Life as an Intelligence Test

The Predictive Power of IQ

Anthony Walsh
Boise State University

Cognitive Science and Psychology

VERNON PRESS

www.vernonpress.com

In the Americas:
Vernon Press
1000 N West Street, Suite 1200
Wilmington, Delaware, 19801
United States

In the rest of the world:
Vernon Press
C/Sancti Espiritu 17,
Malaga, 29006
Spain

Cognitive Science and Psychology

Library of Congress Control Number: 2023940492

ISBN: 978-1-64889-716-0

Cover design by Vernon Press. Cover image designed by Freepik.

Table of Contents

Preface

Human beings have a wide array of characteristics that distinguish them from other species, but their cognitive abilities distinguish them most clearly. Humans do not have great strength, speed, ferocity, or natural weapons to enable them to meet the needs of survival, but their intelligence does a much better job and has enabled them to become masters of the Earth. Intelligence has enabled humans to plumb the mysteries of nature's laws and adapt them to their needs. By the power of the intellect, we have harnessed the laws of nature to the extent that we can traverse continents at a far greater speed than any animal by at least a factor of ten, cross vast oceans (both on them and under them) far faster than any sea creature, and fly further and exponentially faster than any bird. It is also unfortunately true that our understanding of the laws of nature has made us the most dangerous species on Earth; stronger and more ferocious than any other creature, capable of killing millions with the push of a button. The human cognitive abilities of consciousness, language, self-awareness, theory of mind, and abstract symbolic representation seem far in excess of the abilities required to meet nature's twin survival and reproduction imperatives.

Every human being is intelligent, but some are more intelligent than others. We know this by observations of people's behavior and their achieved position in life. We also know it by intelligence quotient (IQ) scores that vary immensely among people. Most of the business of life can be conducted on the basis of habit, with little need for high intelligence, which is largely irrelevant to many day-to-day pursuits. However, people of higher intelligence do much better in life than those of lower intelligence in so many ways, and much of life is an intelligence test. I borrowed the title and the idea for this book from Robert Gordon's (1997) article: "Everyday life as an intelligence test: Effects of intelligence and intelligence."

There are more than a few egalitarian people in academia who balk at the concept of intelligence, particularly its assessment via IQ tests, precisely because it leads to so many life outcomes that separate people and can lead to invidious comparisons. Yet the reliability and validity obtained from these test scores sit head and shoulders above those of any other pencil and paper measures of human traits and characteristics. Others deny that there is a single monolithic intelligence and that there are multiple intelligences that IQ tests do not capture. There are indeed many human talents that we usually don't think of as being intellectual, but if they involve taxing the mind, they engage measurable intelligence.

IQ tests measure different cognitive abilities, but there is a factor common to them all that psychometricians call *Spearman's g*, or simply *g*. What this means is that in tasks that tax the brain, however different they may be from one another, if a person is good at one mental task, he or she is likely to be good at others, although not necessarily to the same degree. Because of the painful issue of race differences in IQ, many have claimed that IQ tests are biased in favor of White middle-class subjects, but IQ predicts many life outcomes equally for all races. Others who acknowledge the racial differences counsel that they should nevertheless be denied lest they be used to give aid racist agendas. I examine the evidence related to these issues and find none that point to bias, although there is evidence that some factors, such as motivation and stereotype threat, can reduce people's IQ scores. However, these factors have no bearing on the issue of test bias.

Chapters three and four examine the biological underpinnings of intelligence. They examine evolutionary scenarios (e.g., Cold Winters Theory) contributing to the evolution of the human brain and the genetics of intelligence (the selection of alleles by new environmental challenges). Both chapters emphasize the role of the environment, first in the development of the brain and then its role in the expression of genetic potential. The purely environmental contributions to intelligence, both in enhancing and reducing it, and the Fynn Effect are addressed in chapter five. Some reasons offered in the literature for the Flynn Effect are explored, as are reasons offered for its cessation and reversal in Western countries.

So many of life's outcomes are predicted by intelligence. The remaining three chapters look at three of the most important to social science. The first is socioeconomic status (SES), which predicts many other things. The second examines various health issues and the third looks at criminal behavior. Above-average IQ successfully predicts higher levels of socioeconomic success, good health, and prosocial behavior. Below-average IQ successfully predicts the opposite. Some scholars reject the notion that IQ predicts any of these phenomena but the evidence that is does too overwhelming to be cavalierly dismissed.

Acknowledgments

I would first like to acknowledge the acquisitions editor Blanca Caro for her faith in this work and production editor Argiris Legatos for his usual great job in moving this book forward into print. I also would like to thank anonymous reviewers for their excellent criticisms and suggestions. The input from these good people has made this book better than it would otherwise have been. Of course, whatever errors that remain are mine alone. Most of all, I thank God for giving me the time, inclination, and insight to be able to complete this work. I also acknowledge the contribution of my dear and most gorgeous wife, Grace (AKA "Grace the Face"). She takes such great care of my needs that I am able to devote far more time to writing than I would otherwise have. She makes my life heaven on earth: thank you, Gracie. Nagyon szeretlek gyönyörű kapálós edényem!

PAGES MISSING

FROM THIS FREE SAMPLE

References

Aamodt, M., Leary, T., & Southard, L. (2020). *Radford/FGCU Annual Report on Serial Killer Statistics: 2020*. Radford, VA: Radford University.

Adkins, D., & Guo, G. (2008). Societal development and the shifting influence of the genome on status attainment. *Research in Social Stratification and Mobility*, *26:* 235-255.

Adler, F., Mueller, G., & Laufer, W. (2001). Criminology and the justice system. New York: McGraw-Hill.

Adolphs, R. (2009). The social brain: Neural basis of social knowledge. *Annual Review of Psychology*, 60: 693-716.

Anderson, M. (2008). Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects. *Journal of the American statistical Association*, *103:* 1481-1495.

Anglim, J., Dunlop, P., Wee, S., Horwood, S., Wood, J., & Marty, A. (2022). Personality and intelligence: A meta-analysis. *Psychological Bulletin*, *148:* 301-336.

Arce-Ferrer, A., & Martinez Guzman, E. (2009). Studying the equivalence of computer-delivered and paper-based administrations of the raven standard progressive matrices test. *Educational and psychological measurement*, *69:* 855-867.

Ash, J., & Gallup, G. (2007). Paleoclimatic variation and brain expansion during human evolution. *Human Nature, 18:* 109-124.

Bailey, D. & Geary, D. (2009). Hominid brain evolution: Testing climactic, ecological, and social competition models. *Human Nature*, 20:67-79.

Baker, L., Bezdjian, S., & Raine, A. (2006). Behavioral genetics: The science of antisocial behavior. *Law and contemporary problems*, *69:* 7-46.

Barnett, R., Zimmer, L., & McCormack, J. (1989). P>V sign and personality profiles. *Journal of Correctional and Social Psychiatry*, 35: 18-20.

Basmajian, J. (1985). Keynote address: The next clinical revolution-behavioral medicine. *The Journal of the American Osteopathic Association*, *85*(9), 84-86.

