



Episode 59 – The Coolidge Effect
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Welcome to Do We Know Things? A podcast where we examine things we think we know about sex.

Content warning: This podcast will include discussions of animal research and rather graphic descriptions of rat sex.

Hi everyone! I am Dr. Lisa Dawn Hamilton, professor of psychology and sex educator. Today on Do We Know Things, how an urban legend about a former U.S. president made it into scientific research.

President Calvin Coolidge was the 30th U.S. President. For most people outside of the U.S.A., Coolidge is probably not a well-known name. In the sex research world, however, it is highly recognizable, even to those of us who don't know many U.S. Presidents. In fact, there is a whole line of research on a topic called the Coolidge Effect. The effect, mostly studied in rats, is when a male has so much sex with one female that he doesn't seem interested in sex anymore, but if you drop a new female in the mix, he engages in sexual behaviours again.

This episode is definitely for the sex research nerds out there, but the way the research has been distorted by our human biases about sexuality will be interesting to those of you who are not complete sex research nerds like me. In this episode, I will talk rat sex, who needs more sexual variety, and how humans love to think we are just like rats when it fits our stereotypes.

That's coming up on Do We Know Things!

But first!

The next episode will be on menstruation, and there are so many misconceptions about periods and menstrual cycles. I want to hear your questions! You can DM me on Instagram @doweknowthings, email me at doweknowthings@gmail.com or click the link in the show notes to send me your period questions anonymously!

The Coolidge Effect – How it all Began

The Coolidge Effect begins with an urban legend. It was named in the 1950s after a supposed incident that happened when President Coolidge was in office in the 1920s. As the story goes, President Coolidge and his wife were touring a farm, in separate groups. When the wife saw a rooster mounting a lot of hens, she asked the tour guide how many times a day the rooster could mate. The tour guide responded that the rooster could mate many times a day. Mrs. Coolidge said "Please tell the president that." When the president came up to the chickens, he was told

what Mrs. Coolidge said, and he said “Is it the same chicken every time?” and the tour guide said, “No, always a different one.” And he said “Please tell *that* to Mrs. Coolidge.”

So how did this cutesy story become embedded in the scientific literature. Well, that is thanks to Frank Beach, a researcher who had clearly heard this urban legend and wanted to have some fun. Before we get to that story, though, let’s talk about the original research.

In the 1950s much of psychology research was done on rats and mice. And sex research was no different. Frank Beach, who is my academic great-grandfather, was the original sex and hormones researcher, so almost everyone who studies sex and hormones from a behavioural neuroscience perspective descends from him in some way.

Beach was interested in studying sexual satiation in male rats. That is, what happens when you let males mate as much as they want with a receptive female rat? Will they keep having sex forever or will they reach a limit? Like most areas of science, females were largely ignored in early sex research, and so no one cared about female sexual behavior. Females just had to be around to better understand male sexual behavior.

In 1956 Beach published a paper titled “Sexual Exhaustion and Recovery in the Male Rat” along with coauthor Lisbeth Jordan (Beach & Jordan, 1956). Essentially, Beach and Jordan wanted to know how much sex had to happen before a male rat lost interest in sex. He also wanted to know once a rat reached sexual satiation, how long did it take for him to show interest again?

These early rat mating studies usually involved a female dropping from the sky into the observation chamber where the male was located. I find the visual of females magically appearing from the sky hilarious. Like what do the male rats think? The females were always primed with hormones, so they were hot and horny because, fun fact, it’s impossible to mate with a female rat who doesn’t want to be mated with! Anyway, when a so-called “incentive female” (yes, that was the term they actually used) was dropped from the sky, researchers would record various aspects of the male rat’s behaviour, specifically mounts, intromissions, and ejaculations.

A mount is just when the male physically gets on top of a female in some way. Usually, this is near her rear in an attempt to copulate, but for sexually inexperienced rats, sometimes they mount the female’s head or side until they get themselves sorted out. An intromission is when the teensy rat penis goes into the rat vagina. And an ejaculation is fairly self-explanatory. In rats and mice, there are clear behavioural signs they have ejaculated, so it’s fairly easy to track. (I did try to find a video of this to share, but the internet did not provide.)

