

Why Liberals and Atheists Are More Intelligent

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Where do individual values and preferences come from? Why do people want what they want? And why do different people have different values and preferences?

The problem of values is one of the unresolved theoretical questions in behavioral and social sciences. Elegant theories of behavior in microeconomics and game theory can predict and explain what choices people will make *if* the theorists know what people want, but without knowing people's preferences and values, economists and game theorists cannot predict individual choices. Economists have long given up on explaining individual preferences and values, and instead offer the dictum "De gustibus non est disputandum" (Stigler and Becker 1977). There is no accounting for tastes, and one cannot explain individuals' idiosyncratic values and preferences. Despite many attempts and some promising starts, there currently is no satisfactory general theory of values that can explain where individual preferences and values come from.

Some have argued that evolutionary psychology can provide such general theory of values (Horne 2004; Kanazawa 2001). Evolutionary psychology is the study of universal human nature, or sex-specific male human nature and female human nature, and their interaction with the environment. It can therefore in principle explain both universal preferences (as a function of the universal human nature) and individual preferences (as a function of the interaction between the universal human nature and individual circumstances and experiences).

The Nature and Evolutionary Constraints on the Human Brain

Adaptations, physical or psychological, are designed for and adapted to the conditions of the ancestral environment, not necessarily to the current environment. This fundamental principle of evolution holds equally for psychological adaptations as it does for physical adaptations. Pioneers of evolutionary psychology all recognized this. I systematized these observations into what I call *the Savanna Principle: The human brain has difficulty comprehending and dealing with entities and situations that did not exist in the ancestral environment* (Kanazawa 2004a). Other evolutionary psychologists call the same observation *the mismatch hypothesis* or *the evolutionary legacy hypothesis*, but the fundamental observation is the same.

One illustration of the Savanna Principle is the fact that individuals who watch certain types of TV shows are more satisfied with their friendships, just as they are if they had more friends or socialized with them more frequently (Kanazawa 2002). It makes perfect sense that people who *have* more friends or *socialize* with them more frequently are more satisfied with their friendships, and they are. What's puzzling is the fact that the same thing happens if they watch more TV. From the perspective of the Savanna Principle, this may be because realistic images of other humans, such as television, movies, videos and photographs, did not exist in the ancestral environment, where all realistic images of other humans *were* other humans. As a result, the human brain may have implicit difficulty distinguishing their "TV friends" (the characters they repeatedly see on TV shows) and their real friends.

The Evolution of General Intelligence

General intelligence refers to the ability to reason, deductively or inductively, think abstractly, use analogies, synthesize information, and apply it to new domains. The concept of general intelligence poses a problem for evolutionary psychology. Evolutionary psychologists contend that the human brain consists of domain-specific evolved psychological mechanisms. These psychological adaptations evolved to solve specific adaptive problems of survival and reproduction in specific domains of life. If the contents of the human brain are domain-specific, how can evolutionary psychology explain general intelligence, which is seemingly domain-general?

In contrast to views expressed by other leading evolutionary psychologists, I believe that what is now known as general intelligence may have originally evolved as a domain-specific adaptation to deal with evolutionarily novel, nonrecurrent problems (Kanazawa 2004b). The human brain consists of a large number of domain-specific evolved psychological mechanisms to solve such recurrent problems. In this sense, our ancestors did not really have to *think* in order to solve such recurrent problems. Evolution has already done all the thinking, so to speak, and equipped the human brain with the appropriate psychological mechanisms, which produce preferences, desires, cognitions, and emotions, and motivate adaptive behavior in the context of the ancestral environment.

All our ancestors had to do to solve their everyday adaptive problems was to follow the dictates of such evolved psychological mechanisms and behave according to how they *felt*, following their emotions and feelings. Conscious and deliberate reasoning was seldom necessary for our ancestors because most of their adaptive problems were recurrent and familiar, and they had innate solutions in their brains.

Even in the extreme continuity and constancy of the ancestral environment, however, there were likely occasional problems that were evolutionarily novel and nonrecurrent, which required our ancestors to think and reason in order to solve. Such problems may have included, for example:

1. The lightning has struck a tree near the camp and set it on fire. The fire is now spreading to the dry underbrush. What should I do? How could I stop the spread of the fire? How could I and my family escape it?

