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Parental lifespan (Timmers, 2020)

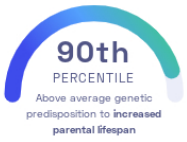
Paul Timmers, et al.
Nature Communications

Aging

STUDY SUMMARY

Identification of 10 genetic variants linked to parental lifespan.

YOUR RESULT



STUDY DESCRIPTION

Worldwide, the average lifespan is 70 years for males and 72 years for females. Many people, though, live well into their 90s or 100s. Though factors such as diet and access to health care influence how long an individual may live, genetics also plays a role. Overall, genetics may account for between 10-30% of the variation in lifespan. As a result, examining the lifespans of an individual's parents may help predict the offspring's expected lifespan. This study examined the genomes of over 1 million individuals of European ancestry to identify variants associated with parental lifespan. The study discovered 10 genetic variants that are linked to parental lifespan, but also associated with an individual's healthspan and longevity. Multiple variants are in genes that have been previously connected to aging and metabolism. For example, a variant in the APOE gene (rs429358) can on average increase a parent's lifespan by over 2 years.

DID YOU KNOW?

While parents have an influence on their children's lifespan through the genes that they pass down, it seems that children may have an effect on their parents' lifespan as well. A study found that people with children often live longer than those without children. Even adopted children appear to impart this effect, potentially adding up to 3 years to the lifespan of their adoptive parents.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to increased parental lifespan we summed up the effects of genetic variants that were linked to increased parental lifespan in the study that this report is based on. These variants can be found in the table below. The variants highlighted in green have **positive effect sizes** and increase your genetic predisposition to increased parental lifespan. The variants highlighted in blue have **negative effects sizes** and decrease your genetic predisposition to increased parental lifespan. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to increased parental lifespan. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for increased parental lifespan to be 0.53**. To determine whether your score is high or low, we compared it to the scores of 5,000 other Nebula Genomics users. We found that your polygenic score for increased parental lifespan is in the **90th percentile**. This means that it is higher than the polygenic scores 90% of people. We consider this to be an **above average genetic predisposition to increased parental lifespan**. However, please note that genetic predispositions do not account for important non-genetic factors like lifestyle. Furthermore, the genetics of most traits has not been fully understood yet and many associations between traits and genetic variants remain unknown. For additional explanations, click on the column titles in the table below and visit our Nebula Library tutorial.

VARIANT	YOUR GENOTYPE	EFFECT SIZE	VARIANT FREQUENCY	SIGNIFICANCE
rs429358_T	T / T	0.11 (↑)	85%	1.00×10^{-126}
rs10455872_A	A / A	0.08 (↑)	93%	4.00×10^{-30}
rs7859727_C	C / C	0.03 (↑)	51%	4.00×10^{-18}
rs61905747_A NEW	A / A	0.02 (↑)	82%	4.00×10^{-10}
rs6511720_T	G / G	0.03 (–)	12%	4.00×10^{-9}
rs12830425_G NEW	T / T	0.03 (–)	7%	8.00×10^{-9}
rs1159806_T NEW	A / A	0.01 (–)	35%	1.00×10^{-8}
rs4783780_A	A / C	0.01 (↑)	53%	1.00×10^{-8}
rs2643826_C NEW	C / C	0.02 (↑)	55%	4.00×10^{-8}
rs17499404_A NEW	A / A	0.01 (↑)	54%	4.00×10^{-8}