Once the female appears in the cage, most rats will mount her in about 8 seconds. For those research nerds who want more detail, I put some footnotes in the script, linked in the show notes, with all the numbers, but here I am just going to summarize the general gist. Not all males mounted the females who were dropped into the cage. Males who didn’t mate within a certain time frame were removed from the dataset. For those who did start mounting, shortly after, they would have their first intromission and then continue to mount, intromit, mount, intromit, mount and intromit off and on until they had their first ejaculation. Then the male would take a break,

also known as a refractory period, for about 5.5 minutes. This refractory period got longer and longer as the mating process went on. And eventually the male would stop mounting at all for an extended period of time. The researchers considered this to be the indication that he was sexually satiated. Before satiation, the male rats ejaculated, on average, 7 times (Beach & Jordan, 1956).¹

Beach also wanted to know when the males would return to their pre-satiation levels of interest in sex, and it took about a week for most to recover, but for many it was more than double that. The researchers, to test this, would drop a female in on various days after satiation and most males would either ignore her, or half-heartedly mount and even intromit but never enough to reach ejaculation (Beach & Jordan, 1956). So this initial study demonstrated that male rats reached sexual satiation after about 7 ejaculations and that they didn't return to regular levels of sexual interest for a week or two.

Another researcher, Alan Fisher, thought that assessing male sexual satiation with only one female was not actually the best way to go about it if you wanted to know the actual limits of male sexual response. There had been research with bulls showing that a bull would demonstrate renewed interest in sexual activity if a new cow was presented, but the data were limited to very small samples and no comparison groups. Fisher said he was also influenced by "folklore and paperback literature" which he thought showed anecdotal evidence that males would regain sexual interest when presented with a new female (Fisher, 1962, p. 614).

So Fisher set out to test this idea in sexually experienced male rats. He also tested the females in advance and only used those who were "highly receptive" when dropped into a male's cage. I include details of how both the male and female rats were selected because it's important to emphasize that not all animals behave the same, just like how not all humans behave the same. In Fisher's study all rats participated in a "No Change" part of the study, which was the same as the Beach and Jordan study before and a "Change" part of the study.² In the Change part, a female

¹ The median time for the males to mount was around 8 seconds, but the range was from 2 seconds to 9 minutes, so there was a lot of variability. And the males who didn't mount in 30 mins were removed from the data set. The median time to first intromission was 12 seconds, also with a really wide range. There was a mean of 7.5 minutes to the first ejaculation. The first refractory period was about 5.5 mins. After each subsequent ejaculation, the refractory period got longer, but the amount of intromissions and the time needed to get to ejaculation on subsequent attempts is shorter. So, by the end, the rats are resting on average about 14 mins between ejaculation and attempting to mount again, but once they do mount, the time to ejaculate goes from 7.5 mins that first time to just over two mins by the 6th ejaculation. Sexual satiation was considered to be reached when the male did not attempt to mount for 30 mins, and then the test ended. The mean number of ejaculations per session was 7 and the range was 5-10. (Beach & Jordan, 1956).

² In Fisher's study all rats participated in 5 different mating sessions. Two were the "No Change" part of the study, which was the same as the Beach and Jordan study and 2 sessions that were the "Change" part of the study. In the Change condition, a female was dropped from above and the male could mate with her as much as he wanted. If 15 minutes passed where the male did not attempt to mount the female, the female was removed and replaced with a new one. In the No Change sessions, the results were the same as the previous Beach and Jordan study. The male rats stopped being interested in sex after about 7 ejaculations. However, in the Change condition, when a new female was dropped in, the male did mount her, even after being uninterested in the previous partner and averaged approximately 5 more ejaculations. The maximum amount of ejaculations with the same partner for both studies was 10 per session while the maximum number of ejaculations shown when a new female was introduced was 22. Almost double! A previously sexually exhausted rat, suddenly showed new interest and capability when there was a new female. They last session they tried was taking the initial female away and then returning her to the cage, but the male rats did not show interest in the female they mated with already, only the new ones (Fisher, 1962).

was dropped from above and the male could mate with her as much as he wanted. When the male seemed satiated, so the male seemed to lose interest in mounting the female, she was removed and replaced with a new one. In the No Change sessions, the results were the same as the previous study. However, in the Change condition, when a new female was dropped in, the male did mount her, even after being uninterested in the previous partner. And, most of them averaged several more ejaculations. A few of the rats almost doubled their previous amount of ejaculations! A previously sexually satiated rat suddenly showed new interest and capability when there was a new female present. This is the Coolidge Effect. Except Fisher did not call it that in his paper. That was Frank Beach's work. Here is how the name got into the research

Naming the Effect

In his paper, published in 1962, Fisher didn't use the phrase The Coolidge Effect, even though the first mention of it was a few years before at a conference. Beach and his colleagues had seen Fisher present his research in 1958 and set out to replicate the study. When Richard Whalen presented the data from this replication at the 1959 Western Psychological Association meeting, Beach told him to call the phenomenon "The Coolidge Effect" and said not to explain why. The first time the phrase "The Coolidge Effect" was published in the research literature was not until 1963 in a paper by Beach and some other colleagues (Wilson et al., 1963), still with no explanation.