Bates, T. & Gignac, G. (2022). Effort impacts IQ test scores in a minor way: A multi-study investigation with healthy adult volunteers. *Intelligence*, *92:* 101652.

Beaver, K., & Wright, J. (2011). The association between county-level IQ and county-level crime rates. *Intelligence*, *39:* 22-26.

Bellinger, D. (2008). Neurological and behavioral consequences of childhood lead exposure. *PLoS Medicine*, 5: 690–692.

Betjemann, R., Johnson, E., Barnard, H., Boada, R., Filley, C., Filipek, P., Willcutt, E. DeFries, J., & Pennington, B. (2010). Genetic covariation between brain volumes and IQ, reading performance, and processing speed. *Behavior Genetics*, *40:* 135-145.

Bird, K. (2021). No support for the hereditarian hypothesis of the Black–White achievement gap using polygenic scores and tests for divergent selection. *American Journal of Physical Anthropology, 175:* 465-476.

Bond, R. & Saunders, P. (1999). Routes of Success: Influences on the occupational attainment of young British males. *British Journal of Sociology*, 50: 217-240.

Bouchard Jr, T. (1998). Genetic and environmental influences on adult intelligence and special mental abilities. *Human biology*, 257-279.

Bouchard Jr, T. & McGue, M. (1981). Familial studies of intelligence: A review. *Science*, *212:* 1055-1059.

Bouchard Jr, T. & McGue, M. (2003). Genetic and environmental influences on human psychological differences. *Journal of Neurobiology*, 54: 4-45.

Bouchard Jr, T., & Segal, N. (1985). Environment and IQ. *Handbook of intelligence: Theories, measurements, and applications*, 391-464.

Boyce, W., & Kobor, M. (2015). Development and the epigenome: the 'synapse' of gene–environment interplay. *Developmental science*, *18:* 1-23.

Brass, M., & Cramon, D. (2004). Decomposing components of task preparation with functional magnetic resonance imaging. *Journal of cognitive neuroscience*, *16:* 609-620.

Bratsberg, B., & Rogeberg, O. (2018). Flynn effect and its reversal are both environmentally caused. *Proceedings of the National Academy of Sciences*, *115*(: 6674-6678.

Burt, C., & Simons, R. (2015). Heritability studies in the postgenomic era: The fatal flaw is conceptual. *Criminology*, *53*: 103-112.

Buschkuehl, M. & Jaeggi, S. (2010). Improving intelligence: A literature review. *Swiss Medical Weekly,* 140:266-272.

Cai, B., Zhang, G., Zhang, A., Xiao, L., Hu, W., Stephen, J., Wilson, T., Calhoun, V., & Wang, Y. (2021). Functional connectome fingerprinting: identifying individuals and predicting cognitive functions via autoencoder. *Human Brain Mapping*, *42:* 2691-2705.

Calvin, C., Deary, I., Fenton, C., Roberts, B., Der, G., Leckenby, N., & Batty, G. (2011). Intelligence in youth and all-cause-mortality: systematic review with meta-analysis. *International journal of epidemiology*, *40:* 626-644.

Carey, G. (2003). *Human genetics for the social sciences*. Thousand Oaks, CA: Sage.

Carey, N. (2012). *The epigenetics revolution: How modern biology is rewriting our understanding of genetics, disease, and inheritance*. New York: Columbia University Press.

Casey, B., Somerville, L., Gotlib, I., Ayduk, O., Franklin, N., Askrend, M., Jonides, J., Berman, M., Wilson, M., Teslovich, T., Glover, G. (2011). Behavioral and neural correlates of delay of gratification 40 years later. *Proceedings of the National Academy of Sciences*, 108: 14998-15004.

Caspi, A., Bem, D., & Elder, G. (1989). Continuities and consequences of interaction styles across the lifecourse. *Journal of Personality*, 57:375-406.

Caspi, A., Williams, B., Kim-Cohen, J., Craig, I., Milne, B., Poulton, R., ... & Moffitt, T. (2007). Moderation of breastfeeding effects on the IQ by genetic

variation in fatty acid metabolism. *Proceedings of the National Academy of Sciences, 104:*18860-18865.

Casswell, S., Pledger, M., & Hooper, R. (2003). Socioeconomic status and drinking patterns in young adults. *Addiction, 98:* 601-610.

Ceci, S., & Williams, W. (2009). Should scientists study race and IQ? YES: The scientific truth must be pursued. Nature, 457: 788–789.

Cecil, K., Brubaker, C., Adler, C., Dietrich, K., Altaye, M., Egelhoff, J., ... Lanphear, B. (2008). Decreased brain volume in adults with childhood lead exposure. *PLoS Medicine,* 5: 742–750.

Center for Disease Control (2002). Fetal alcohol syndrome—Alaska, Arizona, Colorado, and New York. 1995–1997. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5120a2.htm.

Chabris, C., Lee, J., Cesarini, D., Benjamin, D., & Laibson, D. (2015). The fourth law of behavior genetics. *Current Directions in Psychological Science, 24*: 304-312.

Chakraborty, B., Lee, H., Wolujewicz, M., Mallik, J., Sun, G., Dietrich, K., & Chakraborty, R. (2008). Low dose effect of chronic lead exposure on neuromotor response impairment in children is moderated by genetic polymorphisms. *Journal of Human Ecology*, 23: 183–194.

Chamorro-Premuzic, T. & Furman, A. (2005). intellectual competence. *The Psychologist*, 18: 352-354.

Charlton, B. (2009). Clever sillies: Why high IQ people tend to be deficient in common sense. *Medical Hypotheses*, 73: 867-870.

Child Trends Data Bank (2013). Child maltreatment. http://www.childtrends.org/?indicators=child-maltreatment.

Child Trends Data Bank (2014). Infant homicides. http://www.childtrends.org/?indicators=infant-homicide.

Ciotti, P. (1998). Money and school performance: Lessons from the Kansas City desegregation experiment. *Policy Analysis, 298:* 1-25.

Clark, C., & Gist, N. (1938). Intelligence as a factor in occupational choice. *American Sociological Review, 3:* 683-694.

Cloward, R. & Ohlin, L. (1960). *Delinquency and opportunity*. New York: Free Press.

Cofnas, N. (2020). Research on group differences in intelligence: A defense of free inquiry. *Philosophical Psychology, 33:* 125-147.

Cohen, A. (1955). *Delinquent boys*. New York: Free Press.

Cosby, B & Poussaint, A. (2007). *Come on, people: On the path from victims to victors*. Nashville, Thomas Nelson.

Cozolino, L. (2014). *The neuroscience of human relationships: Attachment and the developing social brain (Norton Series on Interpersonal Neurobiology)*. WW Norton & Company.

Crozier, J., & Barth, R. (2005). Cognitive and academic functioning in maltreated children. *Children & Schools, 27:* 197-206.

Deary, I. (2003). Reaction time and psychometric intelligence: Jensen's contributions. In Nyborg, H. (ed.). *The scientific study of general intelligence: Tribute to Arthur Jensen,* pp. 53-75. Elsevier.

