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Gender Reorientation, Psychological Adjustment, and Involvement with Female Partners in Female-to-Male Transsexuals

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The present research examined the relationship, in a sample of female-to-male transsexuals, between psychological and social adjustment, on the one hand, and gender reorientation (approximation of the status of the opposite biological sex) on the other. This work was conducted in two stages. The quantification of the gender reorientation construct was investigated in Study 1. A gender reorientation index (GRI) was developed and subjected to standard tests of psychometric adequacy. The GRI proved to be reliable and to have a satisfactory factorial composition, and it was considered an adequate measure of gender reorientation for use in the second study. Study 2 investigated the relationship between symptomatic depression and tension, involvement with a female partner, and gender reorientation. Four stepwise multiple regression analyses were carried out, one for each of four criterion variables (depression, tension, partner-involvement, and the MMPI Lie Scale). The predictor variables, gender reorientation and age, were the same in each analysis. There was a statistically significant negative correlation between depression and gender reorientation and between tension and gender reorientation, and a significant positive correlation between involvement with a female partner and gender reorientation. The GRI did not correlate with the MMPI Lie Scale, and age was not significantly related to any of the criterion variables. Thus, the present findings support the notion that gender reorientation is accompanied by improved psychological and social adjustment.

KEY WORDS: gender reorientation; transsexualism; management of gender disorders; sex reassignment surgery.

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INTRODUCTION

The term *gender reorientation,* as used in the present report, refers to that process by which the transsexual individual achieves an approximation of the status of the opposite biological sex. This process includes adoption of the preferred gender role (signaled primarily by cross-dressing) in a progressively wider range of social situations, and may also include the use of hormone treatment or surgery to create a facsimile of the opposite-sex phenotype. The therapeutic rationale for encouraging a gender patient to proceed with gender reorientation is simply the expectation that the patient will, in actual fact and not just in hope, be happier and more productive in the preferred gender status.

Most studies on the clinical management of transsexualism have concentrated on the therapeutic impact of surgery. The most highly publicized of these studies led to the conclusion that "Sex reassignment surgery confers no objective advantage in terms of social rehabilitation" (Meyer and Reter, 1979, p. 1015). There is an interesting relationship between surgical outcome studies (particularly those yielding negative findings) and the question of whether the larger process of gender reorientation is accompanied by improved psychological or social adjustment. One might conjecture that it is precisely the dramatic rehabilitative effect of prior gender reorientation that makes it difficult to detect any superadded benefit from surgery. This is essentially the position taken by Fisk (1978). This interpretation of no-change surgical outcome findings depends, however, on the accumulation of evidence that the larger process of gender reorientation is accompanied by improved morale and social adjustment.

Relevant evidence from formal, objective studies is scanty. Hoenig *et al.* (1970) report on a series of 53 male and female transsexuals, of whom 23 changed their names and their (British) National Insurance Cards to show them to be persons of the opposite sex. Change of National Insurance Card appeared to result in some improvement in work adjustment, although this trend was not statistically significant. Langevin *et al.* (1977) compared the MMPI profiles of five groups of males, including transsexuals who had lived consistently as females for at least 1 year and transsexuals who were living publicly as males. The profiles of the transsexuals living as females indicated a lesser degree of emotional disturbance than the profiles of those living as males. Thus, such objective evidence as exists suggests that gender reorientation may be associated with improved psychological and social functioning.

The research reported below was intended as a systematic, formal investigation of the relationship between gender reorientation and psychosocial adjustment. This work was conducted in two stages. In Study 1, an attempt was made to develop a "pure" measure of gender

reorientation, which would, in addition, make possible a finer discrimination among patients than the dichotomous "living as male" versus "living as female" employed by Langevin *et al.* (1977). In Study 2, the gender reorientation index (GRI) developed in Study 1 was correlated with two criterion measures of psychological adjustment and one criterion measure of social adjustment.

STUDY 1

Subjects and Materials

In December 1977, the Gender Identity Clinic began administering a printed annual questionnaire to its patients. By December 1980, 62 females had completed this questionnaire at least once. All these females had presented at the clinic complaining of dissatisfaction or discomfort with their biological sex or of a desire to live their lives as males. Two patients were eliminated from this sample, one because of a willful failure to complete the questionnaire properly and one because her file showed her later to have resolved her gender confusion in favor of a female identity. For those patients who had completed the questionnaire more than once, the latest questionnaire was used in Study 1. The 60 females who formed the final sample had a mean age of 26.4 years (S.D. = 6.6 years) at the time that they completed the questionnaire used for the present analysis. The range was 17 to 43 years.

Each patient's file was read to determine whether she was taking hormones at the time she completed the latest questionnaire and whether she had undergone mastectomy, hysterectomy, or oophorectomy (ovariectomy) prior to that date. All other data were extracted from a section of the annual questionnaire that asked the patient to indicate whether she was "currently living as a male or female." This question was broken down into categories: "at work," "at home," "in your social life," "in your name on documents." The patient responded in each category by checking off "male," "female," or "either at times."

