

Happiness – Stuck with what you've got?



DAVID LYKKEN

YOUR average level of subjective well-being or happiness is largely determined by your genes. So if happiness is strongly

genetic, that suggests that it must run in families – but it does not. If happiness is strongly genetic, that suggests that trying to be happier is like trying to be taller – but that also is mistaken. How can this apparent paradox be explained?

The well-being scale of Tellegen's Multidimensional Personality Questionnaire is a reliable and face-valid measure of happiness. Adult identical (referred to throughout as monozygotic or MZ) twins correlate about .50 on well-being (WB), whether they were reared together or apart. The correlation of MZ twins reared apart estimates the broad heritability of the trait in question, so it appears that about half of the variation in happiness from person to person is due to genetic differences between people.

But, like most psychological traits (even IQ!) happiness varies from time to time due to the 'slings and arrows'. When 478 of our adult twins were retested after intervals of from 3 to 12 years, the retest correlation for 'happiness' (WB) was only .58. But the cross-twin, cross-time correlation for the 144 pairs of MZ twins was .49, indicating that the stable component of happiness – the happiness

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DAVID LYKKEN and MIKE CSIKSZENTMIHALYI debate the impact of genetic factors on happiness.

'set-point' – is primarily determined (e.g. $.49/.58 = 84$ per cent) by genetic factors.

Adult dizygotic (DZ) twins correlate about zero and, for the 95 pairs of DZ twins retested over nine years, the cross-twin, cross-time correlation was only .04. This indicates that happiness is an 'emergenetic' trait: various genes combine in a configural rather than a simple additive fashion. Emergenetic traits, while strongly genetic, do not tend to run in families: Mom may be holding a full house while Dad has a straight flush, yet when Junior gets a random half of each of their cards, his poker-hand may be a loser. The value of a poker hand, like the strength of an emergenetic trait, depends on how the cards fit together; on their configuration rather than on their sum.

In our research 17-year-old MZ twins are about as similar in their WB scores as

the adult MZs are, but the young DZ twins are about two-thirds as similar as are the MZs. Still living together in the parental home, where the parents correlate in happiness level about half as strongly as the MZ twins, everyone is to some extent affected by the prevailing mood and those DZs are more similar now than they will be years later when they have moved to homes – and prevailing moods – of their own making.

But the genetic set-point accounts for only about half of the within-subject variation in well-being. Some people droop along beneath their set-points because of failure to control their fears or their anger or their self-pity, the 'happiness thieves'. Other people dance along above their set-points because they've learned (or have been taught) how to live, how to gratify their aesthetic and sensual needs.



MIKE CSIKSZENTMIHALYI

THE claim that about half of a person's happiness – however measured – might have a genetic basis sounds indeed reasonable.

What I do find rather incredible are the inflated claims one occasionally hears from proponents of twin studies that 80 per cent, or even all, of happiness is genetically determined. Such claims are usually based on statistical moves even more specious than those used in arguing the validity of US presidential elections.

According to cross-national surveys, the inhabitants of Iceland are about three times as likely to say they are 'very happy' or 'happy' than Indians or Estonians, who are in turn three times higher on the Subjective Well-Being Index than Russians or Bulgarians. What is one to make of such differences? They might be due to economic and political factors (for example East Germans used to score much lower

than West Germans on measures of happiness, but they are slowly catching up), or cultural factors (apparently Russians would be embarrassed to admit that they are happy even if they were). It seems unlikely that genes would enter into this at all.

And of course I always find it questionable when people equate a complex psychological construct such as 'happiness' with scores on a test. Especially when this involves a single measure that aggregates fleeting moods and emotions into a single score. In our experience sampling method (ESM) we ask individuals to rate their happiness 8–10 times a day for a week, on a seven-point scale, whenever a watch programmed to signal at random times beeps. By this method one sees that the level of happiness typically varies tremendously from hour to hour, depending on what one does, who one is with, and so forth. Perhaps what is genetically set is the

cognitive evaluation we make of how happy we are, while the actual experience of happiness depends more on the conditions of life we find ourselves in, and on the strategies we develop to savour each moment and to learn to live with setbacks.

The reason social scientists have ignored genetic explanations of behaviour is that these leave little room for intervention and amelioration. As time went on it became politically incorrect even to mention genetic factors. As a result, behavioural geneticists have dug their heels in, and have often exaggerated the importance of biological inheritance. Both extremes are futile, and I am prepared to settle on a 50/50 basis.



Suppose you use your ESM method to measure the distance from head to floor

in a sample of MZ twins. Twin A might be on a ladder when the buzzer goes off while Twin B is sitting or bending over. The resulting MZ correlation might be about .30, indicating a broad heritability of about 30 per cent. But if you get repeated measurements and average them, that MZ twin correlation will climb to about .92, indicating a heritability for mean height of about 92 per cent. Although what I'll call the stature set-point is determined mainly by the genes, head height is not a fixed quantity – you can climb up or bend down.

