Alloeroticism Study Summary

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Phallometry has shown that, in the laboratory, the great majority of men respond most strongly to persons of a particular age (or age-range) and gender. They also, however, respond sexually to persons outside their preferred category, in some rough proportion to their similarity to persons inside the preferred category (e.g., Blanchard et al., 2009a, 2009b; Frenzel & Lang, 1989; Freund, Langevin, Cibiri, & Zajac, 1973; Freund, McKnight, Langevin, & Cibiri, 1972; Lykins et al., 2010). In other words, men's sexual behavior exhibits a property analogous to stimulus generalization, and phallometric response profiles resemble stimulus generalization gradients studied by experimental psychologists. A stimulus generalization gradient is a graphic depiction of the extent to which behavior that is most strongly elicited by a given stimulus is also elicited by stimuli that are similar but not identical to it.

Let us take, as an example of sexual stimulus generalization, a patient who has been arrested for indecent exposure on several occasions, in circumstances that suggest he might have been targeting children rather than adult women. He is therefore tested to assess his erotic gender- and age-preferences, and the results show that he responds most strongly to adult women. What do we expect the rest of his phallometric response profile to look like? The published research indicates that his second highest response will probably be to pubescent girls, his third highest response will probably be to prepubescent girls, and his responses to all age-categories of males will probably be very small or just about equal to his response to neutral stimuli (e.g., landscapes).

A recent study of 2,278 men investigated whether one can write a single equation that will predict a man's entire phallometric profile from his highest response alone— regardless of his erotic preference—when the laboratory stimuli represent male and female adults, pubescent children, and prepubescent children (Blanchard, 2010). Two different approaches to writing such an equation were explored. One was based on the notion that men respond to a potential sexual object as a compound stimulus made up of an age component and a gender component. The other was based on the notion that men respond to a potential sexual object as a gestalt, which they evaluate in terms of global similarity to other potential sexual objects. The equation based on the second approach proved to be somewhat superior. This result implies that men respond sexually as if they perceive other humans as points along a single, bipolar dimension of morphological similarity—a stimulus dimension in which children are located near the middle, and adult men and women are located at opposite ends.

The ability of the better equation (the "revised bipolar model") to predict the observed phallometric profiles for diverse groups of men is shown in Figure 1. These groups consisted of six types: heterosexual teleiophiles (most attracted to physically mature women), heterosexual hebephiles (most attracted to pubescent girls), heterosexual pedophiles (most attracted to prepubescent girls), homosexual pedophiles (most attracted to prepubescent boys), homosexual hebephiles (most attracted to pubescent boys), and homosexual teleiophiles (most attracted to physically mature men).
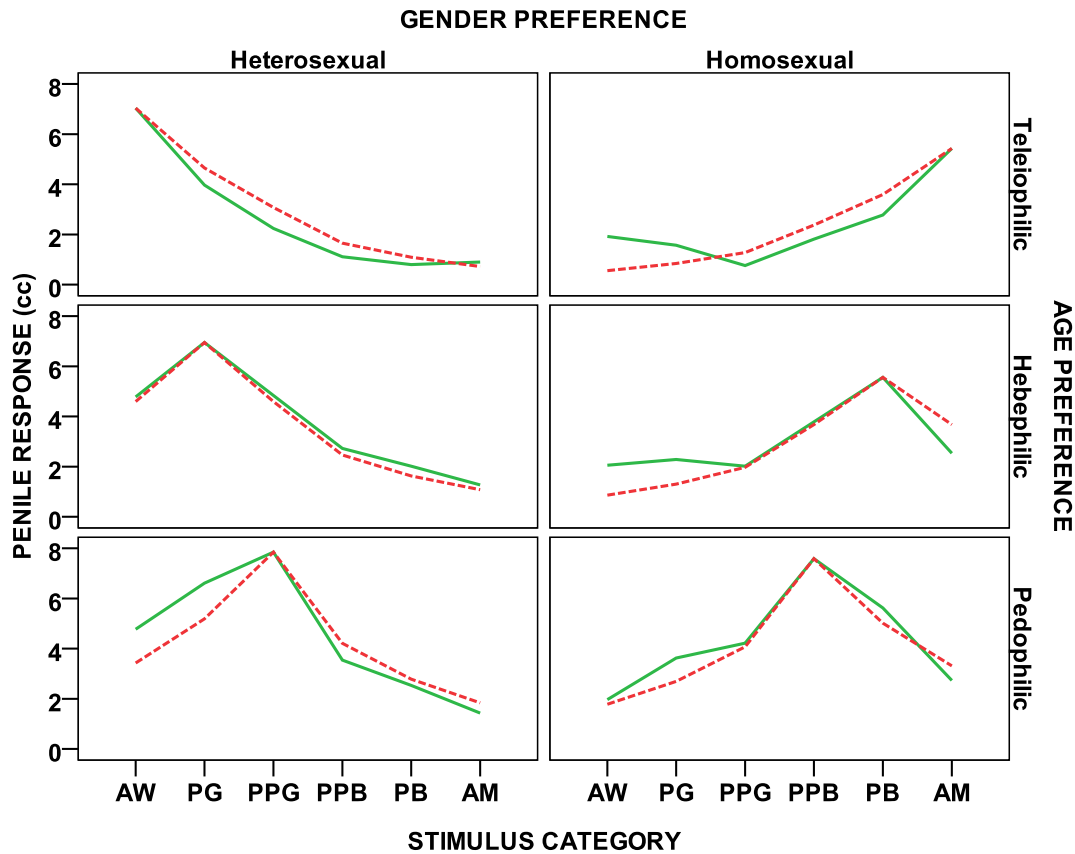

