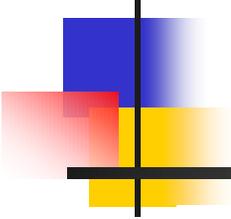


Sexual Arousal of Male-to-Female Transsexuals: Male-typical or Female-typical Patterns?



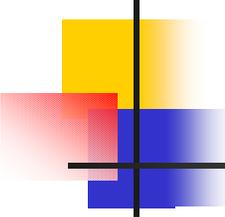
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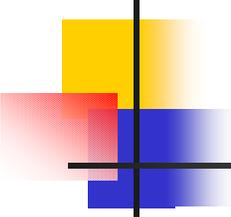
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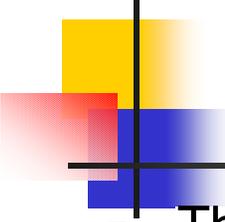
Abstract

- Eleven post-operative male-to-female transsexuals were exposed to sexual stimuli on video while physiological (vaginal photoplethysmographic) and subjective measures of sexual arousal were being recorded. The comparison of their responses to male versus female stimuli, combined with their orientations (attracted to men versus women), illustrated a target specific pattern of sexual arousal across transsexuals. This pattern coincides with that of genetic men, and contrasts with the non-target specific pattern found in women. This study provides further support for a target specific pattern of arousal in men by using a new method of measurement (photoplethysmograph) while illustrating that the photoplethysmograph is indeed capable of producing target-specific results.



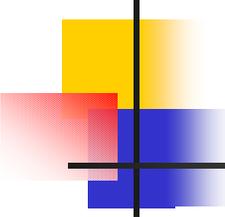
Introduction: Arousal and Transsexuals

- Sexual arousal is target-specific in men. Heterosexual men are more aroused by female than male sexual stimuli and homosexual men show the opposite pattern ¹. In contrast, recent research suggests that women have a non-specific, bisexual pattern ². Regardless of their sexual orientation, women experience strong genital arousal to both male and female stimuli ². Since male and female sexual arousal are assessed differently, it is possible that measurement artifacts contribute to the observed sex differences in arousal patterns.
- Transsexuals are individuals who are unsatisfied with their biological sex, want to become members of the opposite sex, and want to be seen as the opposite sex to other people ³.
- Research implies that there are two distinct types of transsexuals: homosexual and nonhomosexual ⁴.



Introduction: Types of Transsexuals

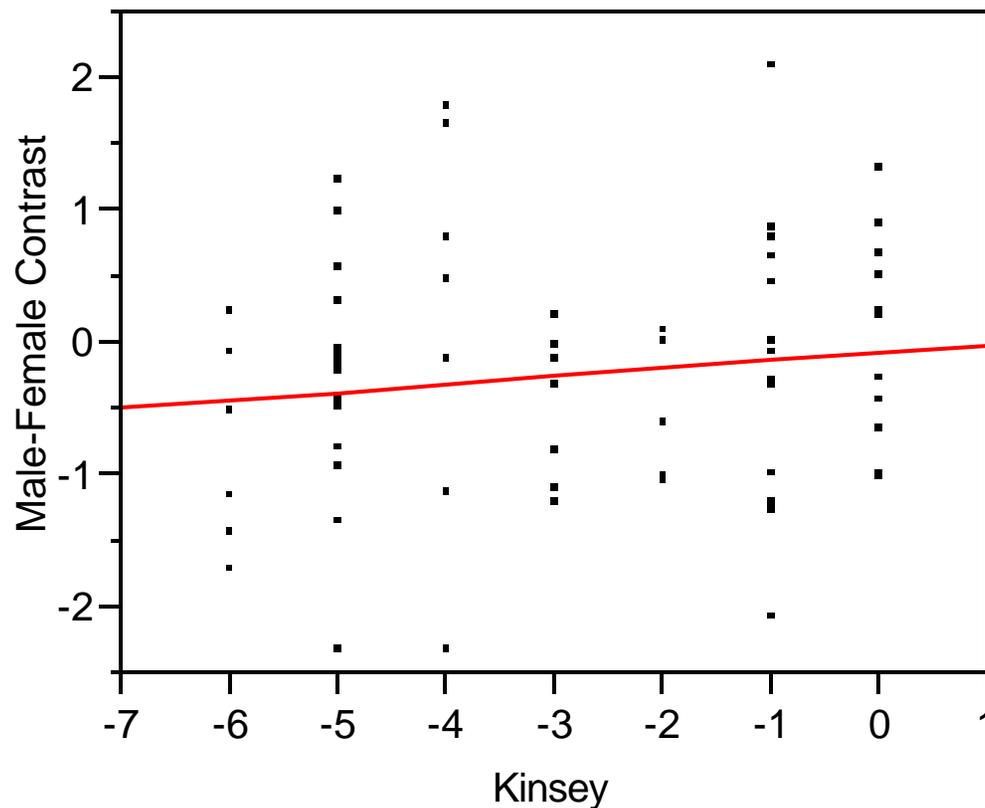
- The category of nonhomosexual transsexuals encompasses men who present as heterosexual, bisexual, or asexual (someone who has a lack of sexual interest in other persons) ⁴. Although not the focus of this paper, Blanchard's organizing hypothesis is that all of these three nonhomosexual subtypes share a main motivation: autogynephilia ⁴. Autogynephilic transsexualism is "misdirected heterosexuality" ³, in the following sense: these men are attracted to the idea of women, but instead of focusing on an actual woman they want to be the woman themselves. Their transsexuality exists more on a paraphilic spectrum (4,5).
- Homosexual transsexuals are unambiguously attracted to men, and identify as women ⁵. As boys, they were invariably very feminine and not accepting of typical male gender role behavior ⁵. These men typically feel like "women trapped in men's bodies", and have SRS (Sexual Reassignment Surgery) due to issues based on gender identity and sexual orientation ⁵.