The first explanation of WHY it was called the Coolidge Effect didn't come until 1974 in a letter from Beach included in the 4th edition of the textbook called *Principles of General Psychology*. In the textbook, Beach tells the President Coolidge story and said he named the effect as "an elaborate hoax, just to see if it would get by" (Kimble et al., 1974. p. 249). Well clearly it did, and here we are, 60 years later still talking about it! In 1974 Beach wrote "It has been fun seeing how this silly joke has gotten spread around in the scientific literature without ever being seriously challenged." And thus, the legend was cemented into the sex research lore.

And to be clear, there is no evidence that the Coolidge Story ever actually happened. People have looked into it and can't confirm or deny. But there is a nearly identical story about two Black people published in a book called "Tally's Corner: A Study of Negro Streetcorner Men," so clearly this urban legend made its rounds in multiple places (*Coolidge Effect – Quote Investigator*®, 2018).

More Research on the Coolidge Effect

Ok, back to the research. The Coolidge Effect refers to a very specific phenomenon: When a male is sexually exhausted and shows no more interest in sexual activity with a partner, he will show renewed interest when a novel partner is introduced. However, even that limited understanding is not as clean as the data from Fisher's original study showed. There have been many studies testing the Coolidge Effect since then, and the results are a bit muddy. Additionally, no studies have shown the strength of the effect that Fisher found in his initial studies. While a male might continue to mount and intromit, sometimes they don't ejaculate again, and if they do, it is usually only once or twice. Even in the study done by Beach where

they officially named the Coolidge Effect, they found that just removing the female and putting the same one back in had similar results to putting a new female in.³

Also, The Coolidge Effect only happens when a male is sexually satiated. If he is allowed to ejaculate only once per day, he will happily have sex with the same partner with the same vigour each day.

Another twist to this Coolidge effect, is that it only seems to happen if the sexually satiated male is presented with a new female right away, at least in rodents. When presented with a new female from 6-24 hours later, males are less likely to show interest in the new female (Bermant et al., 1968).

Leonore Tiefer, another student of Beach's, tested what would happen if male rats were able to have an orgy (Tiefer, 1969). She put one male with five females at the same time. Previous researchers had argued that there was perhaps a habituation effect, where the male got used to the female and she became less arousing. Others suggested that sexual satiation was stimulus specific. And from an evolutionary lens, you can't make a female more pregnant, so if your goal is to spread your genes by having more offspring, it would make sense to mate with more females.

By allowing the males to have access to five females at once, Tiefer (1969) tested this idea that more females would lead to more ejaculations from the male. This didn't really turn out to be the case. While the males engaged in more mounts and intromissions with five females present, on average, they ejaculated only two more times than they did when they had access to just a single female.⁴ The males also didn't necessarily intromit or ejaculate with every female they had access to. Tiefer noted that the males mostly responded to female solicitation, which is an important detail about female behaviour. This aspect of female sexual behaviour was something that wasn't discussed much in early sex research, but due to better, more naturalistic research environments, we know now that rat sex is mainly driven by a female engaging in behaviours to indicate to the male that she is horny and wants to have sex.

Overall, these findings indicate that there are physical limits to what a male's body can do, and that both male and female rats have preferences. Essentially, rats won't just mate with anyone. They need to be attracted to them on a physiological level. The human equivalent of thinking someone is good looking. For males, it isn't just the availability of females that affects their behaviour. Another key finding from this study is that if the point of mating for a male is to ensure the most offspring possible, he would mate with each female, but that did not happen.

Since these early studies, there have been many more animal studies examining the Coolidge Effect on males and determining how and why it works like this. Researchers have investigated the biological and neurological factors that contribute to the effect. Some researchers have even tried to trick the males by using disguises on the females to see if they would mate again after satiation, but apparently these animals are smarter than that. There have also been studies

³ Although, putting the same female back in would result in a maximum of 1 more ejaculation, while a new female sometimes resulted in two additional ejaculations.

