

elimination of unwanted sexual behaviors and arousal, such as those present in the paraphilias or in individuals who are sexually compulsive (Abel, Osborn, Anthony, & Gardos, 1992; Benotsch, Kalichman, & Kelly, 1999; Kalichman, Greenberg, & Abel, 1997). Further study of behavioral and/or pharmacological therapy to help such individuals seems indicated and appropriate. I think that Spitzer has made a substantial contribution, given limited resources, and would hope that more funding for the study of therapies involving not only the change and control of unwanted sexual behavior, but its origins and development, will become available.

Penile Plethysmography and Change in Sexual Orientation

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In his article, Spitzer pointed out that reported change in sexual orientation in men and women following therapy would have benefited from use of penile or vaginal plethysmography. Outcome changes in men's penile volume responses to films of nude men and women were reported in a series of studies evaluating aversive therapies aimed at changing sexual orientation, administered over 1 week. The men were investigated prior to as well as at follow-up, at 6 months to 3 years. Their self-reports showed changes following treatment similar to, though less strong than, those reported by Spitzer. Of 40 men consecutively treated in the first study (McConaghy, 1970), at follow-up of 1–3 years, 15% reported an increase, and 30% a possible increase in heterosexual desire. Thirty-two percent reported a reduction, and 15% a possible reduction in homosexual desire. Prior to treatment, 38 had homosexual relations with a number of partners, with 18 having been arrested for homosexual behavior on one or more occasions. Following treatment, 27% had no homosexual relations, and 32% reduced their frequency; 7% continued heterosexual relations at the same frequency, and 27% initiated them or continued them at an increased frequency. They showed significantly reduced mean penile volume responses to men; however, although they showed significant mean increase in penile responses to the films of women, this change was only present in men who prior to treatment had shown negative responses to those films, not in the men who prior to treatment had shown positive responses to them.

Some men who remained exclusively homosexual following treatment reported they were no longer con-

tinuously preoccupied with homosexual thoughts and felt more emotionally stable and able to live and work more effectively. Others were able to control compulsions to make homosexual contacts in public lavatories, which had previously led to their being arrested. Of nine married men, six stated their marital sexual relationship had markedly improved. They included two of three who had ceased having intercourse with their wives some years before treatment. Related studies were carried out on a further 40 men (McConaghy, Proctor, & Barr, 1972) and 46 men (McConaghy & Barr, 1973). The changes in self-report and penile volume responses of the men following treatment were comparable with those found in the first study. Again, the increase in penile volume of the treated men to pictures of women was due to reduction of negative penile responses, rather than increase in positive penile responses. It was considered that the aversive procedures produced reduction in homosexual feelings, but no actual increase in heterosexual feelings. The increase in heterosexual feelings and behaviors reported by treated patients was attributed to their increased awareness of previously existing heterosexual feelings when their homosexual feelings were reduced.

It was attempted to increase the heterosexual feelings of homosexual men by showing them slides of nude women in temporal association with slides of nude men to which they were sexually aroused. It was expected this would lead by conditioning to the pictures of women becoming sexually arousing. The men seeking sexual reorientation were randomly allocated, 15 to receive the conditioning procedure and 16 to receive aversive therapy (McConaghy, 1975). The men's penile volume responses throughout treatment were monitored. No increase in the men's penile volume responses to the pictures of women were produced by the conditioning procedure and it was concluded it was therapeutically ineffective. At 1-year follow-up, slightly more men reported increase in heterosexual feelings and markedly more men reported reduction in homosexual feelings and reduction or cessation of homosexual behavior following the aversive than the conditioning procedure, the difference with behavior being statistically significant. As the conditioning procedure was ineffective, it was concluded that it acted as a placebo therapy and the significant reduction in men's homosexual behavior following aversive therapy was a specific effect.

As in previous studies, the men's mean penile volume responses were significantly greater to the moving films of women and less to those of men at the year follow-up, compared to their responses prior to treatment, with the changes being equivalent following the aversive and the conditioning procedure. As the conditioning procedure appeared to have no therapeutic effect, the changes

in penile volume responses following it could not be an effect of therapy and were considered due to the men consciously or unconsciously modifying their penile volume responses to conform with their wishes to be more heterosexual. As the changes in the men's penile volume responses following the aversive therapy were no greater than those following the conditioning procedure, it was concluded they also were not specific effects of the treatment, but due to similar attempts by the men to modify their responses.

