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**Beauty and intelligence may-
or may not- be related**

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Abstract:

In a recent paper, Kanazawa and Kovar (2004) assert that given certain empirical regularities about assortative mating and the heritability of intelligence and beauty, that it logically follows that more intelligent people are more beautiful. It is argued here that this “theorem” is false and that the evidence does not support it.

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1 Introduction

“Inventing evolutionary stories is a seductively easy exercise”¹

In Kanazawa and Kovar (2004) (henceforth KK) a remarkable assertion is made: given certain regularities about assortative mating and the heritability of intelligence and of beauty that it logically follows that beautiful people are more intelligent. They make four specific assumptions (1) men who are more intelligent are more likely to attain high status than men who are less intelligent, (2) higher status men are more likely to mate with beautiful women than lower status men (3) intelligence is heritable and (4) beauty is heritable. It is asserted that this *logically* (their emphasis) implies a “theorem” that “more beautiful people are more intelligent than less beautiful people”. In this note I show that their summary of the evidence is misleading and some new evidence on the relationship between beauty and intelligence is provided, casting further doubt on their claim.

Whether a correlation between beauty and intelligence really follows from these assumptions is a matter for debate. In my opinion it does not since there are a number of reasonable counter-arguments. For example what constitutes “high status” changes over time as the environment changes: what was attractive or intelligent in a mate in the Pleistocene may be very different from what is attractive now. Indeed the models that posed for Goya's or Ruben's nudes would probably not get a job in the 21st century modeling industry. The correlation of the genes associated with beauty and intelligence may be complicated if the individual genes are pleiotropic, that is they affect multiple phenotypic traits. Finally while beauty is heritable it is not immutable as the large industry devoted to grooming and

¹ Laland and Brown (2002) p100.

beautification practices testifies to. More intelligent people may be more likely to engage in such practices because they are wealthier. So while more intelligent people may or may not be more beautiful they can generally avoid being slovenly or dirty. Depending on whether KK's argument is *ceteris paribus* or not (which is unclear) a positive correlation between beauty and intelligence is simply one possibility.

2 Why the evidence does not support it

KK discuss a large literature analysing assumptions (1) to (4) and it seems plausible that these assumptions are a good summary of the data. Five studies are cited which, it is claimed, compare intelligence and beauty and find the expected positive relationship. There may, of course, be other models which generate the same prediction².

The cited paper by Furlow *et al* (1997) is not about beauty or attractiveness (it mentions neither) but is about the relationship between intelligence and Fluctuating Asymmetry (FA). FA refers here to bilateral asymmetries in morphology e.g. differences in the sizes of one's ears, digits etc. FA is likely to be inversely correlated with beauty but so too are a lot of factors. As the authors acknowledge, the observed correlations are modest in size. The explanations they offer for these correlations owe nothing to evolutionary arguments but point to the existence of some common physiological cause such as the effects of stress during early development. This interpretation is supported by Bates (2007) who also finds a negative relationship between FA and intelligence with essentially the same explanation: that it reflects fitness related biological and psychological variation.

The cited meta-analysis by Jackson *et al* (1995) concludes that "...physical attractiveness was unrelated to actual intellectual competence in adults but was related

² For example the "good genes" explanation that there are genes which encode for both IQ and attractiveness, see Zebrowitz *et al* (2002) .

modestly in children” (p117). This is qualified by the fact that “Actual intellectual competence” here includes direct measures as well as indirect measures such as competence in a particular occupation. The majority of studies (12 of 17) are for such indirect measures. The authors find a *negative* but statistically insignificant relationship for the direct measures.

The cited meta-analysis by Langlois *et al* (2000) also finds much smaller effect sizes for adults than children and concludes that attractive adults are “very slightly more intelligent” (p402) than unattractive adults. The cited paper by Elder (1969) is based on 69 undergraduates in Oakland, California, so it is doubtful whether one can extrapolate to a wider population. A third meta-analysis, not cited by KK, Feingold (1992) finds no evidence that more attractive adults were more intelligent. If a positive correlation between beauty and intelligence really is a logical implication of assumptions (1) to (4) then one would expect it to be found in all studies which is clearly not the case.