Happiness certainly varies from time to time, and our data show that the happiness set-point may be as strongly genetic as head height. Yet one can take steps to bounce along above that set-point – or one can droop along beneath it. There are many ways to make little positive waves on one's lake of happiness (whose depth is fixed genetically), but the most important and dependable ways involve our human need called effectance motivation. We enjoy learning and exercising skills, doing constructive tasks and doing them well. The vandal or graffiti artist is manifesting effectance motivation. It is a pity that he has not learned how much more gratifying (and safer) it is to affect one's surroundings in constructive and admirable ways.

The fact that most psychological traits, like happiness, vary with circumstances – traits like aggression, fearfulness, optimism, impulsiveness, irritability, dominance, social closeness – indicates that genetic set-points leave lots of 'room for intervention and amelioration'. Imagine a five-year-old boy whose score on the

Mom may be holding a full house while Dad has a straight flush, yet Junior may be a loser

genetic bell curve of fearfulness is at the very low end. Because he does not respond well to punishment, the average parent will not be able to socialise that boy; but, in the streets, his fearlessness will make him a leader and, later, a criminal if he survives.



My problem with the concept of a 'happiness set-point' (and this might be more semantic than real) is that it suggests an unchangeable genetic determinism. But even your example of a set-point for stature illustrates the flexibility of genetic programmes – average height has been increasing almost an inch per generation in the past century, thanks to better diet and lifestyle. A similar responsiveness to environmental conditions is even more true, I expect, of happiness. For example, happiness has been shown to increase as a result of societal changes such as improving political conditions, better quality of life, changes in values and expectations.

As for what it takes to be happy, I agree with you entirely. Our evidence shows that young people are most happy when they are doing something difficult and challenging – unfortunately, when they have a choice most of them choose to engage in easy, relaxing activities instead, where they don't really feel good. This paradox has been haunting me for quite some time. Is it that evolution has produced two parallel, unco-ordinated reward systems in our brain, one triggered by

With a clever parent who works with pride instead of punishment that boy may grow to be a brave policeman, an astronaut, a reform politician. The hero and the psychopath are twigs on the same genetic branch. Mike, do we still agree?

homeostasis, the other by growth and exploration? Or is the natural tendency to enjoy challenge being corrupted by cultural messages to relax and consume? Young people who learn to enjoy challenges – from sports to music, from school subjects to volunteering in the community – end up leading happier and more productive lives. But to do so they have to tune out the siren song of consumerism and easy entertainment.



Yes, one can see why evolution designed us to want to acquire skills and to accomplish useful tasks, because people with those traits were more likely to survive natural selection. But why do many people now waste so much time on less rewarding passive entertainment? That is a big, important and fascinating question that I have neither the wit nor the space to answer. But I do think that children must learn that constructive effort can be gratifying and that parents can have an important role in these discoveries.

Now, as I am trying to adapt to having retired two years ago, I realise that I am

free to devote full-time to movies, novels, and games; yet, instead, I look for little worthwhile tasks that I have energy and brains enough to accomplish. I install a light fixture, make an apple pie, write a letter of recommendation. Ironically, while Max Weber may have defined it in 1904, the Protestant ethic has probably been with us as long as people have.



No, I definitely don't think the Protestant ethic is what makes us feel happy when we are engaged in something productive. Anyone who has raised dogs knows that spaniels look and act most happy when they chase bird-like objects, collies look most happy when they chase sheep or their equivalent, and so on – without belonging to any reformed church. If anything, the success of Protestantism may in part be due to the fact that it bestowed legitimacy upon work, thus giving meaning to what most people want to do naturally. I am reminded of Dante Alighieri's insight, expressed over six centuries ago in *De Monarchia*:

In every action, the main intention of the agent is to express his own image; thus it is that every doer, whenever he acts, enjoys [delectatur] the doing; because everything that is desires to be, and in action the doer unfolds his being, enjoyment naturally follows, for a thing desired always brings delight. Therefore nothing acts without making its self manifest. (my translation)

In other words, the dog 'unfolds its being' by running, and that is when it is most happy. I suppose if a person thinks of himself as a TV watcher, then viewing TV is what will make him happy – at least momentarily. In the long run, however, dependence on passive entertainment clearly undermines personal growth as well as happiness.

Actually I think a passive lifestyle is not a choice, but a default condition for people who cannot find a way to express their being otherwise. Paradoxically, it is the poverty of options in the productive arena rather than human nature that may account for our alienated condition. Technology was expected to increase the variety and

complexity of challenges in our lives. However, we haven't learned to exploit such opportunities well. We either end up having too many options, or too few. You either have to read a hundred e-mail messages by noon, or you are left out of the loop.

Further reading

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