Deary, I., Cox, S., & Hill, W. (2022). Genetic variation, brain, and intelligence differences. *Molecular psychiatry*, *27*(1), 335-353.

Deary, I., Johnson, W., & Houlihan, L. (2009). Genetic foundations of human intelligence. *Human genetics*, *126:* 215-232.

Deary, I., Penke, L., & Johnson, W. (2010). The neuroscience of human intelligence differences. *Nature reviews neuroscience*, *11:* 201-211.

Deary, I., Spinath, F., & Bates, T. (2006). Genetics of intelligence. *European Journal of Human Genetics*, *14:* 690-700.

Deary, I., Whalley, L., Lemmon, H., Crawford, J., & Starr, J. (2000). The stability of individual differences in mental ability from childhood to old age: Follow-up of the 1932 Scottish Mental Survey. *Intelligence*, *28:* 49-55.

Deary, I., Weiss, A., & Batty, G. D. (2010). Intelligence and personality as predictors of illness and death: How researchers in differential psychology and chronic disease epidemiology are collaborating to understand and address health inequalities. *Psychological Science in the Public Interest*, *11:* 53-79.

Deming, D. (2017). The growing importance of social skills in the labor market. *Quarterly Journal of Economics*, 132: 1593–640.

Department of Health and Human Services (2004). Breastfeeding practices—Results from the National Immunization Survey. http://www.cdc.gov/breastfeeding/data/NIS_2004.htm.

Depue, R., & Collins, P. (1999). Neurobiology of the structure of personality: Dopamine, facilitation of incentive motivation, and extraversion. *Behavioral and Brain Sciences*, *22:* 491-517.

DeWeerdt, S. (2019). How to map the Brain. *Nature*. Doi: 10.1038/d41586-019-02208-0.

Dickens, W. & Flynn, J. (2001). Heritability estimates versus large environmental effects; The IQ paradox resolved. *Psychological Review*, 108: 346-349.

DiRago, A., & Vaillant, G. (2007). Resilience in inner city youth: Childhood predictors of occupational status across the lifespan. *Journal of Youth and Adolescence*, *36:* 61-70.

Dizaji, A., Vieira, B., Khodaei, M., Ashrafi, M., Parham, E., Hosseinzadeh, G., Salmon, C. & Soltanianzadeh, H., 2021. Linking brain biology to intellectual endowment: A review on the associations of human intelligence with neuroimaging data. *Basic and Clinical Neuroscience*, *12:* 1-27.

Dobson, K., Chow, C., Morrison, K., & Van Lieshout, R. (2017). Associations between childhood cognition and cardiovascular events in adulthood: a systematic review and meta-analysis. *Canadian Journal of Cardiology*, *33:* 232-242.

Dugdale, R. (1877/1895). *"The Jukes": A study in crime, pauperism, disease, and heredity.* New York: Putnam.

Duckworth, A., Quinn, P., Lynam, D., Loeber, R., & Stouthamer-Loeber, M. (2011). Role of test motivation in intelligence testing. *Proceedings of the National Academy of Sciences*, *108:* 7716-7720.

Durkheim, E. (1951). The division *of labor in society*. Glencoe, IL: Free Press.

Dutton, E., & van der Linden, D. (2015). Who are the "Clever Sillies"? The intelligence, personality, and motives of clever silly originators and those who follow them. *Intelligence*, *49*: 57-65.

Edelman, G. (1992). *Bright air, brilliant fire*. New York: Basic Books.

Edwards, A. (2003). Human genetic diversity: Lewontin's fallacy. *BioEssay*s, 25:798-801.

Ehrlich, D. E., & Josselyn, S. A. (2016). Plasticity-related genes in brain development and amygdala-dependent learning. *Genes, Brain and Behavior*, *15:* 125-143.

Ellis, B. (1995). The evolution of sexual attraction: Evaluative mechanisms in women. In Barkow, J., Cosmides, L. & Tooby, J. (eds.), *The adapted mind: evolutionary psychology and the generation of culture,* pp. 267-288. New York: Oxford University Press.

Ellis, L. (1996). A discipline in peril: Sociology's future hinges on curing its biophobia. *The American Sociologist*, *27:* 21-41.

Ellis, L. & Walsh, A. (2000). *Criminology: A global perspective*. Boston: Allyn & Bacon.

Ellis, L., & Walsh, A. (2003). Crime, delinquency, and intelligence: A review of the worldwide literature. In H. Nyborg (Ed.), *The Scientific Study of General Intelligence: Tribute to Arthur J. Jensen,* pp. 343–365. Kidlington, Oxford: Elsevier Science.

Eppig, C., Fincher, C., & Thornhill, R. (2010). Parasite prevalence and the worldwide distribution of cognitive ability. *Proceedings of the Royal Society B: Biological Sciences*, *277:* 3801-3808.

Eppig, C., Fincher, C., & Thornhill, R. (2011). Parasite prevalence and the distribution of intelligence among the states of the USA. *Intelligence*, *39:* 155-160.

Errol, Z., Madsen, J., & Moslehi, S. (2021). Social disorganization theory and crime in the advanced countries: Two centuries of evidence. *Journal of Economic Behavior & Organization*, *191:* 519-537.

Farrington, D. & Welsh, B. (2007). Saving children from a life of crime: Early risk factors and effective interventions. New York, NY: Oxford University Press.

Felson, J. (2014). What can we learn from twin studies? A comprehensive evaluation of the qual environments assumption. *Social Science Research,* 43:184–199.

Figueredo, A., Vásquez, G., Brumbach, B.., Schneider, S., Sefcek, J., Tal, I., Hill, D., Wenner, C., & Jacobs, W., (2006). Consilience and life history theory: From genes to brain to reproductive strategy. *Developmental Review*, *26:* 243-275.

Fincher, J. (1982). *The human brain: Mystery of matter and mind.* Washington, DC: U.S. News Books.

Finn, E., Shen, X., Scheinost, D., Rosenberg, M., Huang, J., Chun, M., Papademetris, X., & Constable, R. (2015). Functional connectome fingerprinting: identifying individuals using patterns of brain connectivity. *Nature neuroscience*, *18:* 1664-1671.

Flynn, J. (2007). *What is intelligence? Beyond the Flynn effect*. Cambridge: Cambridge University Press.

Flynn, J. (2013). The “Flynn effect” and Flynn’s paradox. *Intelligence, 41:* 851-857.

Forero, D., Pereira-Morales, A., & González-Giraldo, Y. (2017). Molecular genetics and human behavior. *Module in Neuroscience and Biobehavioral Psychology*. http://dx.doi.org/10.1016/B978-0-12-809324-5.06489-0

Frisell, T., Pawitan, Y., & Långström, N. (2012). Is the association between general cognitive ability and violent crime caused by family-level confounders? *PloS one, 7:* e41783.

Gabora, L., & Russon, A. (2011). The evolution of human intelligence. In R. Sternberg & S. Kaufman (eds.), The Cambridge handbook of intelligence, pp. 328-350. Cambridge: Cambridge University Press.