2. We are in the middle of a very severe drought. Nuts and berries at our normal places of gathering, which are usually plentiful, are not growing at all, and animals are scarce as well. We are running out of food because none of our normal sources of food are working. What else can we eat? What else is safe to eat? How else can we procure food?

3. A flash flood has caused the river to swell to several times its normal width, and I am trapped on one side of it while my entire band is on the other side. It is imperative that I rejoin them soon. How could I cross the rapid river? Should I walk across it? Or should I construct some sort of buoyant vehicle to use to get across it? If so, what kind of material should I use? Wood? Stones?

To the extent that these evolutionarily novel, nonrecurrent problems happened frequently enough in the ancestral environment (different problem each time) and has serious enough consequences for survival and reproduction, any genetic mutation that allowed its carriers to think and reason would have been selected for, and what we now call “general intelligence” could have evolved as a domain-specific adaptation for the domain of evolutionarily novel, nonrecurrent problems.

General intelligence may have *become* universally important in modern life *only* because our current environment is almost entirely evolutionarily novel. The new theory

suggests, and empirical data confirm, that more intelligent individuals are better than less intelligent individuals at solving problems *only if* they are evolutionarily novel but that more intelligent individuals are *not better* than less intelligent individuals at solving evolutionarily familiar problems, such as those in the domains of mating, parenting, interpersonal relationships, and wayfinding (finding your way home in a forest without the help of a map or a satellite navigation device) (Kanazawa 2004b). Three recent studies, employing widely varied methods, have all shown that the average intelligence of a population appears to be a strong function of evolutionary novelty of its environment.

A New Hypothesis

The logical conjunction of the Savanna Principle and the theory of the evolution of general intelligence suggests a qualification of the Savanna Principle. If general intelligence evolved to deal with evolutionarily novel problems, then the human brain's difficulty in comprehending and dealing with entities and situations that did not exist in the ancestral environment (proposed in the Savanna Principle) should interact with general intelligence, such that the Savanna Principle holds stronger among less intelligent individuals than among more intelligent individuals. More intelligent individuals should be better able to comprehend and deal with evolutionarily novel (but *not* evolutionarily familiar) entities and situations than less intelligent individuals.

There has been accumulating evidence for this new hypothesis, called *the Savanna-IQ Interaction Hypothesis*. For example, individuals' tendency to respond to TV characters as if they were real friends, discussed earlier, appears to be limited to those with below-median intelligence. Individuals with above-median intelligence do not become more satisfied with their friendships by watching more television.

Evolutionarily novel entities that more intelligent individuals are better able to comprehend and deal with may include ideas and lifestyles, which form the basis of their preferences and values. It would be very difficult for individuals to prefer or value something that they cannot truly comprehend. So, applied to the origin of preferences and values, the Hypothesis suggests that *more intelligent individuals may be more likely than less intelligent individuals to acquire and espouse evolutionarily novel preferences and values*

that did not exist in the ancestral environment and thus our ancestors did not have, but general intelligence has no effect on the acquisition and espousal of evolutionarily familiar preferences and values that existed in the ancestral environment. In particular, the Hypothesis leads to predictions about three evolutionarily novel values of liberalism, atheism, and, for men, sexual exclusivity, and how general intelligence may affect their acquisition and espousal.

Evolutionarily Novel and Familiar Preferences and Values

Liberalism

It is difficult to provide a precise definition of a whole school of political ideology like liberalism. In this paper, however, I adopt the contemporary American definition of liberalism. I provisionally define liberalism (as opposed to conservatism) as *the genuine concern for the welfare of genetically unrelated others and the willingness to contribute larger proportions of private resources for the welfare of such others.* In the modern political and economic context, this willingness usually translates into paying higher proportions of individual incomes in taxes toward the government and its social welfare programs.

Defined as such, liberalism is evolutionarily novel. Humans (like other species) are designed by evolution to be altruistic toward their genetic kin (Hamilton 1964), their friends and allies (Trivers 1971), and members of their deme (a group of intermarrying individuals) or ethnic group (Whitmeyer 1997). They are not designed to be altruistic toward an indefinite number of complete strangers whom they are not likely ever to meet or exchange with. This is largely because our ancestors lived in a small band of 50-150 genetically related individuals all their lives, and large cities and nations with thousands and millions of people are themselves evolutionarily novel.

