

When working within sexual health and with people who engage in varying topographies of sexual behavior, the first thing to remember is that sex is behavior: it's something we do (no, even *you* can't deny it) and it follows the same rules as all other topographies of behavior (yes, that means we can analyze and modify *how* you do it).

The fields comprising sexual health care and sexual behavior research – sex therapy, sexuality education, sex research, and reproductive medicine - maintain a descriptive and evolving vernacular that is used by clinicians and academicians throughout. However, there are precious few who work to operationally define these terms in behavioral ways and then carry out research and treatment with a focus on behavior and its context instead of mental events.

Two of the terms around which there is more debate in sexual health care and sexual behavior research are arousal and desire. The word arousal poses little problem for most behavior analysts, as there are observable and measurable means by which to assess it: galvanic skin response; pupil dilation; increased heart rate, respiration, blood pressure, and blood flow to the genitals (Pfaus, 1999; Pfaus, Kippin, & Centeno, 2001; Pfaus & Scepkowski, 2005). Desire, on the other hand, is, on the surface, more difficult to define and thus more problematic (Pfaus Kippin, & Coria-Avila, 2003), not only for behavior analysts, but also for those working in sexuality. Basson defines desire as “thinking and fantasizing about sex and yearning between actual sexual encounters” (2005, p. 1327). Behavior analysts would agree that “think” and “feel” are behaviors. “Yearn” can perhaps best be classified as a tact, identifying an establishing operation (based on hormones, environmental stimuli, and the availability of sexual pleasure as a reinforcer) for sexual pleasure (Pfaus & Scepkowski, 2005). In other words, desire encompasses the behaviors in which we engage to access sex (Pfaus et al, 2003). In non-human animals these behaviors include “courtship,” “solicitation,” and other preparatory actions. In humans, we might see typical “dating” behaviors, such as sending flowers (Pfaus et al., 2003), showering, wearing perfume, or fishnets and stilettos. Thus, desire is distinct from physiological arousal and the two can and do occur independent of each other (Pfaus & Scepkowski, 2005); typically an aversive event. While arousal and desire are easier to assess in non-human animals, both by physiological evaluation and behavioral observation, and in humans we can make some of these observations, we otherwise need to rely on report of the individual (Pfaus, 1999), which can be unreliable.

Whether considering the human sexual response cycle as identified by Masters and Johnson (1966), the incentive sequence model by Pfaus (1999), or the three- or four-term contingency model of behavior, we can predict the overall sequence of sexual behavior of an organism. While it is difficult for many reasons (Akins, 2004) and we thus typically proceed with caution when generalizing from non-human to human models in our attempts to learn more about sexual behavior (Pfaus et al., 2012), we can identify discrete patterns of activity in which both human and non-human animals engage between sexual arousal and satiety (Akins, 2004; Pfaus, 1999). However, it can become particularly confusing when assessing sexual behavior within the context of behavior analysis because sexual stimuli can serve multiple functions. Let's look at an example.

Hypothetically, of course, we have a teenage boy with autism, receiving ABA services at an autism center. Chances are good that he's seeing several young, female staff per day, and that their degrees of attractiveness vary. Perhaps there's even a chance that the teenage boy finds one of these staff to be particularly attractive. The behavioral model might look like this:

US?	UR?			
CS?	CR?	CR?		
	US?	UR?		
		US?	UR?	
SD?		R?	SR+?	AO



Female staff → erection → masturbation → sexual pleasure → ejaculation/orgasm

Perhaps you see some of the confusion?

The female staff could be either a US or a CS, which would also be an SD (Dinsmoor, 1995; Pfaus et al., 2003), but we can't determine which because we don't know if he experienced an initial, spontaneous erection and arousal state the first time he saw her, or if he was already aroused, or perhaps even ejaculated, when she was present.



