Review of: "Deep roots of admixture-related cognitive differences in the USA"

Heiner Rindermann[1]

1 Technische Universität Chemnitz

The manuscript (*Deep roots of admixture-related cognitive differences in the USA*) covers an interesting topic. There are two main results:

1. There is some (indirect) evidence for a genetic component in the cognitive ability differences between groups ("race", "ethnicity", evolutionarily or socio-culturally defined groups).
2. There is evidence that these ability differences, as well as the genetic components, have been around for a long time (last century).

My four main suggestions:

1. Include a rationale for why the topic is relevant to the research. Why should it be studied, what are the important questions and possible knowledge gains?

2. Address possible counter-hypotheses and argue what speaks for and against these counter-hypotheses (e.g., discrimination).

3. Consider the use of terms that describe ethnicities and mixed-race people (e.g., "mulatto" into "Black-White mixed-race people" or "B-W people").

4. You speak very often of associations. The correct and necessary statistics for this are correlations. These are missing so far and must be supplemented. How else are the results to be understood?

Notes in detail:

Abstract:

Add correlations. Add the main average correlation.

"parental-reported race" – isn't this only for one sample of your several ones? Maybe write "for children parental-reported race".

Introduction:

As your references indicate, there are several similar studies by you or other authors. Please emphasize in the

introduction what is new about this manuscript.

The number style of citations is odd.

1. Readers do not see the authors in the manuscript.
2. Readers do not see the publication year, the seniority of the studies.
3. Readers have to keep scrolling back and forth.
4. If authors supplement a reference at the beginning, the numbering of all subsequent references changes. This is very cumbersome and error-prone.
5. The authors are not listed in alphabetical order – they are just hard to find.

Therefore, please change the style of references to the more modern and appropriate style of APA (or similar).

As you also point out later, ethnic categories are not meaningful for either cultural or evolutionary origins. Especially the category "Asian" is useless (e.g. Indians and Chinese into one group; Rindermann, 2022). It should be emphasized that they are not useful for all scientific purposes (for cultural analyses not and for evolutionary analyses not).

Rindermann, H. (2022). Biological categorization within *Homo sapiens* and its consequences for differences in behavior – or not. *Human Evolution*, *37*(3-4), 139–179.

"Most studies found only a modest positive association between measures of European ancestry and cognitive/achievement test scores" – add an average correlation.

"one obvious scientific hypothesis concerns inherited disadvantage" – what means "disadvantage"? Maybe better: "evolutionary-genetic difference"?

Address possible counter-hypotheses and argue what speaks for and against these counter-hypotheses (e.g., discrimination).

"However, if differences were due to subculture effects common to all Blacks, then they would not be proportional to genetic ancestry among Blacks." – important, develop more this argument, more evidence, more argumentation.

"OMB" – repeat its meaning.

"Our hypothesis is that, within American race/ethnic groups, admixture will predict cognitive ability, in the 19th, early 20th" – mention here in a subordinate clause how admixture was measured for old data.

Method:

"we additionally computed European ancestry quartiles" – I don't understand why quartiles. It means information is lost. If given, always work with continuous variables.

"we created five age cohorts: 23-62; 23-32; 33-42; 43-52; 53-62" – why 23-62 and then a total of four subgroups? Please an explanation.

"23-62 and 33-42 age cohorts" – 33-42 is included in 23-62.

Results:

"Whites with less European ancestry have darker skin color and lower g scores." – always and without exception mention the correlation ($r=.$) in the text for such statements (associations) and this throughout the text. I do not see any correlation coefficient in Table 2.

"those classified as White have more European ancestry, lighter skin tones, and higher*g* scores compared to those classified as White and Black or Black. Puerto Ricans with higher percentages of European ancestry have higher cognitive test scores than those with lower percentages" – where are the correlations here???? Always and without exception bring the correlation ($r=.$) in the text for such statements (associations).

Table 3: Please add the standardized beta coefficients. These, unlike unstandardized B coefficients, allow the size of effects to be assessed using an established interpretive framework, and they allow, for differently standardized variables, the size of effects to be compared across different predictors and analyses.

"d=.18" etc. – *d* with a leading zero: "If a value has the potential to exceed 1.0, use the leading zero." See: https://blog.apastyle.org/apastyle/2010/07/a-post-about-nothing.html

"Mulattos": Consider the use of terms that describe ethnicities and mixed-race people (e.g., "mulatto" into "Black-White mixed-race people" or "B-W people").

"White blood" (text and Table 6) – better: "percentage white ancestry".

"full-blooded" – better: people without mixed ancestry.

"there is also no association between European phenotype and numeracy among Puerto Rican women" – any theory why? Reason? Interpretation (one sentence).

Discussion:

Begin the discussion with a brief recap of the key findings and the three to six most important correlations as the Pearson correlation coefficient ($r=.$).

"Among 21st-century American Indians, African ancestry, relative to European, was also negatively related to*g.*" – space was missing, additionally: Always and without exception write the correlation ($r=.$) in the text for such statements (associations).

"However, despite the negative correlation between non-European ancestry and darker color" – how you can speak of a correlation when there is no correlation presented in the text?

Address possible counter-hypotheses and argue what speaks for and against these counter-hypotheses (e.g., discrimination).

References

The number style of citations is odd. 1. Readers do not see the authors in the manuscript. 2. Readers do not see the publication year, the seniority of the studies. 3. Readers have to keep scrolling back and forth. 4. If authors supplement a reference at the beginning, the numbering of all subsequent references changes. This is very cumbersome and error-prone. 5. The authors are not listed in alphabetical order – they are just hard to find.

Therefore, please change the style of references to the more modern and appropriate style of APA or similar.