

'Black and white twins': How genetics, epigenetics explain non-identical identical twins

[Identical twins Amelia and Jasmine aren't] identical...One child has dark skin, black hair and brown eyes while the other has fair skin, light-brown hair and blue eyes. How is this possible?

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Identical twins do not actually [share 100% of their DNA](#) although they share very close to 100%. And when the differences are in the genes responsible for features such as hair color, eye color or skin color, twins will have obvious and dramatically different looks.

In addition to this, genes can be switched on and off in different cells...One of the main processes switching genes on and off is an epigenetic process known as DNA methylation. By controlling which genes are on or off in any given cell, we are able to grow kidneys, heart, skin, etc and control how these cells behave and what they look like.

DNA methylation marks can be inherited across generations, but, equally, they can be altered by relatively short-term stimuli such as [exercise](#) or [nutrition](#). More importantly, there is [evidence](#) that the genes involved in controlling eye, skin and hair colour are subject to this epigenetic control.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [How does genetics explain non-identical identical twins?](#)