Gale, C., Batty, G., Tynelius, P., Deary, I., & Rasmussen, F. (2010). Intelligence in early adulthood and subsequent hospitalisation and admission rates for the whole range of mental disorders: longitudinal study of 1,049,663 men. *Epidemiology (Cambridge, Mass.), 21:* 70-77.

Gardner, H. (2001). The ethical responsibilities of professionals. http://thegoodproject.org/wp-content/uploads/2012/09/GoodWork2.pdf

Garlick, D. (2002). Understanding the nature of the general factor of intelligence: the role of individual differences in neural plasticity as an explanatory mechanism. *Psychological review, 109:* 116-136.

Garlick, D. (2003). Integrating brain science research with intelligence research. *Current Directions in Psychological Science, 12:* 185-189.

Gatzke-Kopp, L, Raine, A., Loeber, R., Stouthamer-Loeber, M., & Steinhauer, S. (2002). Serious delinquent behavior, sensation seeking, and electrodermal arousal. *Journal of Abnormal Child Psychology*, 30:477-486.

Geary, D. C. (2005). *The origin of mind: Evolution of brain, cognition, and general intelligence.* Washington, DC: American Psychological Association.

Gewertz, C. (2000). A hard lesson for Kansas City's troubled schools. *Education Week,* April 22, 1-5.

Giedd, J. (2004). Structural magnetic resonance imaging of the adolescent brain. *Annals of the New York Academy of Sciences, 1021:* 77-85.

Gigi, K., Werbeloff, N., Goldberg, S., Portuguese, S., Reichenberg, A., Fruchter, E., & Weiser, M. (2014). Borderline intellectual functioning is associated with poor social functioning, increased rates of psychiatric diagnosis and drug use–A cross sectional population based study. *European Neuropsycho pharmacology, 24:* 1793-1797.

Glahn, D., Thompson, P., & Blangero, J. (2007). Neuroimaging endophenotypes: strategies for finding genes influencing brain structure and function. *Human brain mapping, 28:* 488-501.

Glueck S, & Glueck E (1950) *Unraveling juvenile delinquency.* New York: Commonwealth Fund.

Goddard, H. (1912/1931). *The Kallikak family: A study in the heredity of feeblemindedness.* New York: Macmillan.

Goddard, H. (1914). *Feeblemindedness: Its causes and consequences.* New York: Macmillan.

Gordon, R. (1997). Everyday life as an intelligence test: Effects of intelligence and intelligence context. *Intelligence, 24:* 203-320.

Gottfredson, L. (1986). Societal consequences of the g factor in employment. *Journal of Vocational Behavior*, *29:* 379-410.

Gottfredson, L. (1997). Why g matters: The complexity of everyday life. *Intelligence*, *24:* 79-132.

Gottfredson, L. (2004). Intelligence: Is it the epidemiologists' elusive "fundamental cause" of social class inequalities in health? *Journal of Personality and Social Psychology*, *86:* 174-199.

Gottfredson, L. (2005). What if the hereditarian hypothesis is true? *Psychology, Public Policy, and Law,* 11: 311-319.

Gottfredson, M. & Hirschi, T. (1990). *A general theory of crime*. Stanford: Stanford University Press.

Gray, J., & Thompson, P. (2004). Neurobiology of intelligence: science and ethics. *Nature Reviews Neuroscience*, *5:* 471-482.

Gunnar, M., & Quevedo, K. (2007). The neurobiology of stress and development. *Annual Review of Psychology*, *58:* 145-173.

Gur, R., Butler, E., Moore, T., Rosen, A., Ruparel, K., Satterthwaite, T., Roalf, D., Gennatas, E., Bilker, W., Shinohara, R., & Port, A. (2020). Structural and functional brain parameters related to cognitive performance across development: Replication and extension of the Parieto-Frontal Integration Theory in a single sample, *Cerebral Cortex*, 00: 1–20.

Hacking, I. (2006). Genetics, biosocial groups & the future of identity. *Daedalus*, 135: 81–95.

Hannan, S. (2020). The crimes of America's most prolific serial killer. *The Cleveland Magazine*, January. https://clevelandmagazine.com/in-the-cle/the-read/articles/in-the-shadows.

Hart, C., Taylor, M., Smith, G., Whalley, L., Starr, J., Hole, D., Wilson, V. and Deary, I. (2004). Childhood IQ and cardiovascular disease in adulthood: prospective observational study linking the Scottish Mental Survey 1932 and the Midspan studies. *Social Science & Medicine*, *59:* 2131-2138.

Hatemi, P., McDermott, R., & Eaves, L. (2015). Genetic and environmental contributions to relationships and divorce attitudes. *Personality and individual differences*, *72:* 135-140.

Hayes, T., Petrov, A., & Sederberg, P. (2015). Do we really become smarter when our fluid-intelligence test scores improve? *Intelligence*, *48*, 1-14.

Hecht, E. (2007). Energy and change. *The Physics Teacher*, *45:* 88-92.

Heck, K., Braveman, P., Cubbin, C., Chávez, G., & Kiely, J. (2006). Socioeconomic status and breastfeeding initiation among California mothers. *Public health reports*, *121:* 51-59.

Herrnstein, R.., & Murray, C. (1994). *The bell curve: Intelligence and class structure in American life*. New York: Free Press.

Hill, W., Davies, G., McIntosh, A., Gale, C., & Deary, I. (2017). A combined analysis of genetically correlated traits identifies 107 loci associated with intelligence. *BioRxiv*, 160291.

Hill W., Marioni R., Maghzian O, Ritchie S., Hagenaars S., McIntosh A., Gale C., Davies G., & Deary I. (2019). A combined analysis of genetically correlated traits identifies 187 loci and a role for neurogenesis and myelination in intelligence. *Molecular Psychiatry* 24: 169–181.

Isen, J. (2010). A meta-analytic assessment of Wechsler's P>V sign in antisocial populations. *Clinical psychology review, 30:* 423-435.

Jackson, K., & Nazar, A. (2006). Breastfeeding, the immune response, and long-term health. *Journal of Osteopathic Medicine, 106:* 203-207.

Jacob, L., Haro, J., & Koyanagi, A. (2019). Association between intelligence quotient and violence perpetration in the English general population. *Psychological medicine, 49:* 1316-1323.

Jensen, A. (1998). *The g factor*. Westport, CT: Praeger.

Jensen, A., & Figueroa, R. (1975). Forward and backward digit span interaction with race and IQ: predictions from Jensen's theory. *Journal of Educational Psychology, 67:* 882-893.

Jin, W., Yang, K., Barzilay, R., & Jaakkola, T. (2018). Learning multimodal graph-to-graph translation for molecular optimization. *arXiv preprint arXiv: 1812.01070*.

Johansson, P., & Kerr, M. (2005). Psychopathy and intelligence: A second look. *Journal of personality disorders, 19:* 357-369.