Procedure and Results

Six variables were chosen for study: surgery (SURG), hormones (HORM), sex as recorded or implied on documents (DOCU), and adoption of the male gender role at work (WORK), at home (HOME), and in the patient's social life (SOCL). Each variable was scored dichotomously (0 or 1), according to the following rules. A patient scored 1 for SURG if she had

undergone mastectomy, hysterectomy, oophorectomy, or any combination of these, and for any reason, prior to the date on the questionnaire. Of the 60 subjects, 12 scored positively for surgery. A patient scored positively for HORM if she was taking male hormones at the time of completing the questionnaire; there were 19 such subjects. A subject scored positively for HOME, SOCL, and WORK if her questionnaire response indicated that she was living as a male in those situations; if she checked "female" or "either at times," she scored 0 for the corresponding variable. The number of subjects scoring positively on these variables was 43, 35, and 33, respectively. (Attendance at school or university was counted as equivalent to working. It was possible, in all such cases, to ascertain whether the subject attended as a male or female, and to score accordingly.) DOCU was scored differently; the subject received a 1 if she responded that her documents indicated the male sex or that they were mixed. A positive score for mixed documents was necessary because some jurisdictions permit alteration of certain documents (e.g., birth certificates) only after surgical sex reassignment, and other jurisdictions make no provision for the alteration of such documents at all. There were 30 positive scores for DOCU.

The six variables described above were treated as an item pool, and the statistical approach which was employed paralleled that used for scale construction (see Nunnally, 1967). Table I shows the correlation between each pair of items in the six-item pool. These pairwise correlations are all positive, and 9 of the 15 are above 0.50, those involving SURG being among the lowest. An examination of the item pool, which included a principal-components analysis, item-total correlations, and comparisons of coefficient alpha based on six items with coefficient alpha computed for each possible combination of five items, indicated that the inclusion of SURG slightly decreased the homogeneity of the items. For this reason, which is further discussed below, this variable was excluded from the final version of the GRI. A second variable, WORK, was also excluded, for very different reasons which are also discussed below. The final version, comprising HOME, SOCL, DOCU, and HORM, had an alpha coefficient of 0.80. Selected item-total statistics are presented in Table II. It can be seen that each item correlates highly with the total score on the index (the item-total

Table I. Correlation Matrix, Six-Item Pool

	Male at HOME	Male in SOCIAL life	Male at WORK	Male on DOCUMENTS	Male HORMONES
Male in SOCIAL life	.59				
Male at WORK	.55	.87			
Male on DOCUMENTS	.41	.57	.57		
Male HORMONES	.35	.50	.54	.54	
SURGERY	.13	.34	.28	.33	.56

Table II. Item-Total Statistics, Gender Reorientation Index

Item	Corrected item-total correlation	Alpha if item deleted
Male at HOME	.54	.78
Male in SOCIAL life	.71	.70
Male on DOCUMENTS	.63	.74
Male HORMONES	.56	.77

correlations have been corrected to eliminate the spurious source of correlation that would result from the membership of the item itself in the total test). The mean total score in this sample was 2.12, with a standard deviation of 1.52. The range of scores was from 0 to 4.

Lastly, the GRI was subjected to a principal-components analysis. A single factor explained 62% of the total variance, and all four items loaded 0.74 or greater on it.

Discussion

The foregoing analysis indicates that the GRI is reliable and that it has a satisfactory factorial composition (i.e., the items it includes all reflect a single, common attribute). The GRI may be regarded, for purposes of Study 2, as an adequate measure of gender reorientation.

Table I shows that WORK and SOCL correlate so highly (0.87) as to be almost redundant. However, WORK was not eliminated on this basis alone, but because of the following consideration regarding the possible use of the GRI in future studies. In the present study, it was possible to treat WORK as a gender reorientation variable because there was virtually full employment among the subjects in the sample; by the same token, WORK would have been useless (in Study 2) as a measure of social adjustment. In general, however, one would expect that many populations of transsexuals studied would have substantial numbers of unemployed members. If WORK were included in a (summed) gender reorientation index applied to such a population, the measure of gender reorientation would be contaminated by general social adjustment. Moreover, WORK would then be unavailable to serve as a (criterion) measure of social adjustment, even though it would be an attractive measure of such adjustment in a sample population with many unemployed. Fortunately, the high correlation between WORK as a gender reorientation variable and SOCL observed in the present study suggests that one can eliminate WORK with a negligible loss of information about gender reorientation.

It is not difficult to see why surgery is less highly correlated with other gender reorientation events than these are with one another (see Table I). For one thing, mastectomy, oophorectomy, or hysterectomy may be carried out for medical reasons unrelated to transsexualism. This was the case with two of the 12 operated subjects in Study 1. Second, the screening function of the Gender Identity Clinic lowers the correlation, which would otherwise obtain, between public adoption of the male gender role and sex reassignment surgery. For these reasons, surgery is a rather less "pure" measure of gender reorientation than the other variables examined.