Introduction: Rationale

- Postoperative male-to-female transsexuals have neovaginas, and so their sexual arousal must be measured with a vaginal photoplethysmograph as opposed to the penile strain gauge. Schroder showed that the device will provide VPA in transsexuals ⁶. No one has investigated whether or not the device can measure transsexual's genital sexual arousal.
- Although post-op transsexuals are living as women, their brains are at least partially masculinized. This unique opportunity of using vaginal photoplethysmography on transsexuals will illustrate whether or not the vaginal photoplethysmograph can measure genital arousal in post-operative MtoFs, possibly demonstrate the ability of the vaginal photoplethysmograph to provide target-specific sexual arousal response, as well as aid in differentiating between the two theoretically different types of MtoF transsexuals through a comparison of their sexual response patterns to different erotic stimuli.

Female Sexual Arousal (Chivers & Bailey, 2000)²

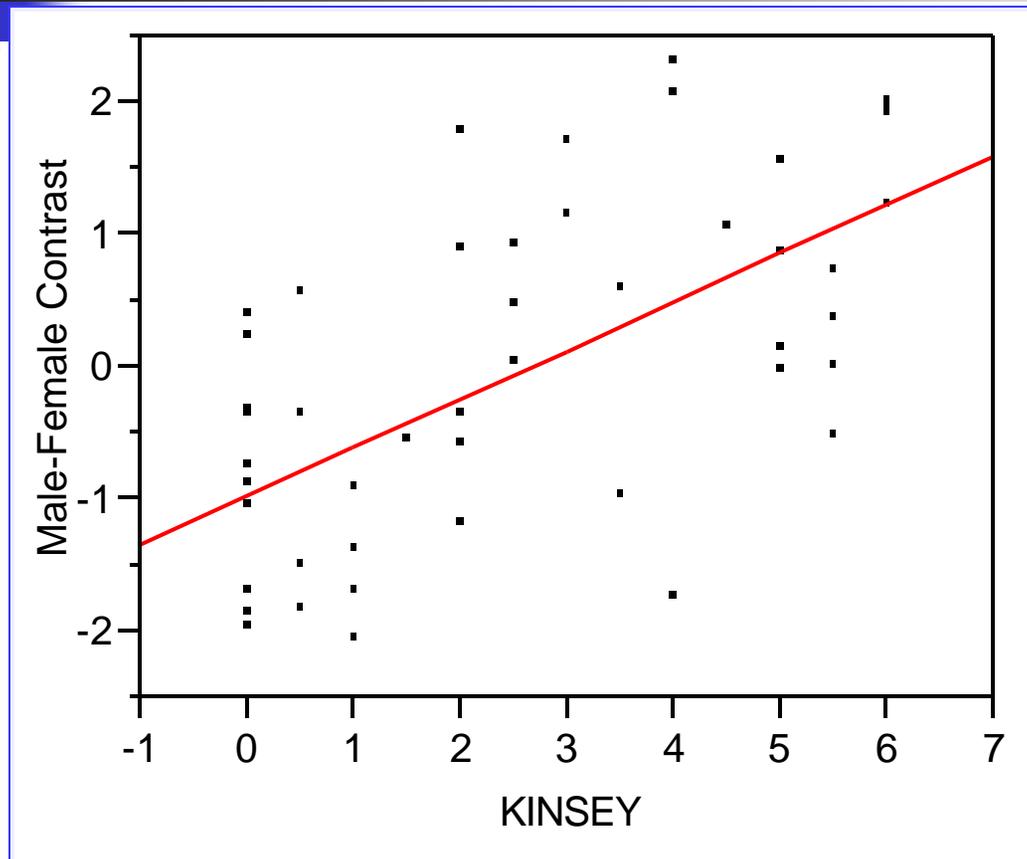


$t = 1.17,$

$p < 0.25, ns$

This study used the same methodology as the current study, with genetic female subjects, and showed that there is not a significant relationship between women's subjective and physiological arousals.

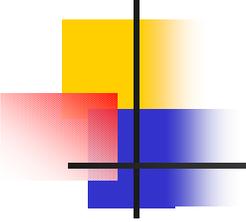
Male Sexual Arousal (Rieger, Chivers, Bailey 2001)



$t = 5.47$

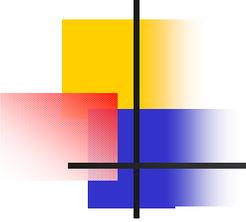
$p < 0.01$

This study used the same methodology as the current study, except that physiological arousal was measured via a penile strain gauge on a sample of men, and showed there is a significant relationship between a man's sexual orientation and physiological arousal.