Johnson, A., Lee, J. & Leeuw, C. (2014). Common genetic variants associated with cognitive performance identified using the proxy-phenotype method. *Proceedings of the National Academy of Sciences, 111:* 13790-13794.

Joo, Y., Cha, J., Freese, J., & Hayes, M. (2022). Cognitive capacity Genome-Wide Polygenic Scores identify individuals with slower cognitive decline in aging. *Genes, 13:* 1320.

Jung, R., & Haier, R. (2007). The Parieto-Frontal Integration Theory (P-FIT) of intelligence: converging neuroimaging evidence. *Behavioral and brain sciences, 30:* 135-154.

Kanazawa, S. (2008). Temperature and evolutionary novelty as forces behind the evolution of general intelligence. *Intelligence, 36:* 99-108.

Kanazawa, S. (2012). The evolution of general intelligence. *Personality and Individual Differences, 53:* 90-93.

Kennedy, W., Willcutt, H., & Smith, A. (1963). Wechsler profiles of mathematically gifted adolescents. *Psychological Reports, 12:* 259-262.

Keyes, K., Platt, J., Kaufman, A., & McLaughlin, K. (2017). Association of fluid intelligence and psychiatric disorders in a population-representative sample of US adolescents. *Journal of the American Medical Association: Psychiatry, 74:* 179-188.

Kingston, P. (2006). How meritocratic is the United States? *Research in Social Stratification and Mobility*, 24:11-130.

Koller, K., Brown, T., Spurfeon, A., & Levy, L. (2004). Recent developments in low-level lead exposure and intellectual impairment in children. *Environmental Health Perspectives,* 112: 987–994.

Kourany, J. (2016). Should some knowledge be forbidden? The case of cognitive differences research. *Philosophy of Science, 83:* 779-790.

Kramer, M., Aboud, F., Mironova, E., Vanilovich, I., Platt, R., Matush, L., ... Shapiro, S. (2008). Breastfeeding and child cognitive development: New evidence from a large randomized trial. *Archives of General Psychiatry*, 65: 578–584.

Kruk, E. (2012). Arguments for an equal parental responsibility presumption in contested child custody. *The American Journal of Family Therapy, 40:*33-55.

Lagerfeld, S. (2004). The revenge of the nerds. *The Wilson Quarterly (1976-), 28:* 28-34. (ADHD). *PloS one*, *8*(4), e62177.

Landecker, H. & Panofsky, A. (2013). From social structure to gene regulation, and back: A critical introduction to environmental epigenetics for sociology. *Annual Review of Sociology* 39: 333-357.

Langeslag, S., Schmidt, M., Ghassabian, A., Jaddoe, V., Hofman, A., van der Lugt, A., Verhulst, F., Tiemeier, H. and White, T. (2013). Functional connectivity between parietal and frontal brain regions and intelligence in young children: the Generation R study. *Human Brain Mapping, 34:* 3299-3307.

Laundra, K., & Sutton, T. (2008). You think you know ghetto? Contemporizing the dove "Black IQ test". *Teaching sociology, 36:* 366-377.

Lechner, C. M., Miyamoto, A., & Knopf, T. (2019). Should students be smart, curious, or both? Fluid intelligence, openness, and interest co-shape the acquisition of reading and math competence. *Intelligence, 76:* 101378.

Lee J., Wedow, R., Okbay, A., Kong, E., Maghzian, O., Zacher, M., Nguyen-Viet, T., Bowers, P., Sidorenko, J., Karlsson Linner, R., Fontana, M., Kundu, T., Lee, C., Li, H., Li, R., Royer, R., Timshel, P., Walters, R., Willoughby, E., Yengo, L., et al. (2018). Gene discovery and polygenic prediction from a genome-wide association study of educational attainment in 1.1 million individuals. *Nature Genetics* 50: 1112–1121.

Lewontin, R. (1970). Race and intelligence. *Bulletin of the Atomic Scientists*, *26*(3), 2-8.

Lewontin, R. (1972). The apportionment of human diversity. *Evolutionary Biology,* 6:391–398.

Lipsey, M., Farran, D., & Durkin, K. (2018). Effects of the Tennessee Prekindergarten Program on children's achievement and behavior through third grade. *Early Childhood Research Quarterly, 45:* 155-176.

Little, B., Sud, N., Nobile, Z., & Bhattacharya, D. (2021). Teratogenic effects of maternal drug abuse on developing brain and underlying neurotransmitter mechanisms. N*eurotoxicology, 86:* 172-179.

Lubinski, D. (2004). Introduction to the special section on cognitive abilities: 100 years after Spearman's (1904) "General intelligence," objectively determined and measured." *Journal of Personality and Social Psychology, 86:* 96-111.

Lykken, D. (1995). *The Antisocial Personalities.* Hillsdale, NJ: Lawrence Erlbaum.

Lynch, J., Smith, G., Harper, S., Hillemeier, M., Ross, N., Kaplan, G., & Wolfson, M. (2004). Is income inequality a determinant of population health? Part 1. A systematic review. *The Milbank Quarterly, 82:* 5-99.

Lynn, R. (2009). What has caused the Flynn effect? Secular increases in the development quotients of infants. *Intelligence,* 37:16-24.

Lynn, R., Fuerst, J., & Kirkegaard, E. (2018). Regional differences in intelligence in 22 countries and their economic, social and demographic correlates: A review. *Intelligence, 69:* 24-36.

Mackenbach, J. (2002). Income inequality and population health. *British Medical Journal,* 324: 1–2.

Mackey, W., & Immerman, R. (2007). Fatherlessness by divorce contrasted to fatherlessness by non-marital births: A distinction with a difference for the community. *Journal of Divorce & Remarriage, 47:* 111-134.

Mani, M., Kabekkodu, S., Joshi, M., & Dsouza, H. (2019). Ecogenetics of lead toxicity and its influence on risk assessment. *Human & Experimental Toxicology, 38:* 1031-1059.

Margolis, A., Bansal, R., Hao, X., Algermissen, M., Erickson, C., Klahr, K., Naglieri, J. & Peterson, B. (2018). Using IQ discrepancy scores to examine the neural correlates of specific cognitive abilities. *Journal of Neuroscience, 33:*14135-14145.

Matarazzo, J. (1976). *Wechsler's measurement and appraisal of adult intelligence*. Baltimore: Williams and Wilkins.

May, P., Gossage, J., Marais, A., Hendricks, L., Snell, C., Tabachnick, B., Stellavato, C., Buckley, D., Brooke, L., & Viljoen, D., (2008). Maternal risk factors for fetal alcohol syndrome and partial fetal alcohol syndrome in South Africa: a third study. *Alcoholism: Clinical and Experimental Research, 32:* pp.738-753.

McKinnon, J. (2003). *The Black Population in the United States*: March 2002. Washington, DC: U.S. Census Bureau.

McGloin, J., & Pratt, T. (2003). Cognitive ability and delinquent behavior among inner-city youth: A life-course analysis of main, mediating, and interaction effects. *International Journal of Offender Therapy and Comparative Criminology, 47:* 253-271.