Freund (1971) found that 20% of homosexual men when requested could produce penile volume responses which indicated they were predominantly heterosexual. In the four studies reported above, of the men assessed prior to treatment, 117 showed penile volume responses indicating predominant homosexual and 33 predominantly heterosexual orientation. Following treatment, 53 showed predominantly heterosexual orientation. Hence, 17% of men showed the change to predominant heterosexuality, less than the 20% of homosexual men Freund showed could produce this change voluntarily. It was concluded that aversive therapy produced a reduction in men's homosexual feelings and behaviors without altering their physiologically assessed sexual arousal to women as compared to men. An alternative theory was advanced that aversive therapies acted not by modifying physiological sexual arousal, but by reducing compulsive homosexual urges and behaviors. These changes were experienced as reduction in homosexual feelings, allowing some subjects to be more aware of and express their heterosexual feelings.

It is possible that the subjects investigated by Spitzer experienced similar changes without change in the core item of physiological sexual arousal to men as compared to women. Though he found much stronger changes than those in the men in the four studies reported, it is possible that men and women with strong changes were more likely to have volunteered for Spitzer's study. A number of men and women, presumably at times without treatment, can change what Spitzer termed core features of sexual orientation. The representative sample of the United States population investigated by Laumann et al. (1994) showed a steady reduction in homosexual behavior with age. It was reported respectively by 6.4% of men and 3.5% of women in their adolescence, 4.1% of men and 2.2% of women in the past 5 years, and 2.7% of men and 1.3% of women in the previous year. About 1% of men and 0.3% of women were aware of equal bisexual or predominant homosexual feelings but identified as heterosexual, as did 16% of the 2.4% of men who were exclusively attracted to the same sex. Exclusive homosexual activity was rare, reported by only 0.2% of women and 0.6% of men since puberty. Hence, less than a quarter of the 1.4%

of women and 2.7% of men who identified as homosexual or bisexual had never had sexual activity with members of the opposite sex. Dunne, Bailey, Kirk, and Martin (2000) found that 20% of male and female twins reported homosexual behavior or awareness of some homosexual feelings; 97% of all the men and 96% of all the women had been sexually attracted to someone of the opposite sex at some time in their life. Hence, an ability to identify as heterosexual, to experience heterosexual attraction, and to have heterosexual activity is present in a significant percentage of men and women with homosexual feelings or behaviors.

On the basis of the theory that aversive therapies acted to reduce compulsions, an alternative nonaversive therapy, imaginal desensitization, was developed and shown in a randomized control trial to reduce men's compulsive sexual feelings and activity to a greater extent than an aversive procedure (McConaghy, Armstrong, & Blaszczyński, 1985). Imaginal desensitization was recommended to reduce preoccupations with homosexual fantasies and compulsive homosexual behaviors, in men and women unable to accept a homosexual adjustment (McConaghy, 1993). Behavioral therapy for anxiety concerning heterosexual activity, and where appropriate, referral to a trained opposite-sex surrogate therapist, were recommended to increase heterosexual interest and activity. The book containing these recommendations was reviewed in a number of psychiatry and sexuality journals. No reviewers objected to the recommendations. It is possible that the majority of psychiatrists are not opposed to the use of therapies aimed at changing what Spitzer termed core features of sexual orientation of men and women who cannot accept a homosexual life-style. It could be argued that physiological arousal to members of one's own sex versus the opposite sex is the core feature of sexual orientation, particularly when the evidence presently available indicates that such arousal cannot be modified with therapy. However, this would seem a semantic issue, irrelevant to whether or not therapies aimed at modifying homosexual feelings and behaviors produce changes experienced positively by the men and women treated. The evidence from studies carried out over the past 40 years indicates that they do. Spitzer's concurrence with the recommendation to evaluate the risks versus the benefits of such therapies may be shared by many colleagues.

Finally, Recognition of a Long-Neglected Population *Joseph Nicolosi, Ph.D.*

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