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Long-Term Follow-Up of Adults with Gender Identity Disorder

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Abstract The aim of this study was to re-examine individuals with gender identity disorder after as long a period of time as possible. To meet the inclusion criterion, the legal recognition of participants' gender change via a legal name change had to date back at least 10 years. The sample comprised 71 participants (35 MtF and 36 FtM). The follow-up period was 10–24 years with a mean of 13.8 years ($SD = 2.78$). Instruments included a combination of qualitative and quantitative methods: Clinical interviews were conducted with the participants, and they completed a follow-up questionnaire as well as several standardized questionnaires they had already filled in when they first made contact with the clinic. Positive and desired changes were determined by all of the instruments: Participants reported high degrees of well-being and a good social integration. Very few participants were unemployed, most of them had a steady relationship, and they were also satisfied with their relationships with family and friends. Their overall evaluation of the treatment process for sex reassignment and its effectiveness in reducing gender dysphoria was positive. Regarding the results of the standardized questionnaires, participants showed significantly fewer psychological problems and interpersonal difficulties as well as a strongly increased life satisfaction at follow-up than at the time of the initial consultation. Despite these positive results, the treatment of transsexualism is far from being perfect.

Keywords Gender dysphoria · Gender identity disorder · Transgenderism · Transsexualism · Follow-up

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Introduction

Follow-up studies of individuals with gender identity disorder (GID) are of particular importance for the formulation of standards of care and diagnostic criteria, and numerous such studies have been published. The most comprehensive review of these studies until now has been published by Pfäfflin and Junge (1992, 1998 [translated from German to English]). They reviewed the literature from 1961 to 1991 and found 76 individual follow-up studies with a minimum of 5 persons after sex reassignment surgery from 12 countries and 8 previously published reviews. Their review illustrated that, in all follow-up studies, the positive and desired changes outweighed the negative or undesired effects. In analyzing what contributed to treatment effectiveness, seven factors could be demonstrated that markedly influence the results of the treatment: (1) continuing contact with a research program/treatment facility; (2) successful Real-Life-Test; (3) hormone treatment; (4) counselling, psychiatric support, and/or psychotherapy; (5) surgical sex reassignment and (6) its quality, and, finally, (7) the legal recognition of the gender change by name and legal sex change.

Since then, a large number of further follow-up studies, including psychosocial aspects, have been published (Barrett, 1998; Dhejne et al., 2011; Essers & Diederichs, 1996; Gijs & Brewaeys, 2007; Happich, 2006; Kuhn et al., 2008; Lawrence, 2005; Löwenberg, Lax, Rossi Neto, & Krege, 2010; Olsson, Jansson, & Möller, 1996; Udeze, Abdelmawla, Khoosal, & Terry, 2008; Weyers et al., 2009; Zimmermann et al., 2006). However, most of these studies have employed rather short follow-up periods. The review by Pfäfflin and Junge (1992, 1998) included only 14 studies of MtF (male-to-female), 9 studies of FtM (female-to-male), and 2 studies that did not distinguish between MtF and FtM with an average follow-up period of more than 5 years. Yet, most of them comprised a very small sample. The same is the case for the review by Gijs and Brewaeys (2007) that included studies

between 1990 and 2006. They found that 4 out of 18 studies had an average follow-up period of more than 5 years.

To meet the inclusion criterion of the present study, the legal recognition of participants' gender change via a legal name change had to date back at least 10 years. According to the German Law for Transsexuals (Transsexuellengesetz, Bundesgesetzlblatt I, 1980, 1654 [Federal Law Gazette I, 1980, 1654]), a legal name change can be achieved when three conditions are met: (1) an established diagnosis of transsexualism according to ICD-10, F64.0 (World Health Organization, 1991); (2) cross-gender identification since at least three years prior to assessment, and (3) high likelihood of persistence of this cross-gender identification. The person does not have to have started treatment when applying for legal name change, but many applicants have already started hormone treatment and some have even had sex reassignment surgery when applying for legal name change.

