

Sexual Arousal

You may have heard the expression that peoples' largest (or primary) sex organ is their brain. This refers to the fact that sexual arousal is a subjective experience. Although sexual arousal often results from certain sensory experiences, it is *how* these experiences are interpreted by our brains that determines whether they are sexually arousing. Also, because of our brains, we have the ability to imagine, or fantasize, in ways where the body responds as though the imagined experience was real. These imagined episodes frequently derive their power from focusing on stimuli that are imagined to be present. Perhaps a partner's smell, or look, or sound are remembered or imagined as a way to achieve sexual arousal. Stimuli experienced through any of our five senses can contribute to sexual arousal.

Classical Conditioning and Stimuli for Arousal

Sight. Humans seem to be visual creatures, relying on visual information in many different contexts. So, it is not surprising that visual stimuli play an important part in sexual arousal. It may be that, sexually, males rely on visual stimuli more so than do women. Evolutionary theorists explain such differences based on what propensities would have been adaptive for ancestral males compared to females. Becoming easily sexually aroused, perhaps by merely the sight of certain female characteristics, may have resulted in those males having more frequent sexual intercourse with a greater number of partners compared to males who were not as easily sexually aroused. More frequent intercourse with a greater number of partners means a greater likelihood of increased offspring. In contrast, becoming easily sexually aroused by visual stimuli would not have been as adaptive for females, as any particular female can only maintain one pregnancy at a time.

What accounts for individual variation in the sights that are sexually arousing? Why does one person find the sight of women's legs to be sexually arousing, whereas another person gets most turned on by the sight of a woman dressed in a nurse's uniform? There is no one answer, but behavioral theorists would point to the learning history of each of these individuals. Perhaps in these two cases the people each experienced an early sexual situation in which the person focused on the legs or nurse's uniform of the woman involved. These visual stimuli were then paired with sexual arousal through the process of classical conditioning. If the individual subsequently pictured the stimulus, or mentally focused on it, during other experiences of sexual arousal (either during masturbation or sexual activity with a partner), that association was further strengthened. Perhaps this learning process explains why some heterosexual men refer to themselves as "leg men" whereas other such men describe themselves as "breast men."

Sound. The same learning explanation used in the preceding paragraph can be used to explain why some people find certain sounds sexually arousing whereas others do not. Perhaps one person finds a deep voice sexy, whereas someone else gets turned on by partners who speak with a particular accent. Hearing a partner "talk dirty" is sexually arousing to many people, perhaps because for those individuals the "dirty talk" has only occurred previously in the context of sexual situations. So, certain sexual words and phrases have been classically conditioned to elicit sexual arousal. Someone who is exposed to such "dirty talk" on a regular basis in nonsexual contexts, perhaps at work or around one's friends, is probably less likely to find these stimuli sexually arousing. Still, one's partner may only use such words in a sexual context, in which case hearing one's partner say them may indeed be sexually arousing.

There are also vocal sounds other than words that are typically associated with sexual activity. Imagine watching a scene from a sexually explicit movie, but the sound track was removed. It would likely seem very strange. We expect people to make grunts and groans and other vocal noises when fully sexually

aroused. For some, these noises seem to be involuntary and virtually uncontrollable. What effects do such sounds have on sexual arousal?

Surprisingly, we are unaware of any published research on vocalizations made during sexual activity. At one point, we surveyed approximately 200 heterosexual college students regarding their experiences and perceptions of vocalizations made during sexual activity. The results were never published, but they revealed that such noises are very common and may serve important functions. The large majority of both men and women reported that both they and their partner had made vocalizations during their most recent sexual activity together. However, women were slightly more likely than men to report having made such vocalizations. This male-female difference was supported by the fact that the male respondents, who were not the partners of the female respondents, reported a similar discrepancy in which their female partners were reported to have been more likely to make vocalizations compared to the male respondents. Why might females be somewhat more likely than males to make vocalizations during sex?

