightforward questions in health surveys and interviews do not mean the same thing to diverse racial-ethnic groups and have been shown to be non-equivalent across those groups, even though we were unable to address the myriad of issues surrounding item equivalence.

Furthermore, some sorts of equivalence might be more crucial than others in certain kinds of studies on health inequalities. Last but not least, some of our suggested measurement techniques for enhancing equivalence may be related; for instance, measures of wealth may be correlated with measures of segregation and with the prevalence of non-English proficiency, and REM response styles may be more common among non-English speakers or in segregated communities. Currently, it is mostly unknown whether and how some of these measures might interact, and discussing the few interactions that have been seen is outside the scope and intent of this paper. We advise academics to look at possible interactions between these measures in the same way they do with more normative measures.

Despite these drawbacks, sample, method, and scalar non-equivalence issues were thoroughly discussed along with justifications and examples. Similar to this, other specific, straight forward methods for enhancing measurement equivalence were offered to improve epidemiological investigations of racial-ethnic health inequalities. It is a challenge for epidemiologists to stop

employing non-equivalent measurements and methodologies, start utilising substitutes that are equal across racial and ethnic groups, and establish measuring equivalence as the benchmark in studies of health disparities. It is crucial to do this because

epidemiologic data on health disparities influence efforts to eliminate gaps in health and is used to anticipate population growth, allocate resources, and affect resource distribution.

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