Position Statement on Use of Race as a Factor in Neuropsychological Test Norming and Performance Prediction[1]

The American Academy of Clinical Neuropsychology (AACN) Relevance 2050 Subcommittee on Use of Race in Neuropsychological Test Norming and Performance Prediction[2]

Race as a concept has a problematic history within western science, including psychology. As noted in the American Psychological Association's (APA) *Guidelines on Race and Ethnicity in Psychology* (2019), the term "race" lacks a clear definition. When used colloquially, "race" often overlaps in meaning with "ethnicity." Both terms suggest a common ancestry, but ethnicity also implies a shared history and culture which the concept of race does not necessarily include. Race can best be viewed as a social

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[1] This Position Statement provides a broad summary of the opinion of AACN on an issue of importance to the field of neuropsychology. It is not intended to be a comprehensive review of the literature pertaining to the use of the construct of race in assessment. A forthcoming position paper will provide a more thorough review of the pertinent literature and a comprehensive discussion of the issues and concerns raised in the current position statement.

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construct, one that maintains a particular sociopolitical hierarchy and that historically has justified or excused cruelty, discrimination, exclusion, and exploitation. Race has failed, however, to gain scientific support as a means of classifying people on the basis of supposedly shared and distinguishing physical, genetic, or intellectual traits. Genetic science has shown that greater variability exists within than between racial groups, rendering the construct meaningless for human biology. In the applied clinical sciences, including clinical neuropsychology, race is used to stratify the incidence of some diseases and health conditions across segments of society as well as to set normative ranges for diagnostic tests.

Demographically-adjusted norms that include race along with other variables such as age, education, and gender were created to aid diagnostic precision and characterization of functional abilities, by ensuring comparison of individual test performance to appropriate normative reference groups. Recent attention has focused acutely on race to the point that full demographic normative adjustments are referred to as "race norms" even though race may be only one of several variables considered, and the majority of neuropsychological test norms are not based on race. Indeed sampling of racial minority populations in the U.S. has been limited and inconsistent when creating neuropsychology test norms. Consequently, most neuropsychological tests have reference groups that are predominantly European American. When minority populations are included, they may not be sampled proportionately at all levels of age, gender, and socioeconomic status. Use of unrepresentative norms can result in diagnostic error, as well as stigmatization of minority populations based on supposed disparities in neuropsychological ability.

The field of neuropsychology recognizes that environmental influences play the predominant role in creating racial disparities in test performance. Rather than attributing racial differences in neuropsychological test scores to genetic or biological predispositions, neuropsychology highlights environmental factors to explain group differences including underlying socioeconomic influences; access to nutritional, preventative healthcare, and educational resources; the psychological and medical impact of racism and discrimination; the likelihood of exposure to environmental toxins and pollutants; as well as measurement error due to biased expectations about the performance of historically marginalized groups and enculturation into the groups on which tests were validated. The above is only a partial list of factors leading to differences in performance among so-called racial groups, but none of these factors, including those not enumerated here, is thought to reflect any biological predisposition that is inherent to the group in question. Race, therefore, is often a proxy for factors that are attributable to inequity, injustice, bias, and discrimination.

Clinical judgment is required when selecting a norm reference group for an individual patient, including when the norms are based on race. In practice, neuropsychologists are faced with an array of different norm reference groups across the different tests they administer, or even within a given test. Clinical neuropsychologists must also understand the culture of the individual being assessed and its potential impact on performance as part of the context for both selecting norms and interpreting results. The choice of norm reference group for any individual patient is based on clinical judgment, honed by years of graduate and postgraduate training in psychometrics, statistics, differential diagnosis, clinical decision-making, ethics, and

functional neuroanatomy. In addition, neuropsychological training increasingly emphasizes cultural competence in assessing diverse populations. This includes the neuropsychologist's knowledge of their own biases, understanding of differing cultures, and mastery of the tools, communication strategies, and assessment tools appropriate for various ethnic groups.

There can be a mix of positive and negative consequences of the use of race-stratified norms. In some situations, it will be more important to avoid a false positive diagnosis, whereas in other situations the greater harm may arise from a false negative diagnosis, both of which can arise from applying race-stratified normative standards. A false positive diagnosis of a child in an educational setting may create harm by stigmatizing the child, but a false negative diagnosis may prevent the child from receiving needed accommodation and support. A false positive diagnosis in a clinical setting may result in needless medical intervention, but a false negative diagnosis may prevent timely access to potentially curative treatments. A false positive diagnosis in various forensic settings can lead to a disproportionate civil jury award or a failure to assign criminal responsibility while a false negative diagnosis can deprive a plaintiff of appropriate redress or justice. Clinical judgment is required to determine which is the more important harm to avoid in each context, and hence, we must preserve the authority of the neuropsychologist to weigh the various outcomes and consequences, an authority derived from the neuropsychologist's educational preparation and years of experience during supervised clinical practica, internship, and postdoctoral residency/fellowship. In forensic or other contexts in which the neuropsychologist's role and ability to exercise clinical judgment may be circumscribed by legal or institutional

requirements, neuropsychologists should be fully transparent in disclosing to all parties the potential harms associated with use of particular norms and the available alternative normative approaches.

As a clinical science, neuropsychology continuously improves its procedures based on new evidence. In the current instance, simple solutions such as removing race from normative tables or comparing everyone to a White reference group will not suffice to solve the complex problem of race norms. Neuropsychology can benefit from an approach analogous to "precision medicine" in which we attempt to define expected performance more accurately through incorporation of a broader range of variables in our prediction models. Given the acknowledgement that race is a proxy for the effect of social, economic, educational, and healthcare inequities, neuropsychology must explicitly identify, define, and measure the disparities associated with these variables and quantify their impact on test performance. In addition, neuropsychology must reexamine its measurement tools, procedures, and theoretical constructs with the goal of eliminating systematic biases that may contribute to measurement error. Finally, practicing neuropsychologists must be vigilant regarding their own individual biases. They must constantly reflect on how such biases intersect with their patients' identities and the potential for biases to impact clinical decisions.

AACN supports the elimination of race as a variable in demographically-based normative test interpretation. In addition, AACN supports the development of testing methods and practices that reduce bias and inequity in clinical assessment and decision-making. Progress toward these goals will be slow and iterative and will require patience from neuropsychology practitioners and the public we serve. Public and private

research funding will also be needed to support the development of a new generation of tests and data interpretation procedures to eliminate racial bias. Temporary or partial measures may be deployed while the necessary and painstaking research is underway that will lead to better long-term solutions. Simple solutions, however, will not suffice to solve problems that were centuries in the making. Through its Relevance 2050 Initiative, and other mechanisms, AACN will advance and support the necessary work to make this complex transition possible. We look forward to partnering with test development companies and our sister scientific and professional organizations in this endeavor. After a careful review of the science and clinical utility of racial/cultural-based demographic norms is undertaken, AACN will issue a more detailed position paper that envisions the scientific, clinical, and policy developments needed to achieve an empirically-based, ethically responsible, and equity-driven approach to resolving the problems associated with the use of race in neuropsychological research and practice.

**Reference**

American Psychological Association, APA Task Force on Race and Ethnicity Guidelines in Psychology. (2019). *Race and Ethnicity Guidelines in Psychology: Promoting Responsiveness and Equity*. Retrieved from http://www.apa.org/about/policy/race-and-ethnicity-in-psychology.pdf