BOOK REVIEW

Title: Intelligence and How To Get It: Why Schools and Cultures Count

Author: Richard E. Nisbett

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Reviewed by: Frank Nezavdal (Brock University)

frank.nezavdal@brocku.ca

In his latest work, Richard Nisbett optimistically explores past and contemporary constructions of intelligence, seeking to overturn the strong hereditarian positions of intelligence by meticulously considering the evidence for in-group and between group differences in IQ from a ‘racial’, cultural, and social perspective. Nisbett argues against the extreme hereditarian view – that nothing in the environment can much affect intelligence – arguing instead that intelligence is likely far more mutable than hereditarian authors allow. He subsequently navigates many of the social, cognitive, and educational interventions that stand to increase intelligence and academic achievement.

Nisbett strikes an effective balance between being overly optimistic about possible interventions, and being cautious about judgments of causality, while walking the reader through well-crafted arguments and careful analyses of the research. He provides compelling explanations for many of the patterns that have arisen in the literature linking intelligence to genetic and ‘racial’ variables and he shows how and why at least some of the claims about genetic intelligence made by well-known hereditarian authors such as Richard Herrnstein and Charles Murray, Arthur Jensen, J. P. Rushton, and others have been mistaken. In doing so, Nisbett builds his case as to why both laypeople and experts are wrongly convinced that intelligence is mostly a matter of genes, and he suggests that promoting change in intelligence is both possible and worthwhile.

Claims of the universal validity of intelligence metrics are controversial. Despite this controversy many measures of intelligence and cognitive performance are used frequently with acceptable error in schools, particularly in the identification of learning exceptionalities. Tests such as the WISC-IQ and many other objective tests have been appropriately validated and field tested and are consequently considered reliable—that is, whatever it is they measure they measure well.

However, questions regarding the universal validity of objective tests arose early in their use. One noteworthy example comes from Weschler (1944) himself regarding his WISC-IQ test. He warned “our norms cannot be used for the colored population” (p. 107). Clearly, Weschler was aware of cultural, ‘racial’ and possibly linguistic effects on test performance, ideas later confirmed by researchers like Williams (1972), whose intentional ‘biasing’ on the BITCH-100 test demonstrated the ease with which bias could be constructed to impede the performance of ‘whites.’ Somewhat later, Erikson (1987) noted that genetic-deficit models of poor performance had been replaced with cultural-deficit models. By the next decade, the work of Ogbu (1992; 2002) and Ogbu and Simmons (1998) explained how cultural variations (i.e. social phenomena) rather than ‘racial’ differences (i.e. those attributed to biological characteristics) have a

predictable and significant effect on school performance and on objective test results. At the same time cultural and linguistic explanations for test bias were being better understood in the social sciences, biologists and proponents of a gene-centred version of neo-Darwinism were examining intelligence differently. Dawkins' (1976) gene-centred view of evolution worked to buffer the many unpleasant responses to the idea that some 'races' were less intelligent than others by thinking about the matter in terms of competition between rival genes rather than between rival groups or individuals.

Although controversial, Herrnstein and Murray's (1994) publication of *The Bell Curve* seriously entertained the idea that intelligence is a function of 'race'. J.P. Rushton (2000) took the hypotheses further in *Race, Evolution, and Behavior* by exploring correlations between cranial capacity and intelligence, a gene-centred evolutionary position that remains popular among prominent evolutionary psychologists such as Pinker (2002) and Tooby and Cosmides (2005). Pinker's (2002) *The Blank Slate* sharply criticized what he termed the Standard Social Sciences Model of explanation, a euphemism for the significant work done by social scientists in drawing attention to problems of cultural, linguistic, and social bias on objective intelligence tests.

Nisbett, however, avoids terms such as bias and 'nature versus nurture' focusing his attention instead on a meticulous analysis of the evidence presented by hereditarian scholars on the subject and by dismantling the evidence for between-group differences in intelligence. Not surprisingly Nisbett's alternate explanations for between-group (e.g. 'racial') differences in IQ have not been well received by the very academics whose positions he undermines. In a retort recently published in *The Open Psychology Journal*, J.P. Rushton and Arthur Jensen (2010) accuse Nisbett of substantial errors of omission, selective bias, and refer to the work as one "not of scholarship, but of advocacy" (p. 29). As such, the retort is important reading if for no reason than to illustrate how deeply disparate these positions are. Rushton and Jensen, while methodically critical of Nisbett's use of the evidence, often fail to address some of the most important points made by Nisbett – focusing instead on specific details emphasizing their thesis that IQ scores are "Life History Traits" (p. 37) of specific human 'races' (some other such traits include frequency of intercourse, size of genitalia, aggressiveness, law abidingness and cultural achievements among other bizarre things – clearly categories that beg to be taken seriously but no such explanation is offered). When Rushton and Jensen miss the point they seem to miss it widely. For example, when responding to Nisbett's suggestion that normed and validated IQ tests in one population may not usefully apply to another, Rushton and Jensen (2010) respond by claiming, that even in Africa, IQ strongly predicts "job performance" (p. 22). What those metrics of performance are and how they are applied and measured – particularly in a rural context – makes for a very curious claim.

