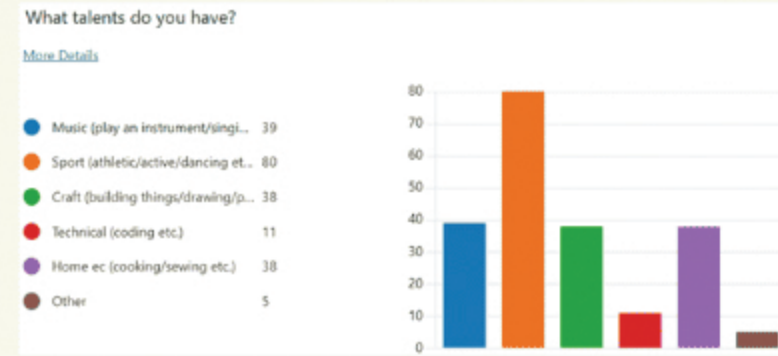


# NATURE OR NURTURE?

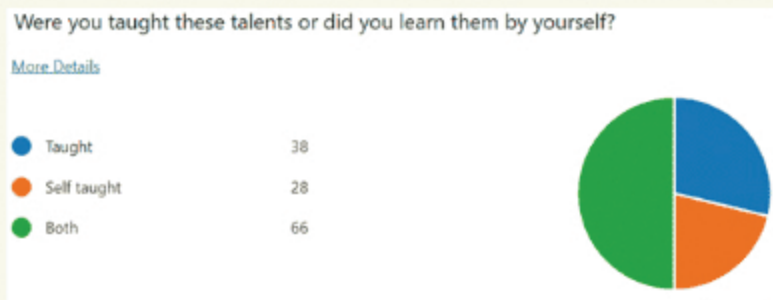
## OUR ANALYSIS

We decided that the best way to display our data clearly was using bar charts and pie charts as it proved to be the easiest to read and analyze. We also colour coded the different options so you can clearly see the results for each answer. Our colour code key can be found on the left side of each graph.

### TALENTS



First, we investigated the different talents that people have. The majority of people have a talent for sport, and roughly the same amount have musical, crafting and practical life skills. The people we surveyed were able to give more than one answer.



We then asked if these people had been taught their talents or if they had learned them themselves in order to find out if they had a natural aptitude for these skills (nature) or if they had learned them from the people around them (i.e. nurture).

50% answered that they had been both taught and self-taught, but it seems that 29% of people learned from the people around them and 21% were self-taught. We believe that those who answered "self-taught" are those with a hereditary talent, as people who were taught by others might not necessarily have had the natural "gift", and instead just learned it.



We asked if people's relatives had the same talents as them. 75% of people answered yes, which could mean that the skill was most likely to have been passed on genetically.

35% of people said that their dad has the same talent as them.

15% of people said that their mum has the same talent as them.

- 2% said grandparents.
- 4% said aunts and uncles.
- 11% said siblings.
- 8% said cousins.

However, if we look at the data above, more people said their parents also have the same talents as them than any other family member. While this could show that talents could be passed directly from parent to child, it is probably more accurate to assume that people learned from the most important adults in their life. This is backed up by the fact that some people's siblings also have the same skills, meaning either they could also have learned it from their parents or, considering how low this percentage is, it is a talent that is solely present in one child, and not necessarily the whole family.

### INTELLIGENCE



- 52% of people said they are intelligent in a logical way.
- 39% said verbal-linguistic.
- 26% said visual-spacial.
- 29% said emotional.
- 11% said naturalistic.

We then investigated if people's relatives were intelligent share the same traits. The majority of people said their fathers are. 41% said dad, 18% said mum, 4% said siblings.

No other family members are mentioned, which alongside the correlation between parents' intelligence and the similarity in siblings, could suggest (as mentioned above regarding talents) that intelligence or proficiency in certain areas can be learned from parents, or at least enhanced/improved if a person's parents have experience in this area.



To gather more information in this area, we asked people which subjects they are good at in school, to test whether academic skill can be inherited-

- 29% English (verbal-linguistic)
- 27% Foreign languages or Irish (verbal-linguistic)
- 51% maths or science (logical)
- 27% music or art (the arts)
- 27% practical subjects (visual-spacial)
- 37% physical education

-and asked if relatives had the same competence in the same subjects.

