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Nobel Beauty

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Abstract

We consider the effect of physical attractiveness, as assessed based on publicly available pictures of top scientists, on their probability of winning the Nobel Prize. We find that attractiveness is negatively correlated with the probability of being awarded the Nobel, with the magnitude of this effect being not negligible.

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1 Introduction

Physical attractiveness has an important effect o

Thompson Reuters ScienceWatch Hall of Citation Laureates[5], and reflect how often the scientists' work gets cited. Many but not all of the scientists highlighted by the Hall of Citation Laureates do go on to win the Nobel Prize. Likewise, some of the actual Nobel Prize winners are scientists overlooked by the Hall of Citation Laureates.

We consider the complete pool of predicted and actual Nobel Prize winners between 2002 and 2014. We collected some basic information on these scientists, as well as their pictures, and had them evaluated by a large group of undergraduate students in economics in the UK. In our analysis, we seek to establish whether those scientists who go on to claim the Nobel Prize are any more different with respect to their attractiveness than the rest of the sample. Note that we only consider scientists who are arguably at the very top of their disciplines, so that the winners and non-winners should be a-priori very similar. Nevertheless, given the magnitude of the potential benefits that accrue to Nobel Prize winners (besides receiving a

Besides basic information on the scientists, we also obtained their pictures, either from their professional websites, or from Wikipedia. We showed the pictures to undergraduate students in Economics at Brunel University and asked them to rank the attractiveness of the scientists, from 0 to 10 (highest). The students were asked to take account of the age and gender of the scientists when making their assessment, and to evaluate their general attractiveness rather than their own personal preferences about the person in question. Overall, 105 students participated in this exercise, with the average picture evaluated by 21 students (ranging from 15 to 23). Students were shown the pictures on the screen, with 2-3 seconds per picture, and were asked to write down the score that occurred to them spontaneously, without consulting with others.

Undergraduate students do not find top scientists particularly attractive, with the average attractiveness score being only 3.5 out of 10. Figure 1 shows the pictures, average score and discipline of the three top scientists, who excel not only by their scientific contribution but were also considered most handsome by our sample of students. Since no economist made it into the top three, we also report the top three top economists in Figure 2.

Some student assessors' scores may be unreasonably low or high, including one student who ranked all pictures as 0. Therefore, as a robustness check, we excluded all assessments with the average score lower than 1 (there were 14 such cases) or higher than 8 (1 case). The basic statistics on the assessors are reported in panels B (full set of assessors) and C (restricted set) of Table 1. The average age of the assessors is 21.5 and 60% of them are male. Female assessors are somewhat kinder to our set of scientists than male assessors, with their average score being 3.4 compared to 3.3 among male assessors. Once we drop very low and very high assessors, the situation reverses, with average female assessor score of 3.5 and 3.6 for male assessors.

We report also some basic information on the pictures: whether it was black and white (16.7%), headshot (head and shoulders only, 91.7%), whether the scientist is wearing a suit in the picture (68.5%), and what is the resolution of the picture. The nature and style of the picture can potentially affect how the assessors perceive the person depicted in it.

3 Do Attractive Scientists Get the Prize?

To analyze whether attractiveness has any bearing on whether a top scientist gets the Nobel Prize, we run probit regressions on our sample, with the dependent variable taking the value of 1 if the scientist has been awarded the Nobel Prize by 2014, and 0 otherwise. Note that it is entirely possible that some of the scientists that do not have the Nobel Prize by 2014 will receive it in the future (or will have died before receiving it); this will serve to bias our results downwards, against finding any significant effects.

It is also important to note that as we consider only top scientists, the differences in productivity among them should be relatively small. Whether one is awarded the Nobel Prize then could be considered almost arbitrary (random). Alternatively, it is indeed possible that the final choice is affected by factors not related to the scientists' productivity: physical attractiveness could well be such a factor.

We report our regression results (marginal effects evaluated at means of variables) based on the full set of assessors in Table 2. We control for the scientists gender, age when their name first appears in our data (first mention by Thomson Reuters or actual award, whichever comes first), average attractiveness score, discipline dummies, and picture characteristics. When we only control for scientists' characteristics (columns 1 and 2), physical attractiveness appears to have a negative effect on the probability of receiving the Nobel Prize. This effect is marginally significant (at the 10% level), when age is included as a quadratic polynomial; given the relatively small sample size, it is not surprising that not many coefficients are significant. This would imply that being attractive presents a distinct disadvantage, with each point on the 0-10 scale reducing the probability of receiving the prize by 6.7% (each one-standard-deviation reduces the probability by 4.7%), which is not negligible.

Adding a squared term of the attractiveness score (column 3) changes the relationship into a hump-shaped one. The peak effect is attained at a score of 3.21, which is just below the sample average: average looking top scientists have a better chance of getting the Nobel Prize than either the plain looking ones, or the good looking.

Finally, in the last two columns, we add we add discipline dummies and picture characteristics. Given that all four disciplines are almost equally represented in our data, membership in a particular discipline should not make much difference: indeed, the dummies are mostly insignificant. Picture characteristics on their own should also not matter, unless those deciding on awarding the prize used the same pictures. They could, however, affect how our sample of students perceived the attractiveness of the scientists, which could, in principle, skew our results. To account for this possibility, we add interaction terms between picture characteristics and the attractiveness score. When we do so, we find that the average attractiveness now appears to have a significant and positive effect on the probability of receiving the Nobel Prize. As for picture characteristics, the picture being of head and shoulders and the scientist in it wearing a suit both significantly reduce the probability of being awarded the prize. Most of our pictures have these two characteristics. Therefore, given the size of the interaction terms, the results in the last column effectively confirm the previous result, that being more attractive is associated with a lower probability of receiving the Nobel Prize.

In Table 3, we report the results based on the restricted set of assessors. The results are very much in line with those a 9ETBTt

5 Conclusions

We consider the effect of physical attractiveness on the probability of receiving the Nobel Prize. We collect pictures of and details on 324 top scientists in physics, chemistry, medicine and economics, who were either predicted to get the Nobel Prize, or have actually received it. We had these pictures rated for their attractiveness by a broad sample of UK undergraduate students, with each picture on average being evaluated by 21 assessors. We find that, overall, being more attractive reduces the probability of receiving the Nobel Prize. When we allow for the relationship being non-linear, it appears hump-shaped, with average-looking scientist having the best odds of being awarded the Nobel. The magnitude of the effect is potentially large: assuming the relationship is linear, each one-standard-deviation change in attractiveness is associated with approximately 4.7% reduction in the probability of winning the Nobel Prize. Given that getting the Prize is a very unlikely outcome indeed, a probability difference of this magnitude is not negligible.

Our results reveal correlation rather than causality. In particular, we cannot tell what mechanism drives our findings. One possible explanation is discrimination, whereby the selection committee would (subconsciously) consider attractive scientists as less serious or less devoted. Another possibility is that attractive scientists have more and better alternative options besides hard work, whether in the labor market (as the previous literature clearly demonstrates), in their social life, or indeed in their love and family life. As a result, they would have less time left for pure science. Future research will hopefully s

Table 2 Beauty of Nobel Prize Winners (restricted set of assessors)

	(1)	(2)	(3)	(4)	(5)
Male	-0.2887*	-0.2868*	-0.3109	-0.2976*	-0.4058**
	(0.1567)	(0.1572)	(0.1628)	(0.1769)	(0.1819)
Age	0.0037	-0.0253	-0.0305	0.0057	0.0018

Figure 2 Three Most Attractive Top Economists

1. David E. Card (4.73)	2. Edmund S. Phelps (4.65)	3. Philippe M. Aghion (4.61)