Figure 1

The stimulus categories of the phallometric test are shown along the horizontal axis: adult women (AW), pubescent girls (PG), prepubescent girls (PPG), prepubescent boys (PPB), pubescent boys (PB), and adult men (AM). Penile response is expressed in cubic centimeters (cc) of blood volume increase. The observed phallometric profiles are shown with solid green lines, and the predicted phallometric profiles are shown with broken red lines. The observed and predicted data points always coincide for the preferred stimulus category; that is a built-in feature of the equation. The empirical results of interest are the generally close agreements between the observed and predicted data for the nonpreferred categories for each group.

The bipolar model equation has other purposes, some didactic. It can be used, for example, to see how "noiseless" profiles for different groups of men would compare. Figure 2 shows the predicted phallometric profiles for the six types of men considered in the study. All profiles were calculated assuming a penile response of 10 cubic centimeters of blood volume increase during exposure to the preferred stimulus category.
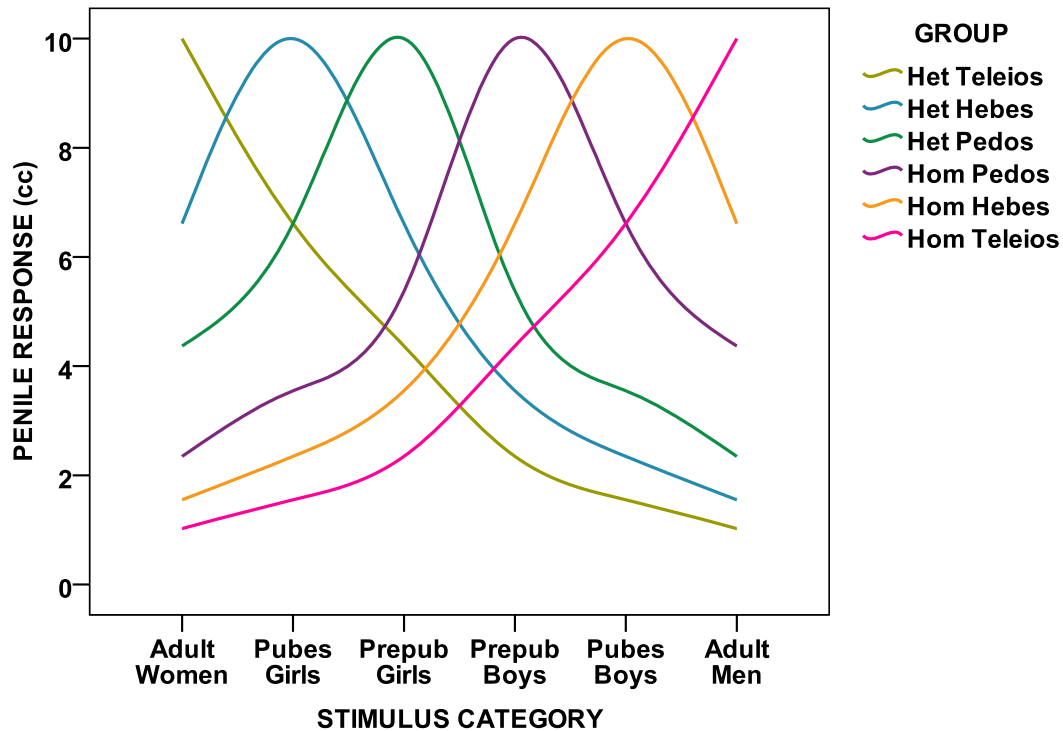