STUDY 2

Study 2 addressed the principal question of the present research, that is, whether gender reorientation is accompanied by improved psychological or social adjustment. The psychological variables chosen as those most likely to reflect the stress of living uncomfortably as a member of one's own biological sex were symptomatic depression and tension.

The social adjustment variables of greatest potential importance for female transsexuals are employment and involvement in love relationships (certain indices of extreme social maladjustment, such as criminal arrests and convictions, which have been used in studies of male transsexuals, are not useful here). As has already been mentioned, there was virtually full employment in the present sample of female transsexuals, which necessarily meant that employment would not correlate with gender reorientation or any other variable. Thus, the only relevant measure of social adjustment remaining was involvement with a female partner.

Subjects and Materials

The subjects of Study 2 were those 51 of the previous group of 60 for whom contemporaneous annual questionnaire and MMPI protocols were available. For those subjects who had completed more than one contemporaneous set of protocols, the latest set was used. The mean age of the subjects was 26.6 years (S.D. = 6.5 years). The range was from 17 to 40 years. Among these 51 females, there were only two who had undergone complete surgical sex reassignment (mastectomy plus total hysterectomy with bilateral salpingo-oophorectomy), five who had undergone mastectomy alone, and one who had had hysterectomy and oophorectomy alone.

The measure of gender reorientation used in Study 2 was the GRI developed in Study 1 and described above, and, as in Study 1, the sources of scoring information were the annual questionnaire and the subject's file.

The measures of psychological adjustment were two nonoverlapping MMPI cluster scales developed by Tryon, Stein, and Chu (Stein, 1968): TSC-VII (tension, T) and TSC-IV (depression, D). The MMPI Lie (L) Scale was used as a crude check of the subjects' candor. The measure of social adjustment, involvement with a partner of the same biological sex, was scored from two additional items on the annual questionnaire. The first of these asked, "Have you been 'involved' with a *steady* partner or mate during the past year?" to which the subject responded by checking yes or no. The second asked, "Who are you currently *living with*?" to which the subject responded by checking one (or more) of the following: "with a parent," "alone," "with a lover," "with a spouse," "with a friend," "other." (In this sample of subjects, "lover" or "spouse" always referred to a female.)

Procedure and Results

The variable, involvement with a partner (PART), was scored as follows. The subject was given a score of 2 if she indicated that she was currently living with a lover or spouse. She was given a score of 1 if she indicated that she had been involved in a steady relationship during the past year but was not cohabiting.

The data were analyzed with the SPSS stepwise multiple regression program. Four separate regression analyses were carried out, one for each of the four criterion variables (D, T, L, and PART). The predictor variables, GRI and age, were the same in each analysis. The correlation between GRI and age was 0.38. Simple correlations between pairs of criterion variables are shown in Table III.

The results of the regression analyses were as follows. There was a significant negative correlation between depression and gender reorientation, $\beta = -0.43$ ($F = 9.26$; df = 1, 48; $p < 0.01$), and also a significant negative correlation between tension and gender reorientation, $\beta = -0.44$ ($F = 9.45$; df = 1, 48; $p < 0.01$). There was a significant positive correlation between involvement with a same-sex partner and gender reorientation, $\beta = 0.37$ ($F = 6.45$; df = 1, 48; $p < 0.025$). Gender reorientation did not correlate with the MMPI Lie Scale, and age was not significantly related to any of the criterion variables.

Table III. Simple Correlations among the Criterion Variables

	Depression	Tension	Partner
Tension	.83		
Partner-involvement	−.42	−.28	
MMPI Lie (L)	−.32	−.31	.05

GENERAL DISCUSSION

The results of Study 2 indicate that gender reorientation is accompanied by a decrease in symptomatic tension and depression and by an increase in the likelihood (or increase in the degree) of involvement with same-sex partners. Age per se was not related to psychological or social adjustment in this sample of transsexual females.

In the present study of gender reorientation, an attempt was made to control for the effects of only one confounded predictor variable: age. The authors suspect that there is at least one other confounded variable whose effects are even more important to assess, namely, the subject's *expectation* of undergoing surgical sex reassignment. One may speculate that the expectation of undergoing surgical sex reassignment will increase in proportion to the degree of gender reorientation which has been achieved and that, moreover, the expectation of surgery may have as salutary an effect on morale as gender reorientation does.

The operation of this hypothesized expectation variable might explain why it is easier to show that the larger process of gender reorientation is associated with improved adjustment than to show that surgery is: surgery may exert its major therapeutic effect on the patient before it is performed, by virtue of the patient's anticipation of it. One might obtain very different results in surgical outcome studies if, instead of comparing operated patients to patients who expected or hoped to undergo surgery, one compared operated patients to a comparable group who had been denied it. Thus, research on the therapeutic effects of both gender reorientation and sex reassignment surgery might be greatly advanced if some means could be found of quantifying the expectation variable.

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