Comprehensive surveys of traditional societies, such as the 10-volume compendium *The Encyclopedia of World Cultures*, and monograph-length ethnographies, suggest that liberalism, as defined above, is rare in such traditional societies. While sharing of resources, especially food, is quite common and often normatively prescribed among hunter-gatherer tribes, and while trade with neighboring tribes may have taken place, there is no evidence that

people in contemporary hunter-gatherer bands *freely* share resources *with members of other tribes*. Because all members of a hunter-gatherer tribe are genetic kin or at the very least friends and allies for life, sharing of resources among them does not qualify as an expression of liberalism. It may therefore be reasonable to infer that, while sharing of food and other resources with genetic kin may be part of universal human nature, sharing of the same resources with total strangers that one has never met or is not likely ever to meet is not part of evolved human nature. The Hypothesis would therefore predict that more intelligent individuals are more likely to espouse liberal political ideology than less intelligent individuals.

Atheism

While religion is a cultural universal, recent evolutionary psychological theories suggest that religiosity (belief in higher powers) may not be an adaptation itself. It may instead be a byproduct of other evolved psychological mechanisms, variously known as “animistic bias” (Guthrie 1993) or “the agency-detector mechanisms” (Atran 2002). Now what does that mean?

When our ancestors faced some ambiguous stimulus, such as rustling noises nearby at night or being hit in the head by a large fruit, they could attribute it either to impersonal, inanimate, unintentional forces (wind blowing gently to make the rustling noises among the bushes and leaves, a mature fruit falling by its own weight from the branch by the force of gravity and hitting them on the head purely by accident) or to personal, animate, intentional forces (a predator sneaking up on them to attack, an enemy hiding in the tree branches and throwing fruits at their head).

Given that the situation is inherently ambiguous, our ancestors could have made one of two errors of inference. (See Figure 1.) They could have attributed the events to intentional forces when they are in fact caused by unintentional forces, committing a false-positive error. Or they could have attributed them to unintentional forces when they were in fact caused by intentional forces, committing a false-negative error. By convention, statisticians call false-positive errors (assuming something exists when it doesn't) “Type I

errors” and false-negative errors (assuming something does not exist when it does) “Type II errors.”

The consequences of Type I errors were that our ancestors became unnecessarily paranoid and looked for predators and enemies where there were none. The consequences of Type II errors were that our ancestors were attacked and killed by predators or enemies when they least suspected an attack. The consequences of committing Type II errors are far more detrimental to survival and reproduction than the consequences of committing Type I errors. Evolution should therefore favor psychological mechanisms which predispose their carriers to commit Type I errors but avoid Type II errors. As a result, humans should have the cognitive bias to *overinfer* agency, attributing personal and intentional causes behind natural phenomena, rather than to *underinfer* agency, attributing impersonal and unintentional (natural) causes behind phenomena caused by humans and animals. In other words, we should be evolutionarily designed to be paranoid, but it is good to be paranoid, because it might save your life (Haselton and Nettle 2006).

		True state of nature	
		Personal, animate, intentional	Impersonal, inanimate, unintentional
Inference	Personal, animate, intentional	Correct inference	False positive (Type I) error Consequence = paranoia
	Impersonal, inanimate, unintentional	False negative (Type II) error Consequence = potential death	Correct inference

Figure 1

Recent evolutionary psychological theories therefore suggest that evolutionary origin of religious beliefs in supernatural forces may stem from such an innate bias to commit Type I errors rather than Type II errors. The human brain may be biased to perceive intentional forces (the hands of God at work) behind a wide range of natural physical phenomena whose exact causes are unknown. If these theories are correct, then it means that religion and religiosity have an evolutionary origin. It is evolutionarily familiar and natural to believe in God, and evolutionarily novel not to be religious.