Nisbett's thesis – that heritability says nothing about environmental mutability – appears sound despite the negative critique from Rushton and Jensen. While Nisbett concedes that a significant part of intelligence may well be genetic, he is skeptical of causal claims that fail to acknowledge that IQ tests and intelligence are particular kinds of socially and culturally-situated constructions. Nisbett seriously considers cultural implications while systematically and competently destabilizing the positions that have taken a strong hereditarian perspective.

For educators in particular this is an important book because emerging research is opening new possibilities in thinking about learning mechanisms that may begin to more adequately address environmental and experiential effects on human achievement. McCain, Mustard, and Shanker (2007), Jablonka and Lamb (2005), and Harper (2005) assert that inherited

variables contribute to intergenerational transfer of skills and development of “core capacities” (McCain et al., p 13) in ways that complicate traditional understandings of what exactly is entailed by genetic inheritance. Nisbett sets the stage for developing a richer understanding of heritable intelligence and the implications are significant for it appears that the views on what skills and capacities can be inherited are still evolving.

Anyone involved in Education knows that it is well established that parental education, income, and related demographic variables predict student achievement in school. However, families transmit more than wealth, assets, and social capital over time. They also pass on skills, behaviours, knowledge, attitudes, habits, and more complex skills involved in problem solving, decision-making, and automaticity in situational response. These endowments contribute to the causal determinants of achievement and while Nisbett avoids Jablonka and Lamb’s (2005) categories specifically, he similarly explores how heritable pathways of transmission via epigenetic (environmental effects such as stress), behavioural (habit/action related), and symbolic (language/concept) inheritance systems can contribute to intelligence and student achievement. Nisbett provides many supporting examples to show how these effects almost certainly explain many of the intelligence differences between groups and he explores the evidence on which interventions are most effective. Sadly, the list is often scant precisely because of how far beyond education the causal determinants may reach. However, there is room for improvement when one considers Nesbitt’s warning regarding poorly designed research studies in Education, those studies lacking sufficient controls to avoid self-selection problems and those lacking efforts of randomization. Particularly troubling, he suggests, may be some of the ‘effective schools’ research, and policies like ‘No Child Left Behind’ which he claims reveal a “deep ignorance of the forces that operate to produce high academic achievement” (p. 119).

It is worth noting that Nisbett’s thesis -- that environment can have a significant effect on ‘genetic’ outcomes -- has been confirmed in the biological sciences as well. Consider one now famous example of this environmental-genetic interplay in a longitudinal analysis of genetic and environmental interactions in the work of Caspi, McClay, Moffitt, Mill, Martin, Craig, Taylor, and Poulton (2002). In their study of the gene called MAOA, a gene with two alleles or variants thought to increase the likelihood of depression and anti-social behaviours, it was found that the gene had to be activated by environmental conditions to do any harm. That is, children with the ‘risky’ allele were 2.5 times more likely to develop clinical depression than those with the other, but only under particularly stressful conditions. In ‘healthier’ environments, the genetic variation had no observable effect. These findings are consistent with Nisbett’s claim that environmental contributions to genetic intelligence may be significantly underestimated.

Nisbett’s book is certainly not the end of discussion but it effectively reveals new possibilities in thinking about intelligence and the effects of education, health, parenting behaviours, cultural practices, and educational interventions. Nisbett details considerable evidence that suggests that behaviours and conditions that promote intelligence are heritable in much the same way as other behaviours such as parental behavioural patterns (Liefbroer & Elzinga, 2006), antisocial behaviours (Thornberry, Freeman-Gallant, & Lovegrove, 2009), religious behaviours (Morgan, 1981), as well as attitudes toward risk and trust (Dohmen, Falk, Huffman, & Sunde, 2008). These examples suggest Nisbett’s examination and consideration of both student and parental attitudes, perceptions, and experiences are well-warranted and overdue.

Although poorly received by the hereditarian scholars, Nisbett’s analysis is not wishful liberal thinking. His message regarding the role of genes in intelligence is largely consistent with many experts on intelligence in that a significant portion of intelligence may be heritably genetic.

Genetic, however, does not imply immutable and Nisbett's most important claim appears to stand intact: "heritability of IQ places no constraint on the degree of modifiability that is possible" (p. 38).

As long as initial endowments differ, equal outcomes may not be possible. However, if educational policy, research, and practices are to be moved forward by Nisbett's hopeful position – that dramatic changes in intelligence and achievement are possible – a rethinking of possible interventions and resource redistributions is required. Such a rethinking stands to have an important effect on the kinds of interventions that can work to address issues of fairness and equity in schools and on the kinds of interventions that can gain public support.

