'Nature or nurture' study reveals 'musical genes' (w/ Video)

November 12 2009

(PhysOrg.com) -- If you've ever wondered why a close group of friends might like completely different types of music, blame their genes. A study by Nokia and Kings' College London into the musical tastes of nearly 4,000 twins reveals genetic influences on the music people like varies with genre.

While, on the whole, musical taste is determined just as much by nature as it is by specific individual experiences, nature's influence is strongest on appreciation of pop, classical and hip-hop music - indicating some people may be born to love Michael Jackson, Beethoven or Jay-Z.

Nature's influence is lowest on appreciation of folk and country, where family upbringing appears to play a role - so a CD collection full of Hank Williams, Dolly Parton and Joni Mitchell can't necessarily be blamed on genetics:

Genre	Nature's Influence
Pop/classical/rap/hip-hop	53%
Jazz/blues/soul	46%
Rock/indie/heavy metal	40%
Country/folk	24%

The study, conducted by Nokia and Kings' College London Department of Twin Research, investigated the listening habits of nearly 4,000 twins and looked at the influence of both genetic and environmental factors on

musical taste.

"Previous studies have shown that perfect pitch ability appears to be partly inherent and with as much as 50% of our musical taste being predetermined, it appears there is a strong argument for the existence of 'music genes'" says Adrian North, Professor of Psychology at Heriot Watt University.

As might be expected, genetic influences decrease over time as individual experiences becomes more important. Excluding country music - on average for the under 50s, genes have more influence (55%) than environmental factors (45%), whereas for the over 50s, the influence of individual specific environmental factors on a music collection increases to 60%.

Genetic influence ranking by genre for under and over 50s

Under 50s
- 56% Jazz/blues/soul
- 55% Pop/classical/rap/hip-hop
- 53% Rock/indie/heavy metal
- 0% Country/folk

Over 50s
- 43% Pop/classical/rap/hip-hop
- 42% Jazz/blues/soul
- 34% Rock/indie/heavy metal
- 28% Country/folk

Born to buy music, but not to listen to it

While genetic influence on the music we like (55%) is clear, genes have a significantly lower influence (25%) on our motivations for listening to music. According to the research, listening habits are influenced by a desire to soundtrack our day, wanting to set a mood, or simply to enjoy the listening experience rather than any 'play music now' gene.

The research was conducted amongst identical (MZ) twins and fraternal (DZ) twins. MZ twins share 100% the same genes, whereas DZ twins share half the same genes, just like ordinary siblings. Assuming the shared environment they grew up in is equally similar for MZ and DZ twins, it is possible to conclude that any greater similarity in musical taste between identical twins than non-identical twins is due to genetic influences.

Provided by Nokia