This study is a long-term follow-up of former patients with GID whose aim it was to re-examine these patients from a psychosocial perspective after as long a period of time as possible after their name change and legal transition into their desired gender role. The goal of the study was to assess the participants' current psychological well-being and personal circumstances, their retrospective evaluation of the treatment, and the subjective effects of the treatment with the use of a combination of qualitative and quantitative measures. In addition, a quantitative approach was used to compare psychosocial variables at the time of the initial consultation and at follow-up, and positive changes were hypothesized.

Method

Participants

The current study was conducted in the Section of Forensic Psychotherapy at the Department of Psychosomatic Medicine and Psychotherapy, University Hospital Ulm, Germany. Since the early 1990s, this department has been a point of contact for patients with gender identity disorders. The Ethics Committee at the University of Ulm discussed the concept of the study on January 11, 2010 and did not object to its implementation.

The medical records of the Clinic for Psychosomatic Medicine and Psychotherapy were screened in order to identify potential participants: Their first contact with the clinic had to be at least 10 years ago (i.e., 2000 or prior), they had to be diagnosed with Transsexualism (ICD-10: F64.0) at that time, and they had to have completed an official change in gender role, including a legal name change by 2000 according to the German Law for Transsexuals. All patients fulfilling these criteria were sent a letter and asked to contact the authors. When letters were undeliverable, registration offices were asked to check the population register for the relocation addresses to which new letters were sent. This procedure was repeated until the letters were not sent back as undeliverable and should, therefore, have reached the addressees. If someone did not get back to the authors, a follow-up letter was sent to this person 6 weeks after the original letter. Altogether, a total of 140 persons received letters of which 101 (72.1 %) made contact with the authors and, thereupon, were informed about the study and asked for their participation. The second author had initially seen the patients a decade or longer ago and he introduced the first author as the conductor of the intended follow-up study. Finally, 71 persons decided to take part in the study which corresponds to 50.7 % of all contacted persons and 70.3 % of the persons who got back to the authors. For 46 of the participants, an appointment at the clinic could be arranged and another 10 participants were visited at their place of residence. A further 15 participants lived so far away that a personal appointment was impossible; these participants answered only the questionnaires they were sent by mail.

Overall, 39 (27.9 %) persons did not get back to the authors. Of the non-responders, 28 persons did not get back to the authors for unknown reasons. Of a further 9 persons, relocation addresses were unknown and a further 2 persons had meanwhile passed away. With 30 persons (21.4 %) who had made contact with the researchers, a personal appointment could not be arranged for various reasons: Some of them stated to have no time to take part in the study (8 persons) or to be somatically sick (5 persons). Eight others declared that transsexualism was not an issue for them anymore, and therefore, they did not want to participate. With a further 8 persons, the contact stopped for unknown reasons. One person lived in an institution and the custodian discouraged the authors from making contact.

The sample comprised 71 participants: 35 MtF and 36 FtM. Their mean age was 47.0 years ($SD = 10.42$), whereupon MtF ($M = 52.9$; $SD = 10.82$) were older than FtM ($M = 41.2$; $SD = 5.78$). The follow-up period, i.e., the time that had passed since the official change in gender role in terms of the official name change, was 10–24 years with a mean of 13.8 years ($SD = 2.78$). For MtF, the follow-up period was 13.7 years (SD = 2.17) and for FtM it was 14.1 (SD = 1.97).

Measures

To answer the research question, a combination of qualitative and quantitative methods was chosen. Semi-structured interviews were conducted with the participants and, additionally, they completed a follow-up questionnaire and several standardized questionnaires.

Interview

First, all questions that appeared relevant in this context were collected by the researchers. At the same time, similar interview guides from other studies on transsexualism were ana-

lyzed (Brauckmann, 2002; Junge, 1987; Kuiper & Cohen-Kettenis, 1988). Then, the topics of well-being, treatment, work, family, friendship, partnership, sexuality, and gender role were obtained by grouping the questions. Topics that were of special interest in the interviews were the course of the treatment and participants' evaluations, changes in the different areas of the participants' lives and their present living conditions, as well as current problems. Finally, an interview guide for a semi-structured interview was constructed. All interviews were conducted by the first author, a postgraduate researcher that had not been involved in the treatment of the participants at the time of their first contact with the clinic or at any later time. The interviews were all tape recorded.