References

- Caspi, A., McClay, J., Moffitt, T., Mill, J., Martin, J., Craig, I., Taylor, A., & Poulton, R. (2002). Role of genotype in the cycle of violence in maltreated children. *Science*, 297, 851-854.
- Dawkins, R. (1976). *The selfish gene*. New York: Oxford.
- Dohmen, T., Falk, A., Huffman, D., & Sunde, U. (2008). The intergenerational transmission of risk and trust attitudes. Preliminary version prepared for the Workshop in Applications in Economic at the University of Chicago, 10 April, 2006. Retrieved August 15, 2010 from http://economics.uchicago.edu/pdf/Falk_041006pdf.pdf
- Erikson, F. (1987). Transformation and school success: The politics and culture of educational achievement. *Anthropology & Education Quarterly*, 18(4), 335-356.
- Jablonka, E., & Lamb, M. (2005). *Evolution in four dimensions: Genetic, epigenetic, behavioural, and symbolic variation in the history of life*. Cambridge: MIT.
- Harper, L. (2005). Epigenetic inheritance and the intergenerational transfer of experience. *Psychological Bulletin*, 131, 340-360.
- Herrnstein, R., & Murray, C. (1994). *The bell curve: Intelligence and class structure in American life*. New York: Free Press.
- Liefbroer A.C., & Elzinga, C. (2006). *Intergenerational transmission of behavioural patterns: similarity of parents' and children's family life trajectories*. Unpublished working paper at Netherlands, Dept. of Social Research Methodology, Vrije Universiteit, Amsterdam. Retrieved August 20, 2010 from <http://www.pop.upenn.edu/newsevents/colloquiapapers/Liefbroer2008WorkingPaper.pdf>
- McCain, M., Mustard, J., & Shanker, S. (2007, March). *Early years study 2: Putting science into action*. Toronto, ON: Council for Early Child Development. Retrieved August 15, 2010 from [http://wwwFOUNDERS.net/fn/news.nsf/24157c30539cee20852566360044448c/5e0d29958d2d7d04852572ab005ad6a6/\\$FILE/Early%20Years%20Study%202%20%20Putting%20Science%20into%20Action%20March%202007.pdf](http://wwwFOUNDERS.net/fn/news.nsf/24157c30539cee20852566360044448c/5e0d29958d2d7d04852572ab005ad6a6/$FILE/Early%20Years%20Study%202%20%20Putting%20Science%20into%20Action%20March%202007.pdf)
- Morgan, P. (1981). *The intergenerational transmission of religious behavior: The effect of parents on their children's frequency of prayer*. Paper presented at the Annual Meeting of the American Sociological Association (Toronto, Ontario, Canada, August, 1981). Retrieved March 25, 2009 from http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=ED209132&ERICExtSearch_SearchType_0=no&accno=ED209132
- Ogbu, J. (1992). Understanding cultural diversity and learning. *Educational Researcher*, 21(8), 5-14.

- Ogbu, J. (2002). Cultural amplifiers of intelligence: IQ and minority status in crosscultural perspective, J. M. Fish (Ed.), *Race and Intelligence: Separating Science From Myth*. Mahwah, NJ: Erlbaum.
- Ogbu, J., & Simmons, H. (1998). Voluntary and involuntary minorities: A cultural-ecological theory of school performance with some implications for education. *Anthropology & Education Quarterly*, 29(22), 155-88.
- Pinker, S. (2002). *The blank slate*. New York: Viking.
- Rushton, J. P. (2000). Race, evolution, and behavior: A life history perspective [2nd special abridged edition]. Port Huron, MI: Charles Darwin Research Institute. Retrieved August 15, 2010 from http://www.charlesdarwinresearch.org/Race_Evolution_Behavior.pdf
- Rushton, J. P., & Jensen, A. (2010). Race and IQ: A theory-based review of the research in Richard Nisbett's *Intelligence and How to Get It*. *The Open Psychology Journal*, 3, 9-35. Retrieved August 15, 2010 from <http://psychology.uwo.ca/faculty/rushtonpdfs/2010%20Review%20of%20Nisbett.pdf>
- Thornberry, T., Freeman-Gallant, A., & Lovegrove, P. (2009). Intergenerational linkages in antisocial behaviour. *Criminal Behaviour and Mental Health*, 19(2), 80-93.
- Tooby, J., & Cosmides, L. (2005). Conceptual foundations of evolutionary psychology. In D. M. Buss (Ed.), *The Handbook of Evolutionary Psychology* (pp. 5-67) Hoboken, NJ: John Wiley & Sons.
- Weschler, D. (1944). *The measurement of intelligence*. Baltimore: Williams and Williams.
- Williams, R. (1972). *The BITCH-100: A Culture-specific test*. Paper presented at the American Psychological Association Annual Convention, Honolulu, Hawaii, September, 1972. Retrieved September 1, 2010 from <http://www.eric.ed.gov/PDFS/ED070799.pdf>