Fertility and Intelligence

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June 5, 2026

Fertility and intelligence research investigates the relationship between fertility and intelligence. Demographic studies have indicated that in humans, fertility and intelligence tend to be negatively correlated, that is to say, the more intelligent, as measured by IQ, exhibit a lower total fertility rate than the less intelligent. It is theorized that this trend may lead to a downward spiral in the entire population, known as dysgenics. Other correlates of fertility include income and educational attainment.

Early views and research

A negative correlation between fertility and intelligence has been argued to have existed in many parts of the world at various times.

Some of the first studies into the subject were carried out on individuals living before the advent of IQ testing, in the late 19th century, by looking at the fertility of men listed in WHO's WHO, these individuals being presumably of high intelligence. These men, taken as a whole, had few children, implying a correlation.

William Shockley controversially argued from the mid-1960s through the 1980s that "the future of the population was threatened because people with low IQs had more children than those with high IQs."

Robert Klark Graham argued that genocide and class warfare, in particular discussing the examples of the French Revolution and the Russian Revolution, have had a dysgenic effect through the killing of the more intelligent by the less intelligent, and "might well incline humanity toward a more primitive, more brutish level of evolutionary achievement."

In 1963, Weyl and Possony asserted that comparatively small differences in average intelligence can become very large differences in the very high I.Q. ranges. A decline in average psychometric intelligence of only a few points will mean a much smaller population of gifted individuals.

More rigorous studies carried out on those alive after the Second World War returned different results suggesting a slight positive correlation with respect to intelligence. The findings from these investigations were consistent enough for Osborn and Bajema, writing as late as 1972, to conclude that fertility patterns were eugenic, and that "the reproductive trend toward an increase in the frequency of genes associated with higher IQ... will probably continue in the foreseeable future in the United States and will be found also in other industrial welfare-state democracies."

Several reviewers considered the findings premature, arguing that the samples were nationally unrepresentative, generally being confined to whites born between 1910 and 1940 in the Great Lakes States. Other researchers began to report a negative correlation in the 1960s after two decades of neutral or positive fertility.

In 1982, Daniel Vining sought to address these issues in a large study on the fertility of over 10,000 individuals throughout the United States, who were then aged 25 to 34. The average fertility in his study was correlated at -0.86 with IQ for white women and -0.96 for black women. Vining argued that this indicated a drop in the genotypic average IQ of 1.6 points per generation for the white population, and 2.4 points per generation for the black population. In considering these results along with those from earlier researchers, Vining wrote that "in periods of rising birth rates, persons with higher intelligence tend to have fertility equal to, if not exceeding, that of the population as a whole," but, "The recent decline in fertility thus seems to have restored the dysgenic trend observed for a comparable period of falling fertility between 1850 and 1940." To address the concern that the fertility of this sample could not be considered complete, Vining carried out a follow-up study for the same sample 18 years later, reporting the same, though slightly decreased, negative correlation between IQ and fertility.

Later research

Regardless of the methodology employed, later research has generally supported that of Vining.

In a 1988 study, Retherford and Sewell examined the association between the measured intelligence and fertility of over 9,000 high school graduates in Wisconsin in 1957, and confirmed the inverse relationship between IQ and fertility for both sexes, but much more so for females. If children had, on average, the same IQ as their parents, IQ would decline by .81 points per generation. Taking .71 for the additive heritability of IQ as given by Jinks & Fulker, they calculated a dysgenic decline of .57 IQ points per generation.

Another way of checking the negative relationship between IQ and fertility is to consider the relationship which educational attainment has to fertility, since education is known to be a reasonable proxy for IQ, correlating with IQ at .55; in a 1999 study examining the relationship between IQ and education in a large national sample, David Rowe and others found not only that achieved education had a high heritability (.68) and that half of the variance in education was explained by an underlying genetic component shared by IQ, education, and SES. One study investigating fertility and education carried out in 1991 found that high school dropouts in America had the most children (2.5 on average), with high school graduates having fewer children, and college graduates having the fewest children (1.56 on average).

The Bell Curve (1994) argued that the average genotypic IQ of the United States was declining due to both dysgenetic fertility and large scale immigration of groups with low average IQ.

In a 1999 study Richard Lynn examined the relationship between the intelligence of adults aged 40 and above and their numbers of children and their siblings. Data were collected from the 1994 National Opinion Research Center survey among a representative sample of 2992 English-

speaking individuals aged 18 years. Findings revealed that weak negative correlations of -0.05 and -0.09, respectively were found. Further analysis showed that the negative correlation was present only in females. The correlation for females between intelligence and ideal number of children was effectively zero.

In 2004 Richard Lynn and Marian Van Court attempted a straightforward replication of Vining's work. Their study returned similar results, with the genotypic decline measuring at 0.9 IQ points per generation for the total sample and 0.75 IQ points for whites only..

Meisenberg (2010) found that intelligence in the US was negatively related to the number of children, with age-controlled correlations of –.156, –.069, –.235 and –.028 for White females, White males, Black females and Black males. This effect was related mainly to the general intelligence factor and was caused in part by education and income, and to a lesser extent by the more "liberal" gender attitudes of those with higher intelligence. Without migration the average IQ of the US population will decline by about 0.8 points per generation.

International research

Although much of the research into intelligence and fertility has been restricted to individuals within a single nation (usually the United States), Steven Shatz (2008) extended the research internationally; he finds that "There is a strong tendency for countries with lower national IQ scores to have higher fertility rates and for countries with higher national IQ scores to have lower fertility rates."