Follow-Up Questionnaire

This questionnaire included topics that were similar to those from the interview and provided information about participants' current living conditions and their satisfaction in this regard. Some items were formulated by the authors whereas other items were extracted from a follow-up questionnaire by Junge (1987). Most items were closed questions with 5-point rating scales, and they were divided into the areas of treatment, work, partnership, sexuality, gender role, and family and friends.

Standardized Questionnaires

These had already been completed by the patients when they first made contact with the clinic and were now re-administered. The results at the initial consultation were used to compare psychosocial variables of participants with individuals who did not take part in the study. To assess psychological problems, the Symptom Checklist (SCL-90-R) (Derogatis, 1977; German version by Franke, 1995, 2002) was applied. The Inventory of Interpersonal Problems (IIP) (Horowitz, 1999; German version by Horowitz, Strauß, & Kordy, 2000) was chosen to identify interpersonal difficulties. Gender role stereotypes were measured using the Bem Sex Role Inventory (BSRI) (Bem, 1974; German version by Schneider-Düker, 1978).

In addition, the Freiburg Personality Inventory (FPI-R) (Fahrenberg, Hampel, & Selg, 2001), a German personality questionnaire, was administered. It comprises 138 items, which make up the scales *Life satisfaction*, *Social orientation*, *Need for achievement*, *Shyness*, *Irritability*, *Aggressiveness*, *Stress*, *Physical troubles*, *Health sorrows*, *Openness*, *Extraversion*, and *Emotionality*. The internal consistencies (Cronbach's α) of the different scales lie between .73 and .83. A large number of studies have demonstrated the internal and external validity of the FPI-R and are listed in the instructions (Fahrenberg et al., 2001).

The interviews always preceded the questionnaires and lasted 20–87 min. It then took the participants about a further 60 min to fill in the questionnaires.

Data Analysis

Statistical analyses were performed using SPSS 20 for Windows. Absolute or relative frequencies were calculated for nominal variables and mean values, SDs, and inferential statistics were computed for interval-scale variables. In order to decide between further nonparametric or parametric tests (Mann–Whitney U test or independent samples *t* test for unpaired samples, Wilcoxon signed-rank test or paired samples *t* test for paired samples), the Kolmogorov–Smirnov test was used to test for normality of the variables' distributions.

Qualitative analyses were performed using ATLAS.ti, a type of software based on the grounded theory method (Glaser & Strauss, 1967). The different steps were initially carried out by the first author and then discussed in detail with the other researchers of the research unit. The aim was not to develop a grounded theory, but rather to describe and summarize the experiences given by the participants with the help of an interview-based category system. Altogether, over 2400 interview minutes were gathered. For financial reasons and due to time constraints, it was not possible to transcribe the complete interviews within this project. Therefore, the interviews were abstracted and the abstracts were transcribed. The transcripts of the interview abstracts were then analyzed via the following steps: In a first step, 18 abstract transcripts (about 33 % of all interview material) were openly coded, resulting in a long list of codes close to the original text. This code list was, in a second step, modified. Codes were merged, renamed or eliminated, and comprehensive categories were formed. In a final step, this category system was applied and thereby reviewed and modified by selective coding of all interview abstracts.

Results

Follow-Up Questionnaire

All participants had been treated with cross-sex hormones over the course of their sex change. However, one FtM and one MtF had stopped taking them for health reasons by the time of the follow-up. The majority, i.e., 54 (76.1 %) participants, had been undergoing psychotherapy during transition as well.

All but two MtF had undergone sex reassignment surgery, they had abstained from any surgical procedures. Thirty-three MtFs had received vaginoplasty. Additional surgery had been performed as follows: breast augmentation on eight MtF, larynx surgery on six, and vocal cord surgery on two.

All FtM had undergone mastectomy and 33 of them had had an ovarectomy and/or a hysterectomy. One participant had a metaoidioplasty and 21 FtM had received radial forearm flap phalloplasty.