Once again, comprehensive surveys of traditional societies suggest that belief in higher powers is universal and atheism may be evolutionarily novel. For example, out of more than 1,500 distinct cultures throughout the world described in *The Encyclopedia of World Cultures*, only 19 contain any reference to atheism. Not only do all these 19 cultures exist far outside of our ancestral home in sub-Saharan Africa, but all 19 without an exception are former Communist societies. There are no non-former-Communist cultures described in *The Encyclopedia* as containing any significant segment of atheists. Nor is there any reference to any individuals who do not subscribe to the local religion in any monograph-length ethnography. It may therefore be reasonable to conclude that atheism may not be part of the universal human nature, and widespread practice of atheism may have been a recent product of Communism in the 20th century. The Hypothesis would therefore suggest that more intelligent individuals are more likely to be atheist than less intelligent individuals.

Sexual Exclusivity

Throughout their evolutionary history, humans were mildly polygynous; men had several wives simultaneously. Some species are naturally very polygynous – a few males monopolize all the females and most males remain mateless – while other species are only mildly polygynous – most males have only one or two mates at a time and relatively few males are left mateless. Throughout nature, polygyny is the rule and strict monogamy is very rare.

How polygynous a given species is correlates with how much bigger males of the species are relative to females (Alexander et al. 1977). The greater the size differences between the sexes (where the males are much bigger than the females), the more polygynous

the species. This is either because males of polygynous species become larger in order to compete with other males and monopolize females, or because females of polygynous species become smaller in order to mature early and start mating. Thus strictly monogamous gibbons are sexually monomorphic (males and females are about the same size), whereas highly polygynous gorillas are equally highly sexually dimorphic in size. Among On this scale, humans are *mildly* polygynous, not as polygynous as gorillas, but not strictly monogamous like gibbons.

Under polygyny, one man is married to several women, so a woman in a polygynous marriage still (legitimately) mates only with one man as a woman in a monogamous marriage does (see Figure 2). In contrast, a man in a polygynous marriage concurrently mates with several women quite unlike a man in a monogamous marriage who mates with only one woman. So throughout human evolutionary history, men have concurrently mated with several women while women have mated with only one man. Sexual exclusivity prescribed under socially imposed monogamy today is therefore evolutionarily novel for men, but not for women. The Hypothesis would therefore predict that more intelligent men may value sexual exclusivity more than less intelligent men, but intelligence may not affect women's likelihood of espousing the value on sexual exclusivity.



Figure 2

Evolutionarily Familiar Values

Unlike liberalism, atheism, and sexual exclusivity, values in such evolutionarily familiar entities as children, marriage (pair-bonding), family, and friends should themselves

be evolutionarily familiar. It has always been important to value these entities throughout human evolutionary history; our ancestors who did not value these entities are not likely to have left many descendents. The Hypothesis would therefore predict that general intelligence may make no difference for the acquisition and espousal of these evolutionarily familiar values.

Empirical Analyses

Data

I use two large nationally representative samples of Americans for empirical analyses in this paper: National Longitudinal Study of Adolescent Health (Add Health), which is a prospectively longitudinal study of a large sample of American adolescents; and the General Social Surveys (GSS), which is an annual or biennial survey of large representative samples of Americans since 1972.

Results

The analyses of the Add Health and GSS data confirm all the predictions derived from the Savanna-IQ Interaction Hypothesis. For example, net of age, sex, race, education, earnings, and religion, more intelligent children are significantly more likely to grow up to be liberal seven years later. Even though past studies show that women are more liberal than men, and blacks are more liberal than whites, the analyses show that the effect of adolescent intelligence on adult political ideology is twice as large as the effect of either sex or race.

Similarly, net of the same control variables, more intelligent individuals are significantly more likely to grow up to be atheist seven years later. Even though past studies show that women are much more religious than men, the analyses show that the effect of adolescent intelligence on adult religiosity is twice as strong as the effect of sex.

Net of the same control variables, more intelligent boys are significantly more likely to grow up to value sexual exclusivity seven years later than less intelligent boys, but more intelligent girls are no more likely to grow up to value sexual exclusivity as adults. Consistent with the Hypothesis, more intelligent individuals are no more or no less likely to value such evolutionarily familiar entities as children, marriage, family, and family.

Intelligence therefore does not appear to be associated with individuals' values in evolutionarily familiar entities.