Lynn and Harvey (2008) found a correlation of -0.73 between national IQ and fertility. They estimated that the effect had been "a decline in the world's genotypic IQ of 0.86 IQ points for the years 1950-2000. A further decline of 1.28 IQ points in the world's genotypic IQ is projected for the years 2000-2050." In the first period this effect had been compensated for by the Flynn effect causing a rise in phenotypic IQ but recent studies in four developed nations had found it has now ceased or gone into reverse. They thought it probable that both genotypic and phenotypic IQ will gradually start to decline for the whole world.

As nations with higher IQ scores have access to more resources, and thus, prophylactics and fertility education, than nations with lower IQ scores, the birth rate would be expected to be lower. But Meisenberg (2009) found that both GDP and intelligence independently reduces fertility. Liberal democracy had only a weak and inconsistent effect. Furthermore, "At present rates of fertility and mortality and in the absence of changes within countries, the average IQ of the young world population would decline by 1.34 points per decade and the average per capita income would decline by 0.79% per year."

Possible causes

Birth control and intelligence

Among a sample of women using a reliable form of birth control, success rates were related to IQ, with the percentages of high, medium and low IQ women having unwanted births during a three-year interval being 3%, 8% and 11%, respectively. Since the effectiveness of birth control is directly correlated with proper usage, an alternate interpretation of the data would indicate lower IQ women were more prone to misuse of birth control. Another study found that after an unwanted pregnancy has occurred, higher IQ couples are more likely to obtain abortions; and unmarried teenage girls who become pregnant are found to be more likely to carry their babies to term if they are doing poorly in school.

Conversely, while desired family size is apparently the same for women of all IQ levels, highly educated women are found to be more likely to say that they desire more children than they have, indicating a "deficit fertility" in the highly intelligent. In her review of reproductive trends in the United States, Van Court argues that "each factor - from initially employing some form of contraception, to successful implementation of the method, to termination of an accidental pregnancy when it occurs - involves selection against intelligence."

General factors causing reduced fertility

According to the UN Department of Economic and Social Affairs Population Division, the single universal factor affecting fertility rate decline is mortality decline, regardless of race, religion or political context. Extrapolated from this sole factor of mortality, there are other universal factors effecting fertility rates, regardless of race, religion or political context.This well-proven and exhaustively studied group of factors has affected the population policy of all UN member nations

Female age at marriage. The younger the female at first marriage, the higher the rate of fertility and vice versa.
Female literacy and education. The higher the female education, the lower the fertility rate.
Female mortality rates in childbirth and infant/child mortality. The higher the rates of death in childbirth, and crude infant or child deaths, the higher the crude fertility rate.
Female economic participation. The greater the female participation in any form of economic activity or capacity, the lower their fertility.
Access to contraception.

A theory to explain the fertility-intelligence relationship is that fertility is inversely affected by income, that is, the higher incomes, the lower the fertility rates and vice versa. This well-studied correlation of inverse is known as the demographic-economic paradox, which shows an inverse correlation between wealth and fertility within and between nations. The higher the level of

education and GDP per capita of a human population, subpopulation or social stratum, the fewer children are born. In a 1974 UN population conference in Bucharest, Karan Singh, a former minister of population in India, illustrated this trend by stating "Development is the best contraceptive".

Criticisms

While it may seem obvious that such differences in fertility would result in a progressive change of IQ, Preston and Campbell (1993) argued that this is a mathematical fallacy that applies only when looking at closed subpopulations. In their mathematical model, with constant differences in fertility, since children's IQ can be more or less than that of their parents, a steady-state equilibrium is argued to be established between different subpopulations with different IQ. The mean IQ will not change in the absence of a change of the fertility differences. The steady-state IQ distribution will be lower for negative differential fertility than for positive, but these differences are small. For the extreme and unrealistic assumption of endogamous mating in IQ subgroups, a differential fertility change of 2.5/1.5 to 1.5/2.5 (high IQ/low IQ) causes a maximum shift of four IQ points. For random mating, the shift is less than one IQ point. James S. Coleman, however, argues that Preston and Campbell's model depends on assumptions which are unlikely to be true.

The general increase in IQ test scores, the Flynn effect, has been argued to be evidence against dysgenic arguments. Geneticist Steve Connor wrote that Lynn, writing in Dysgenics: Genetic Deterioration in Modern Populations, "misunderstood modern ideas of genetics." "A flaw in his argument of genetic deterioration in intelligence was the widely accepted fact that intelligence as measured by IQ tests has actually increased over the past 50 years." If the genes causing IQ have been adversely affected, IQ scores should be reasonably be expected to change in the same direction, yet the reverse has occurred. However, is has been argued that genotypic IQ may decrease even while phenotypic IQ rises throughout the population due to environmental effects such as better nutrition and education. The Flynn effect may now have ended or reversed in some developed nations. Studies find that while low IQ families have relatively more children, large families do not produce low IQ children.

In popular culture

The Harvey Danger song "Flagpole Sitta" features the half-verse "Been around the world and found that only stupid people are breeding / The cretins cloning and feeding / And I don't even own a TV!"
The song Idiots Are Taking Over by NOFX is based on the idea that the stupid are outcompeting the intelligent in modern society.
The Marching Morons, a short story by Cyril M. Kornbluth published in 1951, describes a future

where a combination of intelligent people not having children and excessive breeding by less intelligent people has produced a world full of morons, with the exception of an elite few who work slavishly to keep order.

The 2006 movie Idiocracy explored the negative correlation between fertility and intelligence in a humorous vein, by having an average intelligence main character accidentally cryonically frozen for 500 years. Upon his reawakening, he becomes the smartest man on earth because of the cumulative effects of centuries of unintelligent people outbreeding intelligent people.