McLaughlin, V., & Mackey, W. (2008). Demographics of the upward-trending murder rate in Buffalo, New York: A harbinger of societal stress. *Journal of Social, Political, and Economic Studies, 33:* 458-471.

Medina, H., Callahan, K., Koru-Sengul, T., Maheshwari, S., Liu, Q., Goel, N., & Pinheiro, P. (2022). Elevated breast cancer mortality among highly educated Asian American women. *Plos one, 17*(5): e0268617.

Meldrum, R., Petkovsek, M., Boutwell, B., & Young, J. (2017). Reassessing the relationship between general intelligence and self-control in childhood. *Intelligence, 60:* 1-9.

Merton, R. (1938). Social structure and anomie. *American Sociological Review* 3: 672–82.

Miller, L. (1987). Neuropsychology of the aggressive psychopath: An integrative review. *Aggressive Behavior*, 13: 119-140.

Mills, M., & Tropf, F. (2020). Sociology, genetics, and the coming of age of sociogenomics. *Annual Review of Sociology, 46*(1), 553-581.

Mitchell, C., Hobcraft, J., McLanahan, S., Siegel, S., Berg, A., Brooks-Gunn, J., & Notterman, D. (2014). Social disadvantage, genetic sensitivity, and children's telomere length. *Proceedings of the National Academy of Sciences*, 111: 5944–5949.

Mitchell, K. (2007). The genetics of brain wiring: From molecule to mind. *PLoS Biology*, 4: 690-692.

Missouri v. Jenkins, 495 U.S. 33 (1990)

Missouri v. Jenkins II, 515 U.S. 70 (1995).

Moffitt, T. (1993). Adolescent-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100: 674-701.

Moffitt T., Arseneault, L., Belsky, D., Dickson, N., Hancox, R., Harrington, H., Hout, R., Poulton, R., Roberts, B., Ross, S., Sears, M., Thomson, W., & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences*, 108: 2693-2698.

Moffitt, T., & Beckley, A. (2015). Abandon twin research? Embrace epigenetic research? Premature advice for criminologists. *Criminology*, 53: 121–126.

Moffitt, T., Gabrielli, W., Mednick, S., & Schulsinger, F. (1981). Socioeconomic status, IQ, and delinquency. *Journal of Abnormal Psychology, 90:* 152.

Moffitt, T., & Silva, P. (1988). IQ and delinquency: a direct test of the differential detection hypothesis. *Journal of abnormal psychology, 97:* 330-333.

Murray, C. (2002). IQ and income inequality in a sample of sibling pairs from advantaged family backgrounds. *The American Economic Review*, 92: 339-343.

Neisser, U., Boodoo, G., Bouchard, T., Boykin, A., Brody, N., Ceci, S., Halpern, D., Loehlin, J., Perloff, R., Sternberg, R. & Urbina, S. (1996). Intelligence: Knowns and unknowns. *American Psychologist*, 51: 77-101.

Nettle, D. (2003). Intelligence and class mobility in the British population. *British Journal of Psychology, 94:* 551-561.

Nettler, G. (1984). *Explaining crime* (3rd Ed.). New York: McGraw Hill.

Neubauer, A., & Fink, A. (2009). Intelligence and neural efficiency. *Neuroscience & Biobehavioral Reviews, 33:* 1004-1023.

Nielsen, F. (2006). Achievement and ascription in educational attainment: Genetic and environmental influences on adolescent schooling. *Social Forces*, 85: 193-216.

Nisbett, R., Aronson, J., Blair, C., Dickens, W., Flynn, J., Halpern, D., & Turkheimer, E. (2012). Intelligence: new findings and theoretical developments. *American psychologist, 67:* 130-159.

Nguyen, H., & Ryan, A. (2008). Does stereotype threat affect test performance of minorities and women? A meta-analysis of experimental evidence. *Journal of applied psychology, 93:* 1314-1334.

Nolan, B., Richiardi, M., & Valenzuela, L. (2019). The drivers of income inequality in rich countries. *Journal of Economic Surveys, 33:* 1285-1324.

O'Connell, M., Boat, T., & Warner, K.. (2009). Committee on the prevention of mental disorders and substance abuse among children, youth, and young adults: research advances and promising interventions. *Preventing mental, emotional, and behavioral disorders among young people: Progress and possibilities*. Washington, DC: The National Academies Press.

O'Connell, M., & Marks, G. (2021). Are the effects of intelligence on student achievement and well-being largely functions of family income and social class? Evidence from a longitudinal study of Irish adolescents. *Intelligence, 84*, 101511.

Oleson, J., & Chappell, R. (2012). Self-reported violent offending among subjects with genius-level IQ scores. *Journal of family violence, 27:* 715-730.

Oregon Department of Human Services (2002). Gaining knowledge about fetal alcohol syndrome. https://public.health.oregon.gov/HealthyPeopleFamilies/Women/PreconceptionHealth/FetalAlcoholSyndrome/Documents/fas_final_report.pdf.

Osgood, D. & Chambers, J. (2003). Community correlates of rural youth violence. Washington, DC: *Juvenile Justice Bulletin,* May. U.S. Department of Justice.

Penn, A. (2001). Early brain wiring: activity-dependent processes. *Schizophrenia Bulletin, 27:* 337-347.

Pesta, B., & Poznanski, P. (2014). Only in America: Cold Winters Theory, race, IQ and well-being. *Intelligence, 46:* 271-274.

Petkovsek, M., & Boutwell, B. (2014). Childhood intelligence and the emergence of self-control. *Criminal Justice and Behavior, 41:* 1232-1249.

Petty, M. (2010). The IQ myth. http://www.selfgrowth.com/articles/the-iq-myth.

Pietschnig, J., Gerdesmann, D., Zeiler, M., & Voracek, M. (2022). Of differing methods, disputed estimates and discordant interpretations: the meta-analytical multiverse of brain volume and IQ associations. *Royal Society Open Science, 9:* 211621.

Pietschnig, J., & Voracek, M. (2015). One century of global IQ gains: A formal meta-analysis of the Flynn effect (1909–2013). *Perspectives on Psychological Science, 10:* 282-306.

Piquero, A., & White, N. (2003). On the relationship between cognitive abilities and life-course-persistent offending among a sample of African Americans: A longitudinal test of Moffitt's hypothesis. *Journal of Criminal Justice, 31:* 399-409.

Pirnahad, K. (2007). *Evolution of humanity: The path to independence.* New York: iUniverse, Inc.

Plomin, R., & von Stumm, S. (2018). The new genetics of intelligence. *Nature Reviews Genetics*, 19: 148. doi: 10.1038/nrg.2017.104.

Polderman, T., Benyamin, B., De Leeuw, C., Sullivan, P., Van Bochoven, A., Visscher, P., & Posthuma, D. (2015). Meta-analysis of the heritability of human traits based on fifty years of twin studies. *Nature Genetics, 47*: 702-709.

Posthuma, D., De Geus, E., Baaré, W., Pol, H., Kahn, R., & Boomsma, D. (2002). The association between brain volume and intelligence is of genetic origin. *Nature neuroscience, 5:* 83-84.