⁴ The average with a single female in this study was 10 ejaculations and with access to 5 it was 12.

looking at other forms of novelty – like what if you mate in a different cage or a different field, and these have had mixed results. Novelty is beneficial for sexual arousal, but it seems novelty of partners is more important in non-human animals than other forms of novelty. And while the research results don't support the Coolidge Effect in all studies, the phenomenon has been demonstrated across several mammalian species. But also, as I said before, there is evidence that males will mate with the same female after seeming to reach satiation if she is removed and put back in (Dewsbury, 1981). Depending on the species and the study, sometimes the same female removed and put back will result in more sex and sometimes it won't.

So, does the Coolidge Effect exist? I think yes, even though it's maybe not as robust as many people seem to think. And it has been apparently useful for farming practice to understand males can ejaculate more when presented with new females. As a contrast to the Coolidge Effect, researcher Jim Pfaus has a whole line of studies where he and his colleagues train male rats to associate ejaculation with a specific scent. These studies show that rats will prefer to mate with a rat that smells like the rat they have previously experienced ejaculation with compared to a novel potential mate. This goes against what would be expected from the Coolidge Effect and shows the complexity in even rat mating (Pfaus et al., 2001).

Female animals

So where does female sexuality factor in to all of this? Do they demonstrate Coolidge-like behaviours? The answer is both yes and no. When female rats are able to be in control of mating in the lab, like they are in the real world, they can run away after an intromission or ejaculation and then we can assess how soon she comes back for more. This is how the refractory period is assessed in females. In some species there are vaginal plugs or blockages that males insert into the vagina to prevent other sperm from getting in, but often the females will still engage in sexual behaviour even when they have that vaginal plug or blockage inside. When assessed based on how often they come back for more sex, female rats do seem to demonstrate the Coolidge Effect (Ventura-Aquino et al., 2016). When they reach satiation, they will not present themselves to the males for a long period of time, but if a new male is introduced, she will come back and engage in sexual behaviour with him.

In rodents, females engage in solicitation behaviours indicating their interest to males, but also have to go into a position called lordosis that allows the male to penetrate them. In a study of hamsters, who are notoriously cranky, the indicator of sexual satiation for a females was considered to be when she wouldn't go into lordosis anymore. So a male would attempt to mount her and she would be like, nope. She would just kind of walk away and not let him be able to penetrate her. And, with the hamsters, once the female indicated she was sexually satiated with one partner, introducing a new male often resulted in her re-engaging in lordosis, which researchers consider to be evidence of a Coolidge effect in females (Lisk & Baron, 1982).

In general, females do not have the same physical limitations as males and can therefore engage in sex and orgasms until it hurts their body. This is why it is harder to assess in females because what counts as satiation in a monkey or human female? So, in some cases, you can't even really assess the Coolidge Effect. The evidence does seem to indicate thus far, though, that in non-human animals, there does seem to be evidence of the Coolidge Effect in females.

Humans

Ok, so what about humans? Well, there has been no research on the Coolidge Effect specifically in humans. There have been tangential studies, but nothing involving sexual satiation, time to ejaculation, or rearousal. In the popular media, as well as in some of the research, the Coolidge Effect has been reduced to a preference for novel partners, specifically among men. This then gets exaggerated into the argument that human men NEED variety and this is why they NEED to sleep with many partners, whereas females don't. That is just not what the Coolidge Effect data show, though. But if you google the Coolidge Effect right now, that is often what it is summed up as. This interpretation is a major extrapolation from a specific finding – sexually satiated males will respond to a new female. It goes from that to saying men need more variety than women. Especially when the data show that many female species show the same effect.

Additionally, think about the context we are comparing it to. A rat ejaculates 5-10 times before it is like “Nah, I am good for the night” and we are comparing it to humans?! To be fair, younger male humans can cum multiple times in a session, but it gets harder (no pun intended) to do as they get older. My point here is that rat sex is not human sex. Cow sex is not human sex. But that doesn't stop people who want to make unsubstantiated assumptions about how this applies to male and female humans. Way back in 1981, Donald Dewsbury wrote a review of the studies done thus far on the Coolidge Effect and their limitations and he warned that we cannot generalize this to humans, no matter how tempting it might be (Dewsbury, 1981).⁵

Also, using the scientific term, women are technically insatiable, in that they don't seem to have a refractory period after orgasm. Anecdotal evidence suggests that even after ejaculation, women do not have a refractory period, but as far as I know, this hasn't been assessed formally in research (Levin, 2009). Men have physical limits can only ejaculate so frequently. In different time periods, women's sexual insatiability was seen as a major problem and that women had to be tamed and controlled by men. Nowadays that script has flipped and women are supposedly the more chaste sex. And if they aren't, then they are shamed into it. In terms of variety, I covered in *episode 6, Who wants sex more?*, there aren't clear data, but circumstantial evidence might indicate that women are more likely than men to grow bored with sex and the same partner and may need more variety to maintain interest in sex, not the other way around.