It may be that women are simply more expressive, or that males are more goal-oriented during sexual activity, and their focus on performance does not allow them to cut loose with vocalizations. When asked what effects, if any, a partner's vocalizations have on the respondent, the two most common answers were that they resulted in sexual arousal and prompted the listener to continue doing whatever he or she was doing when the partner was making the noises. In other words, one of the functions of vocalizations seemed to be communication to one's partner that he or she is on the right track. Males' sexual arousal is more apparent than females', given that an erect penis is typically synonymous with sexual arousal for males. Also, males often take on responsibility for orchestrating a sexual interaction. So, perhaps females are more likely than males to express sexual vocalizations because they serve as an indication of sexual arousal and they serve as feedback regarding the partner's behavior.

Taste. Just as with other sensory stimuli, a particular taste could take on sexually arousing capabilities through the process of classical conditioning. However, there are rarely experiences that are both sexual and involve stimulation of our gustatory senses. Kissing is an important sexual stimulus for many people in Western cultures, but the arousing quality probably has more to do with the sense of touch in the mouth and lips than it does the taste of a partner's saliva. The one exception may involve performance of oral sex on a partner's genitals. In this case, one may taste vaginal secretions or semen. Anecdotally, however, there seem to be at least as many people who are turned off by these tastes as opposed to turned on by them.

Touch. The protective outer layer that is our skin and mucous membranes are rich with nerve endings. Stimulation of certain of these nerve endings might be experienced as sexually arousing by a particular individual, but which ones? Stimulation of the nerve endings in the genitals may be the one nearly-universal tactile stimulus for sexual arousal. Stimulation of other nerve endings as a means of sexual arousal most likely is a result of cultural or individual experiences that pair sexual arousal with such stimulation.

Certainly, certain areas of the body contain more sensitive nerve endings than do others, making these areas prime candidates to be considered erogenous zones. In Western cultures, the lips and mouth are prime erogenous zones, and hence the popularity of erotic kissing in those cultures. However, kissing is not experienced as erotic or sexually arousing in all cultures, and in some cultures is seen as in poor taste or even disgusting. Other erogenous zones in Western cultures include the face, neck, breasts, and inner

thighs. Besides being rich in nerve endings, an important feature these bodily areas have in common is that they are rarely touched by others outside of a sexual context. So, there is the possibility of pairing sexual activity with stimulation of these areas by a partner. In contrast, our hands are rich in nerve endings, but are rarely experienced as erogenous zones, probably because they're stimulated often in nonsexual settings.

In Western cultures women's breasts have taken on great importance as a sexually arousing stimulus. Heterosexual men tend to find it sexually arousing to see and touch women's breasts because women's breasts have been eroticized in those cultures. Women's breasts are paired with sexual situations and arousal, thereby gaining the power to elicit sexual arousal. The same is true for stimulation of the nerve endings in women's breasts. In cultures where women's breasts are not eroticized, but rather are seen as merely appendages for delivery of milk to infants, fondling or sucking a woman's breasts would not be experienced as particularly arousing by either the woman or her partner. Interestingly, men's breasts contain as many nerve endings as women's, yet in Western cultures stimulation of men's breasts is not typically paired with sexual arousal, so they tend not to be experienced as an erogenous zone to the same extent as women's breasts. However, a male colleague of ours claims to have made his breasts an erogenous zone capable of eliciting strong sexual arousal by deliberately stimulating his nipples and surrounding tissue during numerous episodes of masturbation.

Smell. Compared to other mammals, humans appear to have a relatively dull sense of smell. Still, it is possible to create a link between certain smells and sexual arousal through the process of classical conditioning we have been describing. Perhaps smelling a particular perfume or cologne piques your sexual interest, most likely because it is or was worn by a sexual partner. Also, the smell of women's vaginal secretions has been known to be sexually arousing to heterosexual men, even to the point where young men may not wash their hands after a sexual encounter with a female so that they can smell their fingers afterwards and regain some of the sexual arousal experienced with a partner.