Psychological well-being was assessed on a 5-point rating scale ranging from 1 ("worse than ever") to 5 ("better than ever"). This item was answered by 68 participants with a mean

of 4.35 ($SD = 0.86$). In this part of the questionnaire, participants were also asked about psychotherapeutic treatment as well as problems with alcohol or illegal drugs during the last 12 months. None of the participants had been treated as a psychiatric inpatient; however, 11 participants stated to have received out-patient psychotherapy. Present problems with alcohol or illegal drugs were stated by two participants.

When asked about their vocational situation, 78.6 % of the participants indicated that they were employed full- or part-time or self-employed, 14.3 % received a pension, and 7.1 % were unemployed. Satisfaction with this situation was measured on a rating scale ranging from 1 ("very dissatisfied") to 5 ("very satisfied"). The mean was 4.07 ($SD = 0.93$; $n = 61$).

Overall, 60.0 % of the participants reported being in a steady relationship ($n = 70$), i.e. 61.8 % of MtF ($n = 34$) and 58.3 % of FtM ($n = 36$). Relationship satisfaction was assessed for these 42 participants on a 5-point rating scale and was 4.52 ($SD = 0.86$) on average. When assessed separately for MtF ($n = 21$) and FtM ($n = 21$), the average relationship satisfaction remained 4.52 ($SD = 0.75$ for MtF; $SD = 0.98$ for FtM).

None of the participants expressed a desire for gender-role reversal ($n = 69$), and when asked about how often they had doubts about their present gender role, participants answered with a mean of 4.70 ($SD = 0.71$; $n = 70$) on a rating scale from 1 ("continuously") to 5 ("never"). Satisfaction with one's own appearance was again rated on a 5-point scale and was 4.46 ($SD = 0.86$; $n = 70$) on average. Sense of security in one's gender role was assessed on a rating scale from 1 ("very insecure") to 5 ("very secure"). Here, the mean was 4.47 ($SD = 0.94$; $n = 68$).

Regular sexual relationships were affirmed by 39.4 % of MtF ($n = 33$) and 57.1 % of FtM participants ($n = 35$). Satisfaction with their current sex life was 3.42 ($SD = 1.12$; $n = 33$) for MtF and 3.78 ($SD = 1.07$; $n = 36$) for FtM on a rating scale from 1 ("very dissatisfied") to 5 ("very satisfied"). Participants were also asked about the gender of their sexual partners. Based on their present gender role, 35.3 % of MtF had exclusively heterosexual, 17.6 % bisexual, and 29.4 % exclusively homosexual contact; 17.6 % had never had sexual contact after sex reassignment ($n = 34$).[1] By contrast, 75.0 % of FtM participants had exclusively heterosexual contact, 5.6 % each had bisexual or exclusively homosexual contact; 13.9 % had never had sexual contact after sex reassignment ($n = 36$).

Satisfaction with relationships with parents and friends was again rated on a scale from 1 ("very dissatisfied") to 5 ("very satisfied"). The mean satisfaction with friendships was 4.30 ($SD = 0.88$; $n = 69$); that of their relationships with their parents was 4.08 ($SD = 1.22$; $n = 48$).

[1] We are using individuals' current gender role as a benchmark for labeling their sexual orientation, while other studies use their birth sex to do so.

Interviews

Overall, participants' evaluation of the treatment process for sex reassignment and its effectiveness in reducing gender dysphoria was positive. It was described as a "challenge" or a "long and difficult road" that was worth taking because of its positive implications on future life, at the end of which not everything was different or better without limitations ("you should not believe that […] life is sky blue and you can ride into the sunset with your prince"). Retrospectively, participants also mentioned what could have been done in a different way. They mainly wished they had begun their sex change earlier in life or that they had completed the treatment more quickly.

Participants emphasized the importance of social support during the treatment process. This support came mostly from family and friends, but some had also received support from a psychotherapist. However, in matters of psychotherapeutic support, participants made quite variable evaluations. Some of them perceived it as rather superfluous or even as an annoying constraint. Others expressed difficulties in finding a therapist in the first place or in finding a therapist who could understand their problems or could help them pursue their goals. Nevertheless, positive evaluations of psychotherapy were much more frequent. It was seen as support or companionship during the treatment process, and some participants even felt that it moved them closer to their objectives in terms of their sex change.