Hypotheses

- The Geer Gauge can measure genital sexual arousal in MtF transsexuals.
- Female sexual arousal patterns are non-target specific, and do not appear to be this way simply due to measurement error (i.e. inability of Geer Gauge to detect target specificity).
- Transsexuals are target-specific, like men, in their arousal.



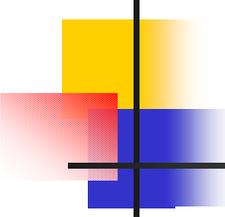
Method

- Eleven post-operative (at least three months since surgery) male-to-female transsexuals (6 homosexual, 5 nonhomosexual) viewed video clips depicting lesbian and gay sex. Gay erotica is a purely male sexual stimulus, and lesbian erotica is a purely female stimulus. Participants also viewed clips of neutral content (e.g. landscapes) to provide baseline arousal to non-arousing stimuli. Type of transsexual was determined based on subject scores on Kinsey behavioral and feelings scales (either mostly attracted to women or mostly attracted to men). Genital arousal was measured using a vaginal photoplethysmograph, and subjective arousal was continuously measured using a lever.

Vaginal Photoplethysmograph “the Geer Gauge”

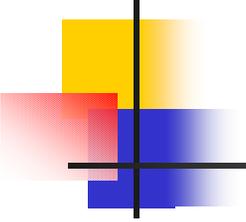


- The vaginal photoplethysmograph is used to measure changes in vaginal vasocongestion during exposure to sexual, or nonsexual, stimuli ⁷.
- VPA (Vaginal Pulse Amplitude) is the degree to which blood content of illuminated vaginal tissue changes with each heartbeat. VPA has been shown to be less sensitive to anxiety than VBV, another measure of vaginal blood pooling ⁸.