Other Models of Arousal

In discussing the stimuli that may produce arousal, we inherently referred to learning models. People learn to associate certain stimuli with sexual arousal, so that eventually those stimuli elicit sexual arousal. Of course, the ability to form such associations is an aspect of human nature, or the cognitive software that we inherited from our distant ancestors. The evolutionary perspective also includes some other explanations for why we experience sexual arousal in some contexts and not others.

Evolutionary Perspectives. What is considered sexually arousing often varies from one culture or historical period to another. Learning theorists would explain such variation as resulting from different experiences people have across cultures. Evolutionary theorists would agree, but would also point out that there has to be certain cognitive software in place for people to make sense out of their experience and react accordingly. From an evolutionary perspective, it seems that humans have inherited cognitive software that operates on the following principle: Stimuli that typically only occur in sexually intimate settings should be experienced as arousing, even if encountered in nonsexual settings.

What this means is that sexual arousing stimuli will vary across cultures according to the norms surrounding those stimuli. So, in a culture where women's breasts are typically not covered, the sight of women's breasts is not sexually arousing to the men in that culture. Why? Because breasts are typically associated with nonsexual settings. In certain Muslim cultures where women are typically covered from

head to foot, seeing a woman in a Western bathing suit would be highly sexually arousing to heterosexual men. At beaches in the West, where women wear skimpy bathing suits quite frequently, the sight of such women is much less arousing.

During childhood, one of us remembers hearing a story from an elderly minister. He explained that when he was a boy, he and his male buddy would hang around the train station when the trains were scheduled to arrive. Why? Because if he and his friend looked very carefully, they might catch a glimpse of a woman's bare ankle as she lifted her long dress to climb down the stairs getting off the train. The boys found such a sight highly arousing because they rarely had the opportunity to see a woman's bare ankles.

Our cognitive software for responding sexually to certain stimuli operates in the other direction as well. As humans, we have a remarkable ability to grow accustomed to our surroundings, no longer being affected by certain stimuli. This process of *habituation* was adaptive, because our distant ancestors could turn their attention away from familiar stimuli and toward unusual stimuli, which might signal danger or a change in conditions. Stop for a moment and focus your attention on your shirt. Notice how it feels across your shoulders, around your neck, and on your arms. Are you back? You were most likely unaware of your shirt until you focused your attention on it. Imagine if we did not habituate to our familiar stimuli. We would be constantly distracted by irrelevant stimuli such as our clothing.

Unfortunately, habituation comes with a price. The process works for all familiar stimuli, whether those stimuli are experienced negatively or positively. So, part of human nature is to habituate to certain sexual stimuli if we are frequently exposed to them. Those stimuli may be a certain set of sexy underwear, or a certain place, or our regular sex partner. Are there exceptions? Evolutionary theorists would say yes: Women's genitals. The assumption is that men's cognitive software is such that the sight of women's genitals is nearly always arousing, because there would have been reproductive advantage to possessing such cognitive software. This may explain why there are cultures where men do not cover their penises, but there are no cultures where women do not either cover their vulvas or take great care to keep their vulvas from casual male view.

Two-Stage Model of Arousal. Physiologically, we are either aroused or we are not. In other words, our sympathetic nervous system, which is responsible for physical arousal, is either activated or it is in a relative state of inactivity. When the sympathetic nervous system is activated, predictable physiological responses occur. Breathing and heart rate increase, blood pressure rises, and muscles tense. This is true regardless of the stimulus for the arousal. So, if we are extremely angry, or frightened, or sexually aroused, these physiological responses are the same. This is where the two-stage model of sexual arousal comes in.

Psychologists noted how the experience of sexual arousal actually involves two stages: physiological arousal and interpreting and labeling that arousal as sexual. Why is this important in understanding sexual arousal? Because the second stage involves interpretation, it is possible that some people, especially in certain circumstances, may misinterpret the source of their physiological arousal. Perhaps fear, or anger, or physical activity is contributing to a person's physiological arousal, yet all of that arousal might be attributed as resulting from sexual stimuli.

As an example, consider two people sitting in a cinema watching the same scary movie. Both are becoming physiologically aroused as the suspense builds within the plot. If one of our hypothetical people is watching the movie with friends, it is likely that the individual assumes that all of the arousal is

a result of the movie. If the other movie viewer is on a date, sitting close to someone the person finds attractive, it is possible that the individual will attribute at least some of the arousal as a response to being with this other person.

A common plot in Hollywood action films is that the male and female main characters start off disliking each other, or at least not knowing anything about one another. Then, because of the events in the movie, both undergo harrowing adventures together as they are chased, shot at, and nearly killed (often several times). Near the end of the movie, as the threat of physical harm is removed for good, the man and woman fall into each other's arms and express intense physical passion. According to the two-stage model of arousal, this sequence makes sense. At least part of the intense physiological arousal the characters experienced during their adventures was attributed to sexual attraction toward the other person (which is not difficult to believe because the characters are typically attractive and charismatic). Perhaps more interestingly, the two-stage model would also explain why it seems that so often the male and female actors working together on such films end up dating in real life. Acting out the action and love scenes produces physiological arousal, at least so of which might be attributed to the other person.

Drive Reduction Theory. It is generally agreed that humans, as biological beings, come equipped with certain inherent needs. Food, water, air, and sexual gratification are all biological needs that we seek to meet. If it were simply about meeting needs, however, we would take the path of least resistance and perform the minimum behavior necessary to meet those needs. So, sexual arousal would be just a necessary but unimportant step toward orgasm, or the satisfaction of sexual needs. Observation of peoples' behavior, however, implies that sexual arousal is important in its own right. People often go to great lengths to heighten sexual arousal, and prolong it, on the way toward orgasm or gratification. Why?

The psychologists Dollard and Miller (1950) theorized that it was not simply the satisfaction of needs that was reinforcing. If that were the case, everyone would satisfy their sexual needs by masturbating as quickly as possible and being done with that need at that time (think of the time, energy, and heartache that could save). Instead, people often go to great lengths to become maximally sexually aroused before gratification. Dollard and Miller's theory explains this phenomenon with the conclusion that it is not the gratification of needs that is reinforcing, but rather the degree of movement from a state of need to a state of gratification. So, orgasm will be most reinforcing when the individual is highly aroused, because the need for sexual release of that arousal will be greater, and the distance between the need and the satisfaction of that need will be greater, than if the individual is minimally aroused.

Drive reduction theory explains why some people seem motivated to try new sexual behaviors, even when those behaviors may be dangerous or costly. If the motivation were simply about achieving satisfaction of a biological need for sexual stimulation, the routine sexual behaviors would be satisfactory. However, because of habituation, the familiar behaviors or partner may result in less arousal compared to novel behaviors or partners. Increased arousal results in increased satisfaction of the basic human sexual needs.

What are erogenous zones?

An erogenous zone is simply any area of the body that is sexually sensitive. So, we can imagine that just about any part of the body is an erogenous zone for someone, somewhere. Most of the time, however, the term "erogenous zones" is used to refer to those body areas that are a source of sexual arousal for most people in a particular culture. For example, in Western cultures women's breasts are an erogenous

zone, as many women experience breast fondling and kissing to be erotic.

The genitals are about the only nearly-universal erogenous zone. Beyond the genitals, what usually makes an area of the body a candidate for becoming an erogenous zone is that it contain lots of nerve endings, so that it's very sensitive to stimulation. It's also important that it rarely receives direct stimulation, especially for pleasure, outside of a sexual context. The lips and just about all areas on the head fit this description, as do the neck, lower back, and toes.

