



Corrigendum to: “Race and genetics vs. ‘race’ in genetics: A systematic review of the use of African ancestry in genetic studies”

Theresa M. Duello , Shawna Rivedal, Colton Wickland and Annika Weller

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When this paper first published, there were errors in the formatting of [table 4](#). It originally appeared as:



Table 4. Remedies to Correct Misconceptions of ‘Race’

Individual scientist/physician level

Identify your broad assumptions implicit in the use of ‘race’ in biomedical research and medical practice

Examine the use of ‘race’ in the studies you cite as background to your own study

Differentiate correlation from causation. Understand that these studies are reproducible only if the exact same people are studied. Conduct literature reviews using Scopus and Web of Science, instead of only PubMed, which does not include important studies not included in biomedical journals that focus only on organ systems or diseases

If you have used ‘race’ as a genetic category, re-analyze your data with and without ‘race’ as a variable and re-assess your conclusions as the data are not generalizable to a ‘race’

Discontinue the use of ‘race’ as a genetic category or proxy immediately

Invite an evolutionary biologist to meet with your research group to assure your work reflects the fact that human genetic variation is continuous

Invite an ethicist to meet with your research group to identify the risks associated with the use of ‘race’ as a proxy

Take responsibility for the education of the public as the public media is often not qualified to do so

Systems level—Funding agencies/scientific societies/publishers/editors/teaching institutions

- Discontinue use of ‘race’ and/or ethnicity as a biological/genetic category

Social science—Race is a social construct

Ethnicity is defined as belonging to a common group, often linked by race, nationality, religion, geographic area and/or language, none of which is genetic

(continued)

Biological sciences—Need to adhere to the scientific/taxonomical definition of race as a subdivision of subspecies and the findings of the HGP

- Discontinue use of ‘self-identification’ of research participants in biological/genetic studies

There is no genetic basis for ‘self-identification’ > One’s genetic makeup is defined at birth and subsequently modified by mutations resulting from environmental factor

One cannot pick one’s genetic makeup. Cultural identity, religious identity, gender identity and sexual preference identity are self-identified. Not genetics

Explain that no substitution for ‘race’ is needed

Educate research models which correctly consider and weight both social and biological XXX

- Federal agencies, scientific societies, medical schools and universities must launch an educational effort to correct scientific misconceptions of ‘race’

NIH must stand by its findings that ‘race’ is not a genetic category and take responsibility for the lapse in the education of scientists and health professionals since the completion of the HGP

NIH must clarify to the public that one can choose one’s racial and ethnic identity, but not their genetic makeup. Science is not the domain of individual opinion or political correctness

Re-educate all scientists about OMB Directive 15

Modify the federal guidelines for inclusion of women and minorities to clarify that minorities are to be included to address a social justice issue. Not because minorities have a different genetic makeup/physiology

Revise the human subject tutorials required by Institutional Review Boards to clarify that inclusion of minorities is about social justice and is not due to biological/genetic differences

Does not permit substitution of other social categories for ‘race’

Federal funding agencies must clarify that the grant form requiring investigators to identify the study population by race/ethnicity is to monitor inclusion, such that all Americans share the risk and benefits of medical research. Not because minorities are different than the rest of *Homo sapiens sapiens*

Scientific societies and editorial boards need to re-envision interdisciplinarity to invite scientists who focus on marginalized topics that are controversial because they counter mainstream misconceptions

Scientific societies and medical schools must design continuing medical education courses to correct misconceptions of ‘race’ and explaining human genetic variation

Medical schools must require an evolutionary biology course as a prerequisite for medical school and incorporate evo biology into the medical school curricula

Colleges and universities need to incorporate courses in evolutionary biology for all undergraduate science majors

It should have appeared as:



Table 4. Remedies to Correct Misconceptions of ‘Race’

Individual scientist/physician level -

Identify your broad assumptions implicit in the use of ‘race’ in biomedical research and medical practice.

Examine the use of ‘race’ in the studies you cite as background to your own study.

Differentiate correlation from causation. Understand that these studies are reproducible only if the exact same people are studied. Conduct literature reviews using Scopus and Web of Science, instead of only PubMed which does not include important studies not included in biomedical journals that focus only on organ systems or diseases.

If you have used ‘race’ as a genetic category, re-analyze your data with and without ‘race’ as a variable, and re-assess your conclusions and their generalizability

Invite an evolutionary biologist to meet with your research group to assure your work reflects the fact that human genetic variation is continuous.

Invite an ethicist to meet with your research group to identify the risks associated with the use of ‘race’ as a proxy.

Take responsibility for the education of the public as the public media is often not qualified to do so.

Systems level – Funding agencies/scientific societies/publishers/editors/teaching institutions

- Discontinue use of ‘race’ and/or ethnicity as a biological/genetic category.

	<p>Social science - Race is a social construct. Ethnicity is defined as belonging to a common group, often linked by race, nationality, religion, geographic area, and/or language, none of which is genetic.</p> <p>Biological sciences – Need to adhere to the scientific/taxonomical definition of race as a subdivision of subspecies.</p>
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- Discontinue use of ‘self-identification’ of research participants in biological/genetic studies.

	<p>There is no genetic basis for ‘self-identification’ > One’s genetic makeup is defined at birth and subsequently modified by mutations resulting from environmental factor. One cannot pick one’s genetic makeup. Cultural identity, religious identity, gender identity, sexual preference identity are self-identified. Not genetics.</p>
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- Federal agencies, scientific societies, medical schools, and universities should launch an educational effort to correct scientific misconceptions of ‘race’.

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	<p>NIH must clarify to the public that one can choose one’s racial and ethnic identity, but not their genetic makeup. Science is not the domain of individual opinion or political correctness.</p>
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	<p>Medical schools need to require an evolutionary biology course as a prerequisite for medical school and incorporate evolutionary biology into the medical school curricula.</p>
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	<p>Colleges and universities need to incorporate courses in evolutionary biology for all undergraduate science majors</p>
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This has been corrected online.