

Q: Write a factcheck of the following claim using the scientific publications. Mention these publications in the factcheck when you give arguments, percentages or estimates, and also list the same sources below the factcheck under "Sources". For writing style follow a similar layout of the factcheck given in Style Example: headline, lead (80 words summary), claim, verdict, source of verdict, why is this true / not true, conclusion, sources. Give a balanced perspective of the evidence, instead of just saying the claim is true or false. Start the evaluation of the evidence with a brief and simple account of the mechanisms and molecules that are supposed to be at play. Be concise but use easy to understand language. This is the claim [The probability of someone cheating during the course of a relationship varies between 40 and 76 percent]

Claude:

Here is a draft fact check of the claim "The probability of someone cheating during the course of a relationship varies between 40 and 76 percent":

The Risk of Infidelity Over the Course of a Relationship

Claim:

The probability of someone cheating during the course of a relationship varies between 40 and 76 percent.

Verdict:

Uncertain. While some studies have estimated infidelity rates in this range, others have found lower rates. More research is needed to precisely estimate the risk of infidelity over the entire course of a relationship.

Background: Infidelity can be defined as sexual or emotional intimacy with someone other than one's committed partner. The hormone oxytocin promotes bonding and attachment between romantic partners. However, over the course of a long-term relationship, oxytocin levels may fluctuate, while attraction to novel partners remains constant due to the hormone dopamine. This mismatch is hypothesized to increase the temptation for infidelity.

Estimating infidelity rates is challenging. People may be reluctant to disclose infidelity on surveys due to social desirability bias. Studies use varying definitions of infidelity and relationships. Some focus on marriage while others include dating couples. Lifetime infidelity rates appear higher than point prevalence rates.

A literature review by Thompson (1983) concluded that between 40-76% of couples experience infidelity over the course of a relationship. This conclusion was based on limited data, and relied heavily on Kinsey's surveys from the 1940s-1950s. More recent nationally representative surveys have found lower rates, with approximately 20-25% of men and 10-15% of women admitting to extramarital sex during marriage (Wiederman, 1997; Laumann et al., 1994). Rates tend to be higher among dating couples compared to married couples.

While the 40-76% figure may overestimate current infidelity rates, secrecy and underreporting make it difficult to establish precise probabilities. The true rate likely falls somewhere between major survey estimates. More research controlling for limitations of self-report data is needed.

Conclusion: The claim provides a plausible but uncertain range for the probability of infidelity over an entire relationship. Current evidence does not allow a definitive conclusion. Infidelity likely occurs in a significant minority of relationships, but predicting precise probabilities remains difficult.

Sources:

Thompson, A. P. (1983). Extramarital sex: A review of the research literature. *The Journal of Sex Research*, 19(1), 1-22.

Wiederman, M. W. (1997). Extramarital sex: prevalence and correlates in a national survey. *Journal of Sex Research*, 34(2), 167-174.

Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality: Sexual practices in the United States*. University of Chicago Press.