Figure 3 shows that Add Health respondents who identify themselves as “very conservative” in their early adulthood have a mean adolescent IQ of 94.82, whereas those who identify themselves as “very liberal” have a mean adolescent IQ of 106.42.

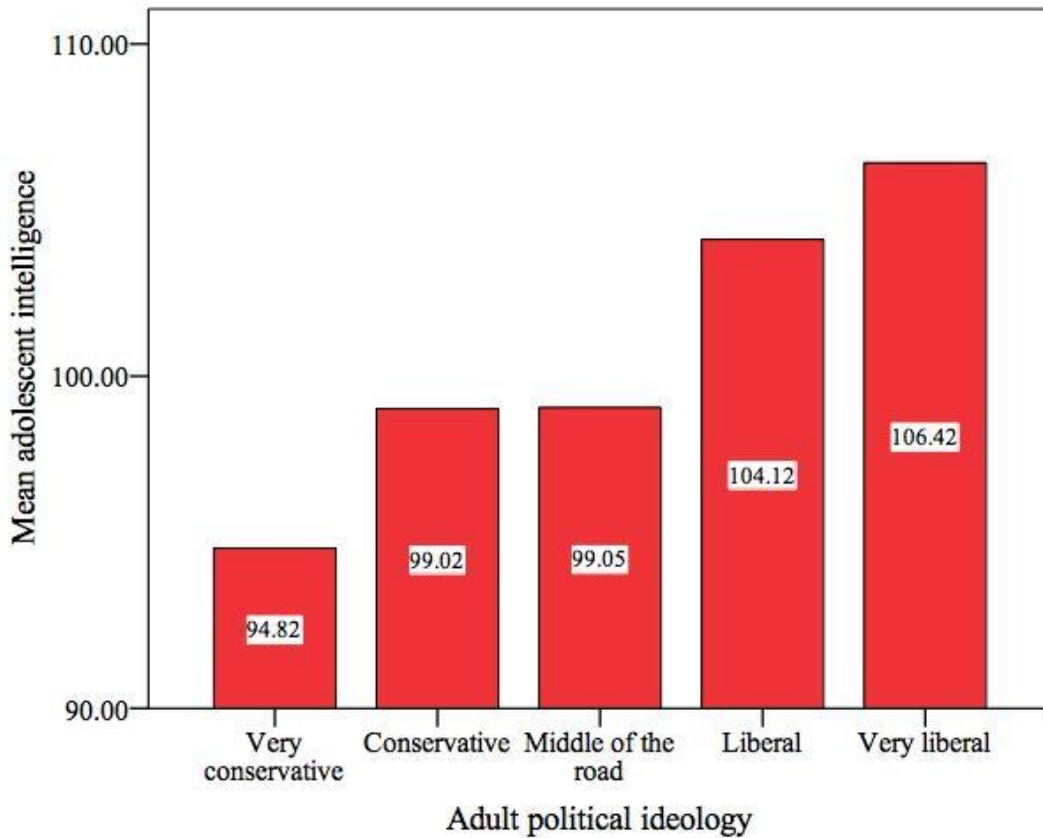


Figure 3

Similarly, Figure 4 shows that Add Health respondents who identify themselves as “very religious” in their early adulthood have a mean adolescent IQ of 97.14, whereas those who identify themselves as “not at all religious” have a mean adolescent IQ of 103.09.