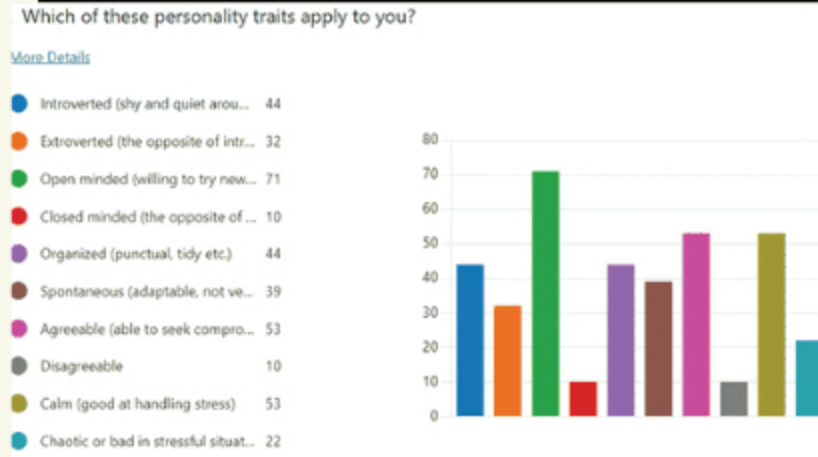
- 32% answered that their father has the same capacity.
- 22% mum.
- 2% grandparents.
- 11% aunts and uncles.
- 0.9% cousins.
- 1.2% siblings.

As we can see from the results, mostly adults are gifted in the same school subjects as the people answering our survey. This would suggest that people are helped in these subjects or have an enthusiasm for them because their older relatives encourage this.



It was interesting to note that the vast majority of people (79%) said they have relatives who are competent in mostly logical and practical areas, such as maths or woodwork. Of course there is usually a natural aptitude for people who are good at these subjects, but a lot of the knowledge comes from practice, which could be happening (especially with practically minded fathers, it seems) in a lot of households, e.g. a child helping a parent do a simple DIY task such as assemble a piece of furniture. From this information we can conclude that skills and aptitudes are probably not genetic, but are heavily influenced by older family members, parents in particular and distinctly fathers.

### PERSONALITY



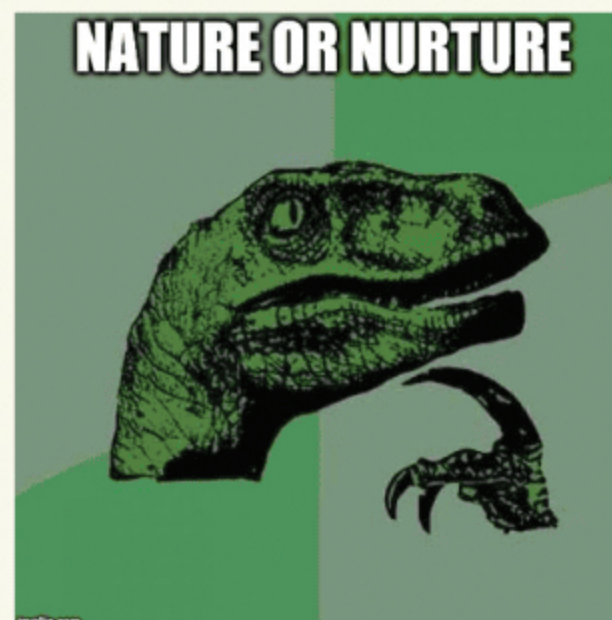
We began by asking people their own personality traits, and got fairly mixed responses, as seen in the graph.

Then, expecting to see most people answering that their father has the same traits, as before, were surprised to see that more people responded that saying their mother did, and that a lot more people answered that their siblings possessed the same personality traits as them. While this could be pointing towards genetic inheritance of someone's nature, the lack of immediate family members listed tells us that this is also a likely case of nurture, as a household of people probably were raised the same way and as a result share the same disposition.

- 29% mother.
- 24% father.
- 20% siblings.
- 4% aunts and uncles.
- 5% cousins.

When we asked which traits people's relatives have in order to find out which ones may have been inherited, we were interested to discover that most people (33%) answered that they have calm relatives, which as mentioned before could be genetic or as a result of children naturally spending a lot of time around their parents, especially their mothers, at a young age which would affect their temperament.

Another intriguing fact is that 29% of people believe no one in their family has the same traits as them, which might mean they are naturally "programmed" to behave the way they do, and not because of their relatives or environment whatsoever!



