

Review of: "The Intelligence of Nations. National IQs and Correlates"

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This article provides a broad overview of intelligence research at the international, country-comparative level. A variety of relationships at the country level are presented, and the (sometimes heated) discussion within the scientific community on this topic is broadly reported.

Main message: Nonlinearity and formal operational stage

I would like to focus here on the core statement: that there are nonlinear relationships between intelligence and characteristics of societies which depend on it, and that this nonlinearity can be theoretically explained by an increase in cognitive development towards formal-operative thinking according to Jean Piaget (and Georg W. Oesterdiekhoff).

In a nutshell, Henss assumes a threshold value of intelligence. Below a certain IQ (approx. 80), increases in intelligence are of no use; a lower IQ can even reduce e.g. corruption because there are no options for action. Only the step from pre-formal to formal operational intelligence leads to a reduction in corruption. Henss suspects that such non-linear relationships with intelligence occur more frequently at the national level (non-corruption, scientific productivity, low maternal mortality, GDP/c, government integrity, low tax burden, low number of children/fertility rate).

This is a significant and innovative new idea that is worthy of further scientific investigation and also has great practical implications.

One aspect that should be considered more closely is that nonlinear regressions practically always provide higher variance explanations than linear ones. This is usually the case. A substantive (theoretical reasons) or statistical criterion is needed to determine when an increase in variance explanation is important.

Minor issues

- In the key words (and only there): TIMMS -> TIMSS.
- "Quotations from German sources have been translated by me, R.H. This applies in particular also to originally English-language texts which I have available in German version" – if possible, always use the (English) original.
- Add page numbers (in the ResearchGate-version of the paper).
- "They do not understand that the reversibility of the action is equivalent to volume preservation." – Difficult to understand, describe differently.
- "Today's intelligence tests measure something different from earlier tests, or rather, they evaluate performance

according to different standards.” – Which earlier tests?

- “From all this we conclude: Psychometric intelligence tests and the international student assessment studies essentially measure the same latent variable, namely intelligence.” – The individual level must also be considered, especially through cognitive psychological analyses. E.g.:

Rindermann, H. & Baumeister, A. E. E. (2015). Validating the interpretations of PISA and TIMSS tasks: A rating study. *International Journal of Testing*, 15(1), 1–22.

- What explanation do you have for the positive correlation between intelligence and gender equality (Table 6)?
- Table 9: The terms are not understandable (e.g., “Retain”, “Enable”).
- Regarding Table 11, higher correlation of intelligence with Functioning of Government ($r=.62$) than with Political Culture ($r=.42$) and others: It seems that intelligence is more important for competence-related issues, for political issues culture seems to be more relevant. See:

Rindermann, H. & Carl, N. (2018). Human rights: Why countries differ. *Comparative Sociology*, 17, 29–69.

Rindermann, H. & Carl, N. (2020). The good country index, cognitive ability and culture. *Comparative Sociology*, 19, 39–68.

- “The first fundamental leap was the ascent from the preoperational to the concrete-operational stage during the Achsenzeit.” – Add further empirical evidence to support this statement.
- “and almost all the other key figures of the Scientific Revolution were born within 150 kilometers of this core area” (Ferguson, 2013, p. 117).” – There is a nice figure in Murray (2003, p. 297), “The European Core”:

Murray, Ch. (2003). *Human accomplishment: The pursuit of excellence in the arts and sciences, 800 B.C. to 1950* New York: Harper-Collins.

- “An instructive example is Germany in PISA 2018. In the focus domain of Reading, immigrants reduced the score by 3.1 IQ points.” – Add further empirical-statistical evidence to support this statement.
- Maybe reduce some of the side tracks in the manuscript (you can elaborate and publish them in another manuscript).