Hormone treatment was evaluated in a positive way. Participants referred to its desirable physical but also psychological and social effects. At the same time, however, about two-thirds of them mentioned physical or psychological side effects that had occurred over the course of their sex change. The overall importance of the treatment with cross-sex hormones was viewed differently; for some participants, it was essential and represented an enormous relief, for other, it was rather insignificant.

In connection with sex reassignment surgery, both FtM and MtF participants reported complications; in FtM, however, they were more frequent. A particularity among FtM participants was that about one-third of them decided not to undergo penile surgery because of its risks and unsatisfactory results. Irrespective of gender, participants mentioned general problems related to surgical treatment such as conflicts with their health insurance company or long waiting times for surgical appointments. These problems, however, were outweighed by the great importance of the surgical measures for participants' well-being and their ability to cope with everyday life.

With regard to the various areas of life discussed in the interviews, participants mentioned far more positive than negative effects. The treatment period was seen as very difficult; since then, however, their professional situations as well as their relationships with family and friends had apparently gone back to "normal." Only in connection with sexuality and romantic

relationships was transsexualism still potentially an issue that could cause problems such as feelings of insufficiency or insecurity. Furthermore, participants perceived it as a burden to be forced to address their former transsexualism when entering a sexual relationship. In contrast, many of them stated that the treatment enabled them to have romantic and/or sexual relationships in the first place or to have more satisfying relationships.

Standardized Questionnaires

SCL-90-R

Values on the SCL-90-R of participants ($n = 62$) and patients lost-to-follow-up ($n = 63$) at initial consultation were compared via the Mann–Whitney *U* test. Only for the scale *Depression*, a significant difference was found: Participants' values were lower than those of patients lost-to-follow-up ($p = .047$).

Values of participants at initial consultation and follow-up were compared via the Wilcoxon signed-rank test ($n = 62$). Participants' values were lower at follow-up on all scales, except for the scale *Somatization*, all differences were statistically significant. The effect sizes were small for the scales *Phobic anxiety* and *Paranoid ideation*, medium for *Obsessive–compulsive*, *Depression*, *Anxiety*, *Hostility*, and *Psychoticism*, and large for *Interpersonal sensitivity* (see Table 1). There were no significant correlations between the amount of change on the different scales of the SCL-90-R and the length of the follow-up period.

Table 1 Comparison of SCL-90-R values at initial consultation and at follow-up ($n = 62$)

Scale of SCL-90-R	Initial consultation		Follow-up			
	M	SD	M	SD	*p*	ES
Somatization[a]	0.39	0.48	0.31	0.41	ns	
Obsessive–compulsive[a]	0.58	0.59	0.32	0.45	.001	0.50
Interpersonal sensitivity[a]	0.70	0.67	0.26	0.34	<.001	0.82
Depression[a]	0.70	0.67	0.32	0.45	<.001	0.67
Anxiety[a]	0.47	0.55	0.18	0.36	<.001	0.63
Hostility[a]	0.49	0.58	0.22	0.40	<.001	0.54
Phobic anxiety[a]	0.30	0.51	0.14	0.31	.004	0.38
Paranoid ideation[a]	0.65	0.70	0.37	0.53	<.001	0.44
Psychoticism[a]	0.53	0.59	0.16	0.32	<.001	0.77
Global Severity Index[a]	0.53	0.49	0.28	0.36	<.001	0.58

[a] Absolute range, 0–4

IIP

Values on the IIP of participants ($n = 55$) and patients lost-to-follow-up ($n = 41$) were compared via an independent samples *t* test; none of the scales reached statistical significance.

Participants' values at initial consultation and follow-up were compared via a paired samples *t* test ($n = 54$ for the scales *Domineering/controlling*, *Vindictive/self-centered*, and *Cold/distant*; $n = 55$ for all other scales). Participants' values were lower at follow-up, and the differences reached statistical significance on all scales. Effect sizes were small for the scale *Domineering/controlling*, medium for *Vindictive/self-centered*, *Cold/distant*, *Socially inhibited*, *Nonassertive*, *Self-sacrificing*, and *Intrusive/needy*, and large for *Overly accommodating* (see Table 2). There were no significant correlations between the change on the different scales of the IIP and the length of the follow-up period.