Prayer, D., Kasprian, G., Krampl, E., Ulm, B., Witzani, L., Prayer, L., & Brugger, P. (2006). MRI of normal fetal brain development. *European Journal of Radiology*, 57: 199–216.

Prokosch, M., Yeo, R., & Miller, G. (2005). Intelligence tests with higher g-loadings show higher correlations with body symmetry: Evidence for a general fitness factor mediated by developmental stability. *Intelligence, 33:* 203-213.

Puma, M., Bell, S., Cook, R., Heid, C., Broene, P., Jenkins, F., Mashburn, A. & Downer, J. (2012). Third Grade Follow-Up to the Head Start Impact Study: Final Report. Office of Planning, Research and Evaluation Report 2012-45. *Administration for Children & Families.*

Quartz, S., & Sejnowski, T. (1997). The neural basis of cognitive development: A constructivist manifesto. *Behavioral and brain sciences, 20:* 537-556.

Reich, D. (2018). *Who we are and how we got here: Ancient DNA and the new science of the human past.* New York: Pantheon Books.

Renthal W. & Nestler, E. (2009). Chromatin regulation in drug addiction and depression. *Dialogues in Clinical Neuroscience*, 11:257-68.

Rietveld, C., Esko, T., Davies, G., Pers, T., Turley, P., Benyamin, B., Chabris, C., Emilsson, V., Rindermann, H., Becker, D., & Coyle, T. (2016). Survey of expert opinion on intelligence: Causes of international differences in cognitive ability tests. *Frontiers in psychology, 7:* 399.

Ritchie, S. (2015). *Intelligence: All that matters.* London: John Murray.

Robbins, B. & Ross, A. (1996). Response by Social Text editors Bruce Robbins and Andrew Ross. *Lingua Franca,* July/August.

Rogers, D., Deshpande, O., & Feldman, M. (2011). The spread of inequality. *PloS One, 6:* e24683.

Rose, S. (2009). Should scientists study race and IQ? No: Science and society do not benefit. *Nature, 457:* 786-788.

Rowe, D. (1994). *The limits of family influence: Genes, experience, and behavior.* Guilford Press.

Rowe, D., Jacobson, K., & Van den Oord, E. (1999). Genetic and environmental influences on vocabulary IQ: Parental education level as moderator. *Child development, 70:* 1151-1162.

Rundall, T., & Wheeler, R. (1979). The effect of income on use of preventive care: An evaluation of alternative explanations. *Journal of Health and Social Behavior,* 20: 397– 406.

Rushton, J. (1990). Race and crime: A Reply to Roberts and Gabor. *Canadian Journal of Criminology, 32:* 315-334.

Sanger, R. (2015). IQ Intelligence Tests, Ethnic Adjustments and Atkins. *American University Law Review, 65:* 87-150.

Schlinger, H. (2003). The myth of intelligence. *Psychological Record, 53:* 15-32.

Schmidt, F. & Hunter, K. (2004). General mental ability in the world of work: Occupational attainment and job performance. *Journal of Personality and Social Psychology,* 86: 162-173.

Schön, R., & Silvén, M. (2007). Natural parenting—back to basics in infant care. *Evolutionary Psychology, 5: 102-183.*

Schultz, W., Kelli, H., Lisko, J., Varghese, T., Shen, J., Sandesara, P., Quyyumi, A., Taylor, H., Gulati, M., Harold, J. & Mieres, J. (2018). Socioeconomic status and cardiovascular outcomes: challenges and interventions. *Circulation, 137:* 2166-2178.

Schwartz, J., Savolainen, J., Aaltonen, M., Merikukka, M., Paananen, R., & Gissler, M. (2015). Intelligence and criminal behavior in a total birth cohort: An examination of functional form, dimensions of intelligence, and the nature of offending. *Intelligence, 51:* 109-118.

Schwekendick, D. (2009). Height and weight differences between North and South Korea. *Journal of Biosocial Science,* 41:446-454.

Seligman, D. (1992). *The question of intelligence: The IQ debate in America.* New York: Birch Lane Press.

Selita, F., & Kovas, Y. (2019). Genes and Gini: what inequality means for heritability. *Journal of iosocial Science, 51:* 18-47.

Sesardic, N. (2003). Heritability and indirect causation. *Philosophy of Science*, 70:1002-10014.

Shaw, P., Lerch, J., Greenstein, D., Sharp, W., Clasen, L., Evans, A., Giedd, J., Castellanos, F. & Rapoport, J. (2006). Longitudinal mapping of cortical thickness and clinical outcome in children and adolescents with attention-deficit/hyperactivity disorder. *Archives of General Psychiatry, 63:*540-549.

Shi, S., Cheng, T., Jan, L., & Jan, Y. (2004). The immunoglobulin family member dendrite arborization and synapse maturation 1 (Dasm1) controls excitatory synapse maturation. *Proceedings of the National Academy of Sciences, 101:* 13346-13351.

Shoda, Y., Mischel, W., & Peake, P. (1990). Predicting adolescent cognitive and self-regulatory competence from preschool delay of gratification: Identifying diagnostic conditions. *Developmental Psychology*, 26: 978–986.

Silver, I. (2019). Linear and non-linear: An exploration of the variation in the functional form of verbal IQ and antisocial behavior as adolescents age into adulthood. *Intelligence, 76*, 101375.

Simpson-Kent, I., Fuhrmann, D., Bathelt, J., Achterberg, J., Borgeest, G., & Kievit, R. (2020). Neurocognitive reorganization between crystallized intelligence, fluid intelligence and white matter microstructure in two age-heterogeneous developmental cohorts. *Developmental Cognitive Neuroscience, 41:* 100743.

Sjölund, S., Allebeck, P., & Hemmingsson, T. (2012). Intelligence quotient (IQ) in adolescence and later risk of alcohol-related hospital admissions and deaths—37-year follow-up of Swedish conscripts. *Addiction, 107:* 89-97.

Snyderman, M. & Rothman, S. (1988). *The IQ controversy, the media and public policy*. New Brunswick, NJ: Transaction.

Sokal, A. (1996). Transgressing the boundaries: Toward a transformative hermeneutics of quantum gravity. *Social Text*, 46/47: 217-252.

Sokal, A. & J. Bricmont (1998). *Fashionable nonsense: Postmodern intellectuals' abuse of Science*. New York: Picador.

Sowell, E., Thompson, P., Leonard, C., Welcome, S., Kan, E., & Toga, A. (2004). Longitudinal mapping of cortical thickness and brain growth in normal children. *Journal of Neuroscience, 24:* 8223-8231.

Spencer, S., Logel, C., & Davies, P. (2016). Stereotype threat. *Annual review of psychology, 67:* 415-437.

Spirtes, P., Glymour, C. & Scheines, R. (2000). Causation, prediction, and search. Cambridge, MA: MIT Press.

Sprecher, S., Brooks, J.., & Avogo, W. (2013). Self-esteem among young adults: Differences and similarities based on gender, race, and cohort (1990–2012). *Sex roles, 69:* 264-275.