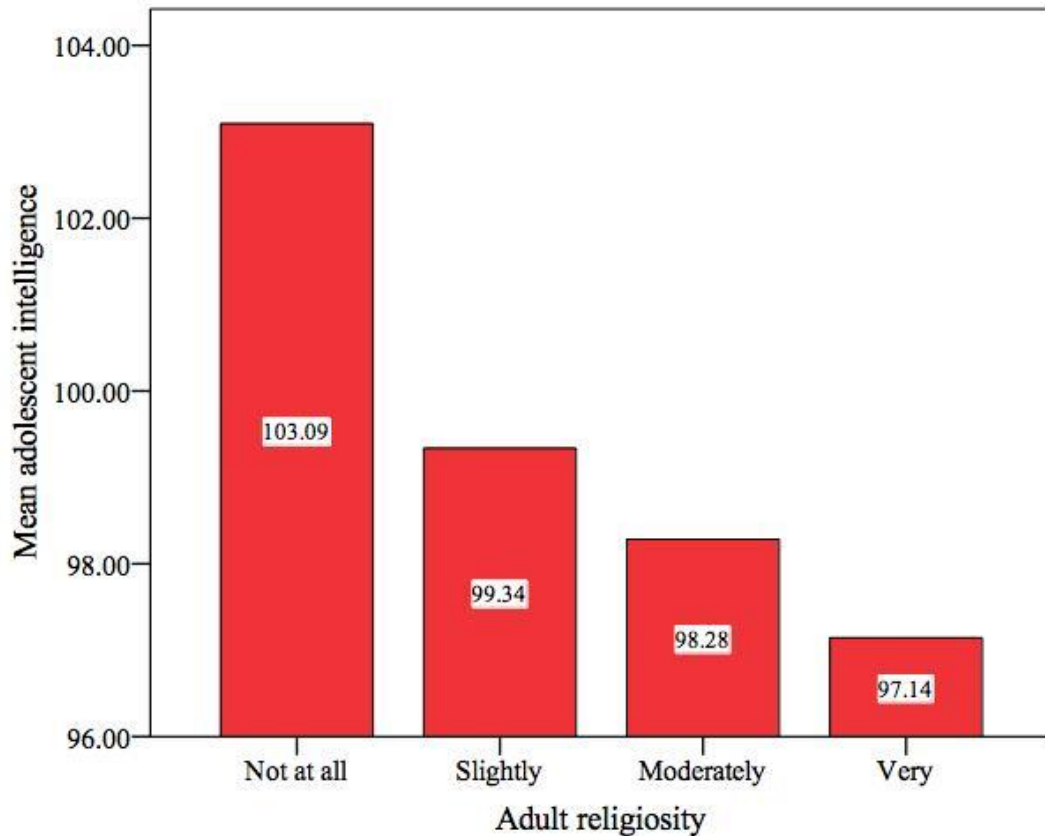


Figure 4

Conclusion

The Savanna-IQ Interaction Hypothesis, derived from the logical conjunction of the Savanna Principle and a theory of the evolution of general intelligence, suggests that more intelligent individuals may be more likely to acquire and espouse evolutionarily novel values, such as liberalism, atheism, and, for men, sexual exclusivity, than less intelligent individuals, while general intelligence may have no effect on the acquisition and espousal of evolutionarily familiar values. Data from two large representative samples of Americans, the National Longitudinal Study of Adolescent Health and the General Social Surveys, support the predictions. Both adolescent and adult intelligence predict adult espousal of liberalism, atheism, and sexual exclusivity for men (but not for women), while intelligence is not associated with the adult espousal of evolutionarily familiar values on children, marriage, family, and friends.

What other values are evolutionarily novel? Another such value is vegetarianism. Humans are naturally omnivorous, and anyone who eschewed animal protein and ate only

vegetables in the ancestral environment, in the face of food scarcity and precariousness of its supply, was not likely to have survived long and stayed healthy enough to have become our ancestors. Vegetarianism would therefore be an evolutionarily novel value, and the Hypothesis would predict more intelligent individuals are more likely to choose to be a vegetarian than less intelligent individuals.

Consistent with the prediction of the Hypothesis, there is some evidence that more intelligent children are more likely to grow up to be vegetarian than less intelligent children (Gale et al. 2007). The Hypothesis would also predict that more intelligent individuals are more likely to espouse such other evolutionarily novel values as pacifism (for men), feminism, and environmentalism. These additional predictions await empirical verification.

The origin of values and preferences remains a very important theoretical question for social and behavioral sciences, and the Savanna-IQ Interaction Hypothesis, at the intersection of evolutionary psychology and intelligence research, provides one deductive explanation from theoretical first principles for why individuals have certain values and preferences. By explaining how general intelligence may interact with the evolutionary constraints of the human brain, the Hypothesis can account for the effect of intelligence on the acquisition and espousal of evolutionarily novel values. Because the list of such evolutionarily novel values is potentially very long, the Hypothesis promises to provide a theoretical explanation for why intelligent individuals acquire preferences and values in many different domains of life.

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