BSRI

The BSRI values of participants ($n = 37$) and patients lost-to-follow-up ($n = 39$) were compared via an independent samples *t* test. Neither self images nor ideal images showed significant differences.

At follow-up, both MtF ($n = 19$) and FtM ($n = 16$) reported androgynous self images. MtF also reported androgynous ideal images, while FtM reported slightly male ideal images. The values for initial consultation and follow-up were compared via a paired samples *t* test. For the MtF, none of the scales reached statistical significance. The FtM showed an increase in *Social desirability* from the first measurement point to the second ($p = .033$; $ES = 0.47$).

For MtF, the interval between initial consultation and follow-up correlated with the amount of change in their feminine self-image ($r = .47$, $p = .043$) and their masculine ideal image ($r = .50$, $p = .029$).

FPI-R

Values on the FPI-R of participants ($n = 58$) and patients lost-to-follow-up ($n = 60$) were compared via an independent samples *t* test. Significant differences were found on the scales *Irritability* ($p = .036$), *Physical troubles* ($p = .007$), and *Emotionality* ($n = .002$); participants' values at initial consultation were lower than those of patients lost-to-follow-up.

Participants' values at initial consultation and follow-up were compared via a paired samples *t* test ($n = 58$). This comparison showed a significant increase in *Life satisfaction* with a large effect size. The decreases on the scales *Irritability*, *Openness*, and *Emotionality* were also statistically significant. The effect sizes were small for *Irritability* and *Openness* and medium for *Emotionality* (see Table 3). There were no significant correlations between the change on the different scales of the FPI-R and the length of the follow-up period.

Discussion

The aim of this long-term follow-up of adults with GID was to assess their current personal circumstances and how these had

Table 2 Comparison of IIP values at initial consultation and at follow-up ($n = 54/55$)

Scale of IIP	Initial consultation		Follow-up			
	M	SD	M	SD	*p*	ES
Domineering/controlling[a]	5.76	5.17	3.67	3.66	.003	0.47
Vindictive/self-centered[a]	7.82	5.13	4.91	4.00	<.001	0.63
Cold/distant[a]	8.17	5.48	4.37	4.68	<.001	0.75
Socially inhibited[a]	10.44	7.22	5.47	6.08	<.001	0.74
Nonassertive[a]	10.69	7.13	6.29	6.01	<.001	0.67
Overly accommodating[a]	11.64	5.99	7.04	4.73	<.001	0.85
Self-sacrificing[a]	10.49	5.33	7.55	5.05	<.001	0.57
Intrusive/needy[a]	7.96	5.04	4.53	3.83	<.001	0.77

[a] Absolute range, 0–32

Table 3 Comparison of FPI-R values at initial consultation and at follow-up ($n = 58$)

Scale of FPI-R	Initial consultation		Follow-up			
	M	SD	M	SD	*p*	ES
Life satisfaction[a]	4.43	2.99	8.31	2.63	<.001	1.38
Social orientation[a]	7.52	2.35	7.00	2.43	ns	
Need for achievement[a]	6.95	2.60	6.98	2.81	ns	
Shyness[a]	5.09	3.09	4.71	3.08	ns	
Irritability[a]	4.78	3.12	4.05	2.94	.032	0.24
Aggressiveness[a]	3.59	3.01	3.19	2.25	ns	
Stress[a]	4.84	3.76	4.67	3.42	ns	
Physical troubles[a]	2.59	2.63	2.07	1.94	ns	
Health sorrows[a]	4.29	3.01	4.81	2.81	ns	
Openness[a]	6.43	2.41	5.79	2.31	.033	0.27
Extraversion[b]	6.26	3.80	6.00	3.46	ns	
Emotionality[b]	6.09	3.43	4.05	3.27	<.001	0.61