## Nature or Nurture?

Are your talents, intelligence and personality affected by your surroundings, by the way you were brought up by the people around you (nature) or is it your DNA that defines you?

After a discussion on habits of different animal our curiosity led us to ponder about talents in people and whether it's a thing that occurs after practice or if it is natural born.

We then discussed further into different talents, therefore we began to think about intelligence and personalities, and we were curious about whether they were also affected by genes and DNA.

We hope to find out the truth behind talents, personalities and intelligence. Whether you were born with it or taught it.

## Our Hypothesis

We believe that your DNA only affects your appearance, and only some of your aspects and traits but not all of them. We hope to find the differences and distinguish between them.

## Method

- Primary research.
- We interviewed 50 staff and 50 students from each year with a survey.
- Independent variable – age group.
- Dependent variable – the people's talents, intelligence, and personality, as well as the similarities or differences with their relatives' talents, intelligence and personalities.
- Control – the number of people we interview in each age group, the questions asked.
- 50 students from each year group and 50 teachers – this gives us a large range of ages.

## DISCLAIMER:

This research cannot be entirely accurate because of difficulties surrounding getting people to fill in our survey, resulting in sometimes incomplete or unsatisfactory data, which we have done our best to work our way around and include as accurately as possible.

## IN CONCLUSION

From our research we believe that talents intelligence and personality traits are not genetic, but are very similar to one's parents as a result of environmental and nurturing factors.

However, unexpectedly, we did find that practical skills seem to be learned more from fathers while more emotional elements can be seen as taught by mothers. This conclusion is relatively identical to our hypothesis, in which we stated our belief that DNA only affects appearance and such physical attributes, but not our actual mental/emotional traits and if so then only slightly.

## QUESTIONS IN OUR SURVEY

1. What talents do you have? (List)
2. Do any of your relatives have this talent?
3. If you answered yes above, which relative(s) are you referring to?
4. Do you do any sports or exercise regularly?
5. Are any of your relatives also sporty or athletic?
6. Does the relative mentioned above play the same sport or activity as you?
7. Do you play any kind of instruments?
8. Would you consider yourself musical or do you have an interest in music?
9. Do any of your relatives have a talent for music?
10. Which of your relatives have musical talents?
11. Do you have perfect pitch?
12. Is this the case with any of your relatives?
13. Which relatives?
14. Are you tone deaf?
15. Are any of your relatives tone deaf?
16. Which relative?
17. Were you taught music or did you learn by yourself?
18. On a scale of 1-10, how academic would you consider yourself
19. In which ways do you consider yourself intelligent? (List)
20. Have you ever done an IQ test?
21. If so, when did you do it?
22. What was your result in the IQ test?
23. Have any of your relatives ever done an IQ test?
24. If you answered yes, which relative(s) are you talking about?
25. What was their result?
26. Are any of your relatives intelligent in the same way?
27. If so, which one?
28. In which way are they intelligent?
29. What school subjects are you good at?
30. Which of your relatives are also good at the same subject?
31. Which subjects are the relatives from above good at?
32. Which of these personalities traits apply to you (List)
33. Which relatives have the same personality traits as you?
34. Which traits do your relatives from above have?

## IMPROVEMENTS

We have a few suggestions for how we would improve this project, mainly concerning the research. First, we were limited by the amount of people who actually answered our survey. Though we sent it to roughly 350 people, only 131 responded. In future, we would either send it to as many people as possible, which in our school could be over 800, and hopefully we would get more results. Otherwise we would carry out in-person interviews to ensure we actually got the results we needed.

Secondly, we would add some questions to the survey to improve our data, such as a question asking the person answering what their gender is, as this may give us information on whether females are more likely to inherit certain things from their mothers and males their fathers (i.e. our survey could have been answered by mainly boys, who would likely spend more time with their fathers and so they would have more information on their fathers or could have learned these talents from them; therefore if we could find out the difference between male and female responses we would have more unbiased data).

We also noticed a trend in people saying their father has the same skills and talents as them, and we believe this may come from either people's internalised old-fashioned beliefs that men are generally more intelligent/practical or the fact of more opportunities given to males (present more so in the older generation) or it may simply be from the people who answered the survey.

Another thing we could do to make this project the best it could be is to only pick one area, such as personality traits, and focus on our investigation into that in extreme detail. When researching the three topics we chose, it was difficult to condense our information and decide which parts were necessary, so it might be easier to just pick one next time!