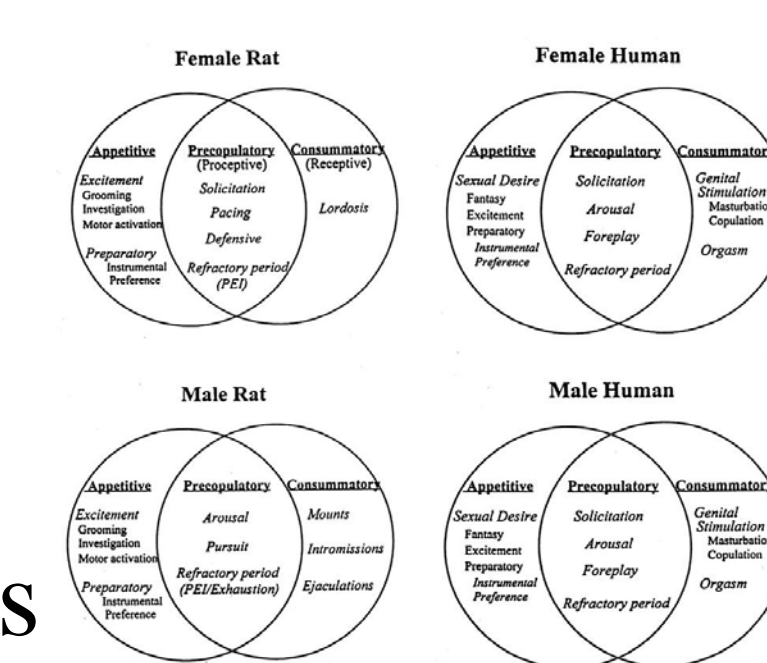
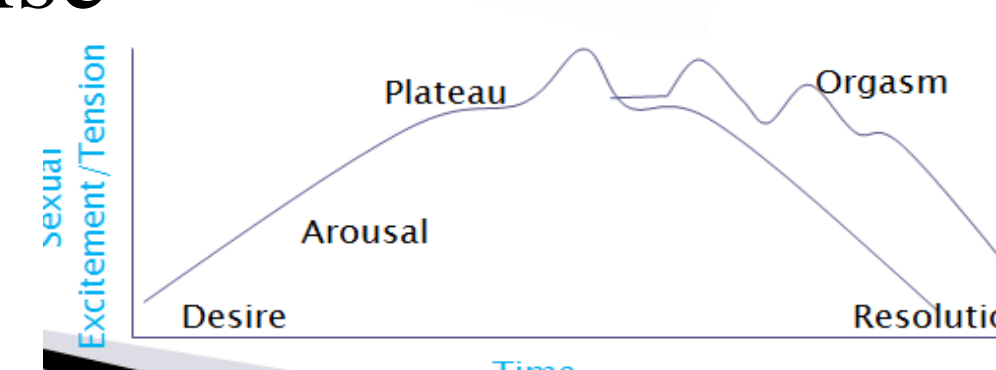
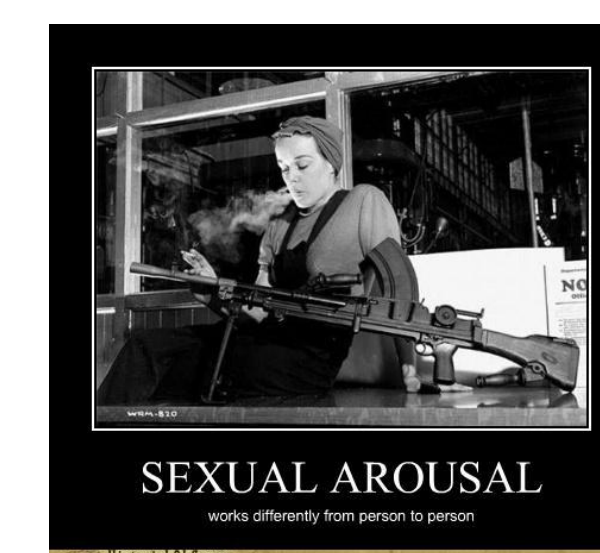
In rats, we see development of conditioned place preference, in which the location in which the rat was allowed to mate and ejaculate becomes preferred over other locations – and not only for schtupping with the cute, receptive female rat; it's a preferred location in general (Pfaus et al., 2001; Pfaus, 2009). Back to our hypothetical teenage boy now, he might develop a conditioned preference for the location in which he masturbates to ejaculation, or more specifically, he only engages in masturbation to ejaculation in one particular bathroom in the autism center. The environmental stimuli present at the time of sexual pleasure become conditioned stimuli that increase his arousal state and facilitate sexual pleasure sensations, orgasm, and ejaculation (Akins, 2004; Pfaus et al., 2001; Pfaus et al., 2012). In other words, there's some stimulus control that develops, which, given the behavior of masturbation, is not entirely a bad thing.

The erection he gets when his favorite female staff person works with him is an UR to the female staff as US, or a CR to the female staff as a CS, but then it is also an US for masturbation.

Masturbation is an UR to his erection, if erection is an US or a CR, if erection is a CS, but it's also an US for ejaculation as a reflex response. Oh wait, it can also be an operant behavior reinforced by sensation of sexual pleasure.

It seems logical that sexual pleasure is the reinforcer. In the case of masturbation, sexual pleasure is an automatic reinforcer, but if we add a partner, there is, hopefully, also social reinforcement.

For males ejaculation is an AO. For many happy females and lucky males, that sexual satiety doesn't occur until they've experienced multiple orgasms. In either case, there comes a point at which the individual is sated sexually and additional sexual activity might be aversive (Pfaus, 1999; Pfaus et al., 2001). But, if the previous parts of the sequence are respondent, then there isn't a reinforcer or an AO... Which adds confusion to the whole matter and suggests instead that the female staff is an SD and masturbation is a response, but then what is the erection? Perhaps it is part of the EO, but that should come before the SD in order of presentation...



Akins, C. K. (2004). The role of Pavlovian conditioning in sexual behavior: A comparative analysis of human and nonhuman animals. *International Journal of Comparative Psychology, 17*(2).
 Basson, R. (2005). Women's sexual dysfunction: revised and expanded definitions. *Canadian Medical Association Journal, 172*(10), 1327-1333.
 Dinsmoor, J. A. (1995). Stimulus control: Part I. *The Behavior Analyst, 18*(1), 51.
 Pfaus, J. G. (1999). Revisiting the concept of sexual motivation. *Annual Review of Sex Research, 10*(1), 120-156.
 Pfaus, J. G. (2009). Reviews: pathways of sexual desire. *The Journal of sexual medicine, 6*(6), 1506-1533.

Pfaus, J. G., Kippin, T. E., & Centeno, S. (2001). Conditioning and sexual behavior: a review. *Hormones and Behavior, 40*(2), 291-321.
 Pfaus, J. G., Kippin, T. E., & Coria-Avila, G. (2003). What can animal models tell us about human sexual response?. *Annual Review of Sex Research, 14*(1), 1-63.
 Pfaus, J. G., Kippin, T. E., Coria-Avila, G. A., Gelez, H., Afonso, V. M., Ismail, N., & Parada, M. (2012). Who, what, where, when (and maybe even why)? How the experience of sexual reward connects sexual desire, preference, and performance. *Archives of sexual behavior, 41*(1), 31-62.
 Pfaus, J. G. & Scepkowski, L. A. (2005). The biologic basis for libido. *Current Sexual Health Reports, 2*(2), 95-100.