[a] Absolute range, 0–12

[b] Absolute range, 0–14

changed since their legal name change, one of the more important steps in their transition, as it marks a legal recognition and allows individuals to live according to their gender identity in most situations even without any treatment. With a follow-up period of at least 10 years since that took place, one cannot assume that it would be possible to examine a large sample. The recruitment of participants was indeed a challenge. Based on the fact that 72.1 % of the persons who received a letter from the authors responded and, similarly, 70.3 % of the responders took part in the study, the sample size of 71 participants can be judged as a success. This participation rate was comparable with a few other follow-up studies with shorter or comparable follow-up periods (De Cuypere et al., 2006; Essers & Diederich, 1996; Hepp, Klaghofer, Burkhard-Kübler, & Buddeberg, 2002; Jarrar, Wolff, & Weidner, 1996) or exceeds them (Rauchfleisch, Barth, & Battegay, 1998). Moreover, as the sample sizes in follow-up studies of individuals with GID vary widely (Happich, 2006), the sample size of this study is among the larger ones.

As we used a non-experimental design, there were few possibilities to control for other influences than the treatment. In this regard, one must think of selection biases. Particularly good results or experiences during the treatment might influence the decision to take part in a follow-up study. But also a reverse bias is possible: Patients with particularly bad results or negative experiences during the treatment might view a follow-up study as an occasion to make their voices heard. Furthermore, due to the long follow-up time, it seems possible that participants do not remember incidents or facts correctly or depict them differently under the current circumstances. However, biased answers also seem possible at the initial consultation: applicants for treatment may have given favorable responses, because they felt it would have increased their chance to get treated.

In order to compensate for these influences, different methods were used in the present study. Firstly, the reasons individuals gave for not participating in the study were examined. In sum, these reasons do not contradict the assumption that the sample is representative of all individuals with transsexualism diagnosed at the clinic in the 1990s. Secondly, psychosocial variables assessed with standardized questionnaires at initial consultation of participants and individuals lost-to-follow-up were compared. Statistically significant differences were found only on the scales *Depression* of the SCL-90-R as well as *Irritability*, *Physical troubles*, and *Emotionality* of the FPI-R. Hence, this must be considered in the generalization of the results of psychological problems and personality variables. People who are not doing well, either due to negative experiences during the treatment process or because they were already more vulnerable, may be less inclined to take part in such a study. At least some of the comparisons show that the non-responders had less favorable scores at initial consultation.

A further way to compensate for confounding factors and a great strength of our study is the fact that the individuals concerned got a chance to speak about their experiences. Qualitative and quantitative methods complement each other and substantiate the respective results.

Regarding the results of the follow-up, it must first to be noted that none of the participants expressed a desire for gender-role reversal. Pfäfflin and Junge (1992, 1998) found 20 MtF and 5 FtM patients in their literature review of 76 individual follow-up studies and 8 previously published reviews who wished they could live in their primary gender role again. Pfäfflin (1993a) estimated regret rates of less than 1 % for FtM and 1–1.5 % for MtF. The reasons for this outcome were the insufficient differential diagnostic indications for treatment, a too-short real-life test of experiencing everyday life in their desired gender role, and the poor results of their sex reassignment surgeries.

Furthermore, participants of the current study reported high degrees of well-being. Rauchfleisch et al. (1998) noted that participants in their study stereotypically stated that they were

well, but this claim did not match their other results. Dhejne et al. (2011), who examined data from the Swedish national registers rather than subjective data from the individuals concerned, found a higher overall mortality as well as an increased risk for suicidal behavior and psychiatric morbidity in persons who had undergone a sex reassignment than in matched controls. In the present study, however, the subjective well-being of participants was corroborated by further results on standardized questionnaires and in comparison to norms and the general population as well as in relation to different measures of social integration. Very few participants were unemployed, most of them had a steady relationship, and they were also satisfied with their relationships with family and friends. To sum up, the results indicated a good social integration of the participants.

Participants expressed little doubt about their gender role, felt secure in it, and were satisfied with their own appearance. In a study by De Cuypere et al. (2005), despite feelings of security and satisfaction, FtM reported a greater number of problems in establishing romantic relationships than MtF. Their outer male appearance notwithstanding, they expressed doubts regarding their masculinity, and these doubts prevented them from having sexual relationships. Congruently, FtM participants in our study felt annoