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Questions about Race as a Research Variable

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As the Editor-in-Chief of the *Open Journal of Occupational Therapy* (OJOT), I have the privilege of reading all of the research manuscripts that come through the OJOT submission and publication process. I read many of these manuscripts numerous times. One topic that has made me stop and pause while reviewing manuscripts is the use of race as a variable in research. Researchers routinely gather information about race and ethnicity as descriptive variables for their populations, but they often make no attempt to measure differences among racial or ethnic groups or to identify the underlying cause of the differences if they are found. Further, researchers often neglect to explain how they define and determine race or ethnicity in their studies. This has led to several questions about race as a variable in healthcare research.

How are race and ethnicity defined?

Race and ethnicity are often used interchangeably. They are, however, two different concepts. Race refers to a person's physical appearance, such as skin color, eye color, and hair color. Race is often used to divide people into groups based on physical characteristics and presumed biological differences ([http://www.diffen.com/difference/Ethnicity vs Race](http://www.diffen.com/difference/Ethnicity%20vs%20Race)). Ethnicity is a person's group and cultural traits, such as nationality, ancestry, language, and beliefs (Sue & Dhindsa, 2006). Some ethnic groups also share religious traits, and others may share a group history but may not have a common language or religion. The U.S. Census Bureau identifies only two ethnic groups: Hispanic or Latino and Not Hispanic or Latino (U.S. Census Bureau, 2014).

How is race determined for research?

Race is one of the most frequently used demographic variables in medical sociology, healthcare research, and epidemiology (Lillie-Blanton & LaVeist, 1996). Researchers in these fields often list the participants in categories as general as "white" and "non-white." In addition to the race of the participants being listed in these undefined categories, the means used to determine race is seldom discussed. When the method for determination is discussed, the main methods include the observation of physical characteristics, self-identification, or the review of medical records. Each of these methods has limitations. Observation of physical characteristics is limited by the perceptions of the researcher. Self-identification is limited by the perceptions of the people themselves who may be influenced by society's labels and categories. Medical records are limited because the means for ascertaining race for the purpose of the medical records is not usually explicit.

Even when researchers identify the method, it is evident that the categories are too broad to capture all of the possible racial identifications. Historically, racial categories resulted from a shared genealogy due to geographical isolation. In the modern world, this isolation has been broken down and we have become a more global conglomeration of racial groups ([http://www.diffen.com/difference/Ethnicity vs Race](http://www.diffen.com/difference/Ethnicity%20vs%20Race)). Every year, society becomes more integrated and diversified, making it more difficult to assign people to racial categories for research purposes. In addition, the population of people of mixed race continues to increase, creating numerous

racial categories. The U.S. Census Bureau now gathers data on five categories of race, as well as an Other category, which allows for 126 possible combinations for racial identification, as people may self-identify with as many races as they wish (Hasselkus, 2002).

What is the history of the use of race as a healthcare research variable?

In the 1950s, ethnocentric research used race as a variable to focus on the inferior health of minority racial groups and sought to explain that the inferior health was due to biological or genetic differences (Lillie-Blanton & LaVeist, 1996). Researchers used these studies to justify discrimination and segregation policies in the United States during that time. During the 1960s, the focus of healthcare research shifted to socioeconomic status (SES), but studies continued to focus on race without adjusting for SES, which was impacted by discrimination (Lillie-Blanton & LaVeist, 1996). Research articles using race as an epidemiologic variable increased steadily after 1975, but race tended to be used more as an exclusionary demographic variable for minority racial groups than for comparison purposes (Jones, LaVeist, & Lillie-Blanton, 1991).

More recent research focuses on health disparities related to race, citing minority racial status as a factor in reduced health (Sue & Dhindsa, 2006). The results of these studies, however, have been questioned, as there may be confounding environmental and social factors, such as reduced employment, housing, and income that have resulted from a history of discrimination against these minority racial groups (Oliver, 2008; Sue &

Dhindsa, 2006). The use of race as a primary demographic variable may reinforce the idea that race is a factor inherent to poor health; lead to further discriminatory practices by third party payers, employers, and practitioners; and detract from the development of evaluations and interventions that could assist in addressing the real underlying causes of health issues.

When is it appropriate to use race as a variable in healthcare research?

According to Hasselkus (2002), using race as a research variable has been based on the underlying misconception that race is a biological construct and therefore people of different races may have varied health status based on these biological differences. Race as a biological construct has been used to assert racial differences in areas of intelligence, health, and personality, but there is no evidence validating these ideas ([http://www.diffen.com/difference/Ethnicity vs Race](http://www.diffen.com/difference/Ethnicity%20vs%20Race)). As made clear by the Human Genome Project, there is no evidence that race exists as a genetic or biological construct. Biologically dividing groups by race is similar to dividing groups by hair color or eye color. Race does exist, however, as a sociological construct and therefore should be included in research aimed at examining varied sociological influences. If the researcher is examining a social situation in which perceived or self-identified race may impact the societal response to the person, then race is a necessary variable. For example, if the purpose of the research is to examine access to educational or medical services, race may be a significant variable. If, however, the researcher is examining biological aspects, such as

grip strength or cognitive aptitude, there is no evidence to support the inclusion of race as a research variable.

Race should not be used as a substitute for sociological variables such as SES, which may more accurately reflect the advantages or disadvantages of groups of people. SES has been linked to many health issues from healthy, live births to mortality rates. SES as a research variable, however, has significant limitations. Although SES combined with race is a better sociological measure, it is not a comprehensive enough variable to capture all of the social advantages or disadvantages a person may experience (Braveman et al., 2005). In addition, SES is not a stable variable. People may live at different SES levels in their lifetimes and even within a few years.

Is there a more comprehensive measure for social differences in healthcare research?

The use of socioeconomic context (SEC) as a sociological variable for healthcare research is a more comprehensive means for capturing the multifaceted aspects of socioeconomic variations (Lillie-Blanton & LaVeist, 1996). Factors that comprise SEC may include:

- Income level (self or parent)
- Education level (self or parent)
- Employment status (e.g. full-time, part-time, retired) or level (e.g. managerial, professional, technical, service)
- Minority status (race or ethnicity)
- Gender
- Social status (e.g. married, single, number of children)

- Neighborhood/geographical location (e.g. urban, suburban, rural)
- Healthcare insurance

In addition to the usual SES measures of income, education, and employment status, employment level should be considered. Employment level influences a person's stress levels, health behaviors, and access to health care (Fujishiro, Xu, & Gong, 2010). The other factors listed could be justified as potentially impacting SEC as well. Minority status may be included, as it can affect SEC opportunities. Gender may be a factor in SEC due to discrepancies and a lack of equality in salaries. Social status, including marital status and the number of people in a household, are important to SEC, as they influence the number of people who contribute to or who need support. Neighborhood or geographical location may be important to assess factors such as safety, stress levels, and access to health-related resources (e.g. foods, hospitals, safe schools). Finally, a person's health insurance may influence SEC. Many people in the past decade have suffered extreme financial loss including bankruptcies and loss of homes due to overwhelming medical bills.

Researchers should determine which of the SEC factors may impact their participants and gather information to form the SEC variable that fits with their study. For occupational therapists, the *Occupational Therapy Practice Framework: Domain and Process-3rd Edition* may be a useful guide. SEC is congruent with the occupational therapy professional domain of concern as conceptualized in the Personal Context category (American Occupational Therapy Association, 2014).

In this Issue

A good example of the measurement of some aspects of SEC can be found in this issue of OJOT in the article titled “Influence of Home Environment on Participation in Home Activities of Children with an Autism Spectrum Disorder,” by Sood, LaVesser, and Schranz. In this article, the researchers use the Hollingshead Four Factor Index of Social Status (ISS) to measure SES. The ISS measures four factors: marital status, retired/employed status, educational attainment, and occupational prestige.

I encourage researchers who are currently developing their proposals to consider using a tool such as the Hollingshead Four Factor Index of Social Status or to develop a study-specific tool that is appropriate to their research question. The SEC factors listed above can be used—or additional factors, as deemed necessary—as possible

influences to the study may be added. The method for determining these factors should also be included. Submissions should not include race as a demographic factor without justification or identification of the means for determination.

The use of race as a variable in research has roots in the biomedical approach to health care. As occupational therapists, we have often declared ourselves to be different from the typical medical practitioner. We must, therefore, look beyond the typical medical classification of race as a biological construct, consider it as a sociological construct that goes beyond the confines of a medical system, and examine the context of the individual as a whole. Occupational therapy researchers should consider all of the factors that constitute SEC and create a variable that represents the population of people who are participating in their study.

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