Figure 2

Figure 2 illustrates how the phallometric profiles of men with different sexual orientations overlap. This could, of course, also be demonstrated with observed data, but the predicted (idealized) data are exceptionally effective for communication purposes. It is noteworthy that Figure 2 suggests that bisexuality should be commoner in pedophiles than in teleiophiles, which does appear to be the case.

The actual equation for the revised bipolar model may be written as follows:

$$\hat{C}_i = P \times .661^{M_i}$$

where $\hat{C}_i$ is the predicted magnitude (in cc's) of the subject's penile response to criterion stimulus i, P is the observed magnitude (in cc's) of the subject's response to his preferred stimulus (i.e., his highest response), and M_i is the morphological distance between the subject's preferred stimulus and criterion stimulus i.

The source of the morphological distance values can be understood quite easily in relation to Figure 3.

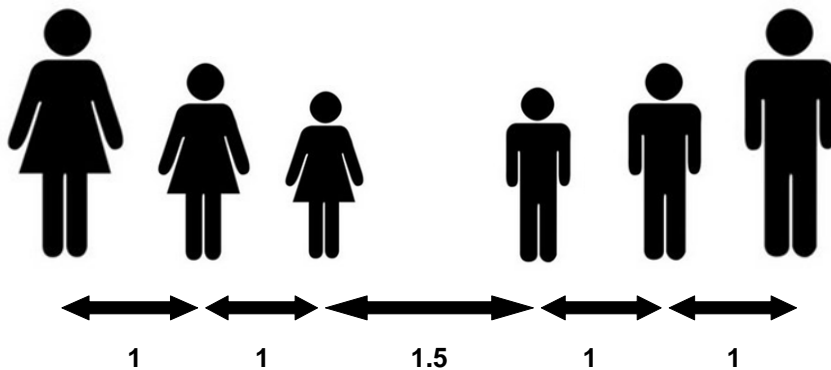# Morphological distances (M_i)

Figure 3

The distance between any two adjacent stimulus categories (e.g., adult women and pubescent girls) is 1.0, with one exception: The distance between prepubescent girls and prepubescent boys is 1.5. Thus, for example, the morphological distance M_i between adult women and pubescent boys is 4.5 (1 + 1 + 1.5 + 1). Accordingly, if a man responds most to adult women and the magnitude of his response to adult women is 10 cc, the equation predicts that his response to pubescent boys will be 1.55 cc ($1.55 = 10 \times .661^{4.5}$).

I have not attempted, in this brief summary, to explain how I determined the value .661, to explain how I figured out the "extra" morphological distance between prepubescent girls and prepubescent boys, or to describe the goodness-of-fit tests used to compare the competing equations. Interested readers can find more information about the mathematical modeling aspect of the study in the publication version of it, which can be downloaded for free at http://www.springerlink.com/content/l2v8761372637p15/

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