Physiological Results

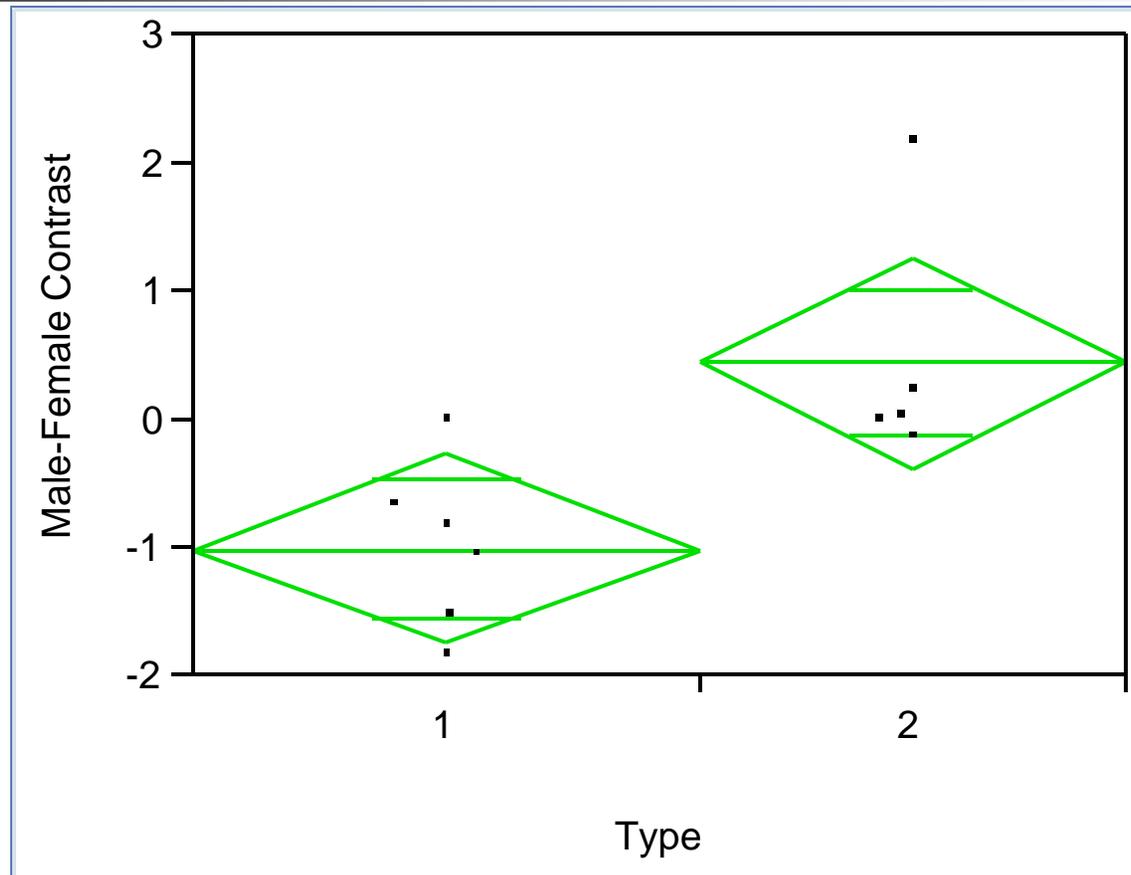
- The comparison of homosexual and nonhomosexual transsexual VPAs revealed a large difference between homosexual and nonhomosexual transsexuals in their physiological sexual arousal responses, which have been graphically represented below. Homosexual transsexuals had a mean standardized within-subject VPA difference score between male and female stimuli of 1.70 standard deviations (95% Confidence Interval: 1.18 to 2.22). Nonhomosexual transsexuals averaged -1.42 standard deviations difference in their objective responses. This difference was highly significant, $t(9) = 10.02$, $p = 0.0001$ (95% Confidence Interval: -1.90 to -0.95). The difference scores were calculated by subtracting response to female stimuli from response to male stimuli. Homosexual transsexuals had larger scores as they were more genitally aroused by men. Nonhomosexual transsexuals had smaller scores as they were much more highly aroused by women.



Subjective Results

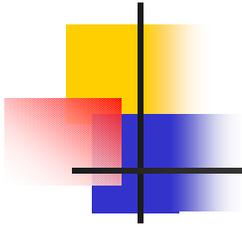
- Similar results were obtained from the subjective measure of sexual arousal, and are graphically represented below. The mean for homosexual transsexuals was 0.44 standard deviations (95% Confidence Interval: -0.37 to 1.26), and the mean for autogynephilic transsexuals was -1.0 standard deviations, $t(9) = 2.95$, $p = 0.02$ (95% Confidence Interval: -1.74 to 0.25). Homosexual transsexuals reported much greater subjective, or mental, sexual arousal to male stimuli than to female stimuli. Nonhomosexual transsexuals reported increased subjective arousal to female stimuli than to male stimuli.

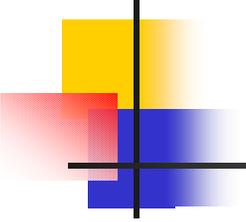
Transsexual Subjective Results



Type 1: Nonhomosexual Type 2: Homosexual

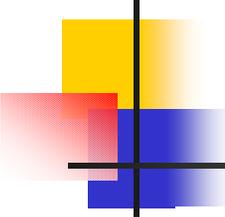
$P < 0.02$





General Conclusions

- Genital sexual arousal can be measured in new women with the vaginal photoplethysmograph
- The female pattern of sexual arousal is not due to measurement limitations
- Male sexual arousal is target specific
- Genetic male transsexuals show a male pattern of sexual arousal
- Homosexual and nonhomosexual transsexuals are significantly different in their sexual arousal patterns
 - Nonhomosexual transsexuals resemble straight men in their sexual arousal
 - Homosexual transsexuals resemble gay men in their sexual arousal



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