But the bias is that men want more sex, men want sex with more people. If we look historically, harems are often pointed to as an example for men's need for sexual variety that women just don't have. But those are happening in patriarchally controlled societies where women aren't allowed the freedom that men have. That can't be equated to the Coolidge Effect.

⁵ Direct quote from Dewesbury 1981 “Finally, data from studies of the Coolidge effect in nonhuman species have been generalized to humans. Clinicians may be inclined to see a parallel between boredom with long-term mating partners and the Coolidge effect. Other psychologists and social scientists may generalize to putative sex differences in humans relating to the desire for varied mating partners and response to erotic materials (e.g., Symons, 1979). Obviously, simple extrapolations from any one species to another are risky. In addition, as noted by Bermant (1976), the paradigms and testing conditions in which nonhumans are tested often have no parallel in research with humans (e.g., W. A. Fisher & Byrne, 1978; Kenrick, Stringfield, Wagenhals, Dahl, and Ransdell, 1980). Effects of novelty vary greatly with variations in paradigm, and thus great caution should be used in generalizing from the paradigms used with nonhumans to those used with humans.

Our biases and beliefs about human sex roles and desires are influencing our interpretation of the actual data, which is limited. The studies that have claimed to assess the Coolidge or Coolidge-like effects in humans have looked specifically at preference for novelty. In some cases, this is getting people to rank how much they are attracted to novel or familiar faces and bodies (Little et al., 2014; Sculley & Watkins, 2022) or asking how much variety they prefer in their sexual partners, and straight men choose more than women (Hughes et al., 2021). I would strongly argue that these are not parallels with the evidence of the Coolidge Effect in animals, which is a specific physiological thing. This idea that the Coolidge Effect equals a preference for novelty in sexual partners in men also isn't supported by research that looks at novelty when people are watching erotic videos and having their genitals measured. In these contexts, both men and women respond more strongly to novel erotic stimuli.

To actually test the Coolidge Effect in humans, you would need a situation where men are able to engage in sexual activity to satiation, say inability to get hard again after a certain window of time and then see if he is able to get hard again if a new woman is willing to have sex with him. Unfortunately, it's unlikely that can ever be done. And there is no ethics board in the world that will likely approve that study. An inferior version of the study that could be done is to ask men who have participated in group sex situations if they have found they are able to come back to hardness faster or ejaculate again faster when having sex with multiple people in a night vs. just one. That would be subject to a person's own beliefs and biases but would still be better than what we have now to support or refute the existence of the Coolidge Effect. I am open to other suggestions for studies to assess this in humans.

Conclusion

This was a fun exploration for me, digging into all the old research and trying to tease out the bias from the data. As I keep saying, the Coolidge Effect is a specific phenomenon that appears to apply to males and females of some species. It's specifically about sexual satiation. Getting to the point where you have no interest or ability to engage in sex or ejaculation and then seeing if that can be changed with a new partner. Not getting to sexual satiation, and just saying you like variety or novelty is not the Coolidge Effect. It is possible that men might like more variety than women. It's possible women might like more variety than men. I think at this point, we just don't know! Most people are aroused by novelty. I don't think we have evidence that is a gendered phenomenon. I also think it is likely that human men do demonstrate the actual Coolidge Effect, but it just hasn't been demonstrated yet. We need to do more research instead of just making extrapolations and assumptions when it comes to sexuality.

That's all for this episode. If you have any feedback or peer review of this episode, I am always excited to hear from you. You can send me a voice memo recorded on your phone or just a written email to doweknowthings@gmail.com.

You can find a script for this episode with references and extra info on the website at doweknowthings.com.

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Of course, I would love it if you could subscribe and rate and review the podcast on Apple Podcasts or wherever you listen. Thanks for listening. I will talk to you next time on Do We Know Things?

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