A number of other papers are discussed by KK which, it is claimed, “indirectly demonstrate that the beautiful are more intelligent” (p237). There is no basis for this inference since these look at correlations between beauty and a range of other variables which may or may not be correlated with intelligence (such as income) but will also be correlated with other variables. The cited paper by Hamermesh and Biddle (1994) finds a positive relationship between attractiveness and earnings but there could be numerous causes for this and one cannot assume that it is acting as a proxy for intelligence. For example, an individual’s perceived beauty may be correlated with their self-esteem or their height and these can have independent effects on earnings³. They do not mention intelligence as a factor and find strongest support for discrimination by the employer on the basis of taste. Harper (2000) finds

³ See Bowles, Gintis and Osborne (2001) for example. Mobius and Rosenblatt (2006) show that more attractive workers have greater self-confidence and hence higher wages.

an effect of beauty on earnings while controlling for cognitive ability. In summary, the existing evidence is weak and inconclusive on the correlation between beauty and intelligence.

To examine this issue further, the British National Child Development Survey (NCDS) is used to further explore the relationship between intelligence and being attractive. The NCDS is a cohort study of children born in one week in 1958. At age 11 their teacher was asked about the appearance of the child. There were 5 possible answers and only the first two are used: attractive and not attractive. The three responses not used are being undernourished, abnormal and scruffy/dirty account for about 5% of the observations. Intelligence is based on tests of verbal and non-verbal ability, mathematics and reading comprehension taken at age 11. The first principal component of these is used as a general measure of intelligence. This variable is labelled “IQ” and is normalized to have a mean of 100 and a standard deviation of 15.

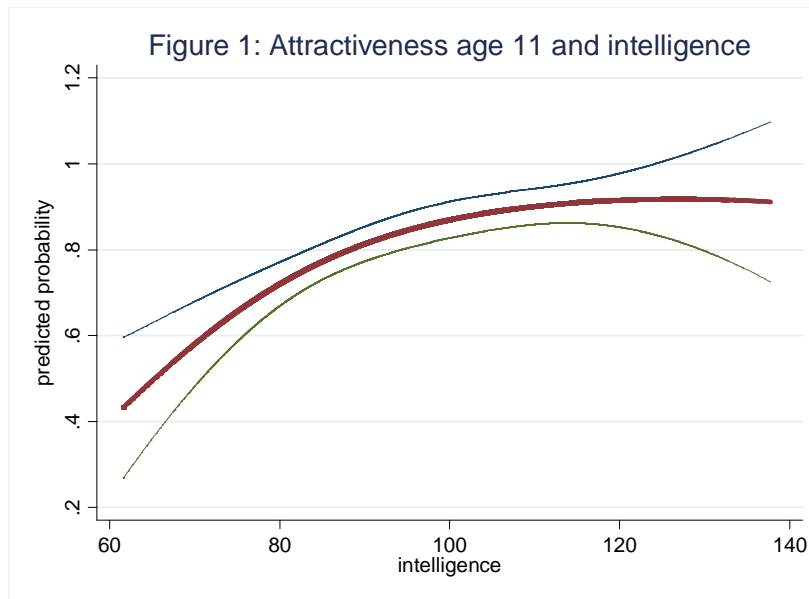
A probit model is used to estimate the probability of being deemed beautiful as a quadratic function of IQ. Higher order terms are redundant. Figure 1 graphs the predicted probability of being attractive against intelligence along with confidence bands. The relationship between intelligence and being attractive is generally positive but highly non-linear with the positive association diminishing at medium levels of intelligence and flattening out. For much of the distribution of intelligence there is no significant relationship between being attractive and intelligence.

Since the evidence here suggests, if anything, that is primarily low intelligence that is associated with lack of beauty, it is worth asking whether there are alternative explanations for this. One possibility is that there are several syndromes that are associated with both low intelligence and some facial or other physical abnormality. Down’s Syndrome is probably the best known of these but there are several others including Prader-Willi syndrome, and Turner’s

syndrome. Given that these syndromes are rare it is doubtful if this could explain the results presented in Figure 1 or indeed any population survey. Down's syndrome is the most common one mentioned and one would not expect there to be more than about 12 cases in the sample. The NCDS recorded whether (according to a doctor) individuals were mentally retarded at age 7. If one eliminates from the sample those for whom there is some retardation (133 out of 9518) the graph is not noticeably different. While this test is not conclusive it suggests that it is not those with very low cognitive ability that are driving the results and one needs to look elsewhere for an explanation for the graph. It is possible that there is a "halo effect" i.e. that teachers will rate more intelligent people as being more attractive as they are less likely to be badly behaved etc. Finally there is the point made in the previous section that the more intelligent may simply be better at avoiding being slovenly and unclean.

3 Conclusion

Measuring intelligence and its correlates is a fundamental research endeavour in psychology which has attracted huge interest and no little controversy amongst scholars. It is vital therefore that claims about the relationship between intelligence and other variables are carefully established. This paper argues that KK's claim is theoretically suspect and that the evidence that is claimed to support it is, in fact, weak and inconclusive.



Note: 95% confidence bands.

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