Stams, G., Brugman, D., Deković, M., Van Rosmalen, L., Van Der Laan, P., & Gibbs, J. (2006). The moral judgment of juvenile delinquents: A meta-analysis. *Journal of abnormal child psychology, 34:* 692-708.

Steele, C., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology*, 69: 797–811.

Steenland, K., Henley, J., & Thun, M. (2002). All-cause and cause-specific death rates by educational status for two million people in two American Cancer Society cohorts, 1959–1996. *American journal of epidemiology, 156:* 11-21.

Sternberg, R., Grigorenko, E., & Bundy, D. (2001). The predictive value of IQ. *Merrill-Palmer Quarterly (1982-):* 1-41.

Sundet, J., Barlaug, D., & Torjussen, T. (2004). The end of the Flynn effect? A study of secular trends in mean intelligence test scores of Norwegian conscripts during half a century. *Intelligence, 32:* 349-362.

Tanner, M. (2019). What's missing in the war on poverty? *The Cato Institute*.

Taylor, S. (1991). *Health psychology* (2nd ed.). New York: McGraw-Hill.

Teasdale, T., & Owen, D. (2008). Secular declines in cognitive test scores: A reversal of the Flynn Effect. *Intelligence, 36:* 121-126.

Tingberg, B., & Nilsson, D. (2020). Child neglect-still a neglected problem in the global world: A review. *Journal of Advanced Pediatrics and Child Health, 3:* 038-046.

Turkheimer, E. (2000). Three laws of behavior genetics and what they mean. *Current Directions in Psychological Science, 9:* 160-164.

Turkheimer, E., Haley, A., Waldron, M., d'Onofrio, B., & Gottesman, I. (2003). Socioeconomic status modifies heritability of IQ in young children. *Psychological science, 14:* 623-628.

Tuvblad, C., & Baker, L. (2011). Human aggression across the lifespan: genetic propensities and environmental moderators. *Advances in genetics, 75*: 171-214.

Twardosz, S., & Lutzker, J. (2010). Child maltreatment and the developing brain: A review of neuroscience perspectives. *Aggression and violent behavior, 15:* 59-68.

Van Den Heuvel, M., Stam, C., Kahn, R., & Pol, H. (2009). Efficiency of functional brain networks and intellectual performance. *Journal of Neuroscience, 29:* 7619-7624.

Vold, G., Bernard, T., & Snipes, J. (1998). *Theoretical criminology*. New York: Oxford University Press.

Walsh, A. (1998). Religion and hypertension: Testing alternative explanations among immigrants. *Behavioral Medicine*, 24: 122-130.

Walsh, A. (2003). Intelligence and antisocial behavior. In A. Walsh & L. Ellis (Eds.), *Biosocial criminology: Challenging environmentalism's supremacy*, pp. 105–124). Huntington, NY: Nova Science.

Walsh, A. (2009a). Crazy by design: A biosocial approach to the age-crime curve. In Walsh, A & Beaver, K. (eds) *Biosocial criminology: New directions in theory and research*, pp. 154-175. New York: Routledge.

Walsh, A. (2009b). *Biology and Criminology: The biosocial synthesis*. New York: Routledge.

Walsh, A. (2022). Political Ideology and Happiness. *Mankind Quarterly, 62:* 660-686.

Ward, D. & Tittle, C. (1994). IQ and delinquency: A test of two competing explanations. *Journal of Quantitative Criminology*, 10:189-212.

Walters, G. (2022). Mediating the low verbal intelligence–early adult offending relationship with pro-aggression attitudes. *Criminal Justice and Behavior*, *49:* 513-529.

Wechsler, D. (1958). *The measurement and appraisal of adult intelligence*. Baltimore, MD: Williams & Wilkins.

Weinhold, B. (2006). Epigenetics: The science of change. *Environmental Health Perspectives*, 114:161-167.

Wells, B. (1980). *Personality and heredity*. London: Longman.

Wilkinson, R. (2002). *Unhealthy societies: the afflictions of inequality*. London: Routledge.

Williams, M., Parker, R., Baker, D., Parikh, N., Pitkin, K., Coates, W., & Nurss, J. (1995). Inadequate functional health literacy among patients at two public hospitals. *Journal of the American Medical Association*, *274:* 1677-1682.

Wilson, J., & Herrnstein, R. (1985). *Crime and Human Nature*. New York: Simon & Schuster.

Woodley, M. (2012). A life history model of the Lynn–Flynn effect. *Personality and Individual Differences*, *53:* 152-156.

Woollett, K., & Maguire, E. (2011). Acquiring "the Knowledge" of London's layout drives structural brain changes. *Current biology*, *21:* 2109-2114.

Wraw, C., Deary, I.., Gale, C., & Der, G. (2015). Intelligence in youth and health at age 50. *Intelligence*, *53:* 23-32.

Wright, J., Dietrich, K., Ris, M., Hornung, R., Wessel, S., & Lanphear, B. (2008). Association of prenatal and childhood blood lead concentrations with criminal arrests in early childhood. *PLoS Medicine*, 5: 732–740.

Wrulich, M., Brunner, M., Stadler, G., Schalke, D., Keller, U., & Martin, R. (2014). Forty years on: Childhood intelligence predicts health in middle adulthood. *Health Psychology*, 33: 292–296

Yang, F., Hu, T., Chen, S., Wang, K., Qu, Z., & Cui, H. (2022). Low intelligence predicts higher risks of coronary artery disease and myocardial infarction: Evidence from mendelian randomization study. *Frontiers in Genetics*, *13*. 756901.

Yang, J., Bakshi, A., Zhu, Z., Hemani, G., Vinkhuyzen, A., Lee, S., Robinson, M., Perry, J., Nolte, I., van Vliet-Ostaptchouk, J., & Snieder, H. (2015). Genetic variance estimation with imputed variants finds negligible missing heritability for human height and body mass index. *Nature Genetics*, 47: 1114-1120.

York, E. (2021). Summary of the latest federal income tax data, 2021 update. *Tax Foundation*. https://taxfoundation.org/publications/latest-federal-income-tax-data/

Yu, T., Chou, W., Chow, J., Lin, C., Tung, L., & Chen, K. (2018). IQ discrepancy differentiates levels of fine motor skills and their relationship in children with autism spectrum disorders. *Neuropsychiatric Disease and Treatment*, *14:* 597-605.

Yun, I., & Lee, J. (2013). IQ and delinquency: The differential detection hypothesis revisited. *Youth violence and juvenile justice*, *11:* 196-211.

Zigerell, L. (2017). Potential publication bias in the stereotype threat literature: Comment on Nguyen and Ryan (2008). *Journal of Applied Psychology, 102:* 1159–1168.

Zillmer, E., Archer, R., & Castino, R. (1989). Rorschach records of Nazi war criminals: A reanalysis using current scoring and interpretation practices. *Journal of personality assessment, 53:* 85-99.

Index

E

F

G

H

I

P

R

S

T

U

V

W