The erogenous zones that are unique to each individual depend on how that person experiences certain sensations, and which sensations he or she has learned to associate with sexual arousal. One person may find light kisses on the back of the neck to be highly arousing, whereas another person experiences that type of stimulation as a tickle or an annoying distraction. If a particular person had a previous sexual experience, or partner, involving a certain form of pleasurable stimulation, he or she may have made the association between that form of stimulation and sexual arousal. For that person, an erogenous zone might have resulted from those previous experiences. That's why it's important to find out what a sexual partner finds arousing, rather than assuming that he or she shares the same erogenous zones as we do.

Why do some women have trouble getting sexually aroused?

Arousal involves physical and mental experiences in response to a sexual situation. Physically there's vasocongestion, or pooling of blood in the genitals. Mentally arousal requires interpreting the situation as a sexual one, and getting excited as a result. So, sexual arousal isn't the same experience as sexual desire. It's possible for an individual to desire sex, but yet have difficulty getting sexually aroused in a sexual situation. Women typically recognize physical problems with sexual arousal by the relative lack of vaginal lubrication, even though they want to be sexually aroused.

With regard to the mental aspects of sexual arousal, there are numerous reasons someone might not get sexually aroused, even when desiring sex. Being distracted, or worried, or stressed can all take their toll on sexual arousal. So, even though the individual woman may feel horny, or desirous of sex, she may be somewhere else mentally. As a result, she isn't liable to find the sexual situation satisfying.

Physically, as we age our bodies' degree of vasocongestion decreases somewhat, and the amount of time and stimulation needed for vasocongestion increases with age. Still, individuals vary as to how easily or how much they experience vasocongestion, or physical sexual arousal. Certain medications and illnesses can also affect vasocongestion. The main ones are medications that lower blood pressure (because they also lower the build up blood pressure in the genitals) and illnesses that involve blockage of arteries (thereby blocking the inflow of blood to the genitals).

Women who attempt intercourse when not physically aroused run the risk of discomfort due to the lack of vaginal lubrication. A water-based lubricant can be used make intercourse more comfortable. Still, the relative lack of vasocongestion in the genitals may result in less sexual satisfaction than if she were fully aroused physically. Consulting a sexual health professional will help in assessing the possible causes, and remedies, for problems with sexual arousal.

Why do some men have trouble getting an erection?

Arousal involves physical and mental experiences in response to a sexual situation. Physically there's

vasocongestion, or pooling of blood in the genitals. Mentally arousal requires interpreting the situation as a sexual one, and getting excited as a result. So, sexual arousal isn't the same experience as sexual desire. It's possible for an individual to desire sex, but yet have difficulty getting sexually aroused in a sexual situation. Men typically recognize physical problems with sexual arousal by the relative difficulty getting an erection, or keeping one, even though they want to be sexually aroused.

With regard to the mental aspects of sexual arousal, there are numerous reasons someone might not get an erection, even when desiring sex. Being distracted, or worried, or stressed can all take their toll on sexual arousal. So, even though the individual man may feel horny, or desirous of sex, he may be somewhere else mentally. As a result, he isn't liable to experience an erection. One form of distraction is worry over getting an erection. When some men notice that their erections are as immediate or as firm as before, they start to worry and mentally monitor the status of their erections. Doing that takes the man out of the sexual situation, so it wouldn't be surprising if an erection was lacking.

Physically, as we age our bodies' degree of vasocongestion decreases somewhat, and the amount of time and stimulation needed for vasocongestion increases with age. Still, individuals vary as to how easily or how much they experience vasocongestion, or physical sexual arousal. Smoking, obesity, and certain medications and illnesses can also affect erections. The primary ones are medications that lower blood pressure (because they also lower the build up blood pressure in the genitals) and illnesses that involve blockage of arteries (thereby blocking the inflow of blood to the genitals). The arteries supplying blood to the penis are among the smallest in the body. So, problems with artery blockages in the entire body often first show up as difficulty getting full erections. Seeking medical assessment at this stage may prevent a heart attack or stroke. Consulting a sexual health professional will help in assessing the possible causes, and remedies, for problems with erection.