Psyco 403 Podcast Script

Warning: you may be preventing more than pregnancy

Nicole McEwen Erin McKenna Screen opens with "WARNING" followed by "you may be preventing more than pregnancy"

Nicole: According to Stats Canada nearly 40% of marriages end in divorce. Many have offered an interpretation of this startling fact. Some theories propose that this is a result of changing role women are playing in society, while others claim that it is a product of both the accessibility and acceptability of the divorce process itself, but a 2008 article in Scientific American offers quite a different theory. This article claims that hormonal birth control may be the culprit.

Sound of record scratching to a halt, the word "What?" appears largely on the screen.

Nicole: Definitely a compelling idea. One that warrants further examination...

Erin: Motivated by the Good Genes Sexual Selection theory, a 2007 study by Ganstead and colleagues explored the changes in women's mate preferences across the ovulatory cycle. This theory states that individuals prefer to mate with partners that posses attributes that would indicate heritable fitness, and consequently high quality offspring. When women were in the most fertile period of their cycle they were shown to demonstrate preference to traits generally associated with short term pairings (good gene indicators like physical attractiveness and social dominance), while at all other times preference was directed at those males illustrating traits associated with more long term pairings indicating better parental investment (for example loyalty and willingness to provide investment and parental care).

Nicole: So the type of men women choose fluctuate with where they are in their ovulatory cycle, and have evolved to instinctually make advantageous decisions regarding mates (and potential offspring) based on this, but what does hormonal birth control have to do with anything?

First let's look at the method behind the pill. It essentially works by preventing ovulation. By introducing synthetic hormones that mimic the way real estrogens and progesterone work, the body is tricked into believing that it is already pregnant and in turn does not ovulate. No egg, no pregnancy.

But wait? No ovulation? How could this possibly be a problem? We have just seen that in this situation women choose mates that are weighted towards better parental investment – surely this is a good thing!

Erin: It is known that humans and other animals are sensitive to scent cues that are indicative of major histocompatability complex (or MHC) when selecting a mate. MHC's are a large gene family found in most vertebrates, and play an important role in the immune system and autoimmunity. These proteins are broken down in our bodies and detectable as scent cues through a number of ways – such as sweat and urine. Since greater variability in genes is going to produce more viable offspring by increasing resistance to infectious disease, selecting a mate with genes most dissimilar to you is adaptively essential. Moreover, a similar MHC may also indicate a potential relative, making sensitivity to this cue a critical way of avoiding inbreeding. Supported by other studies examining this, Roberts and colleagues of the University of Newcastle looked into how oral contraceptives can influence female's preference between scent cues of similar and dissimilar mates. Using plain white t-shirts worn for two days by a group of males, women were then asked to smell the shirts and asked which they preferred. It was found that women free of hormonal contraceptives tended to favour shirts worn by MHC dissimilar males (as they should), while those who were on the pill chose MHC similar males – speculated as a way to draw pregnant women to a nurturing relative.

Nicole: Women have evolved to use instinctual methods of producing the healthiest offspring. However, if they have impaired their choice of mate by weighting parental investment higher that those qualities associated with good genes theory, it is then plausible that the relationship may prove to be sexually dissatisfying. The risk to marriage is then this: Once going off hormonal contraception women potentially experience a change in desire for their mate, perhaps even turning their preferences towards men who possess a better MHC match -particularly when they are fertile. Consequently these women may begin to question their marriage and are at increased risk for infidelity.

While the more popularized theories previously mentioned rationalize the breakdown of marriages, the effect hormonal birth control may be having on our evolved and instinctual ability to choose in the first place is undeniable. Further research may be required to investigate the extent of this effect, but in the meantime it may just be something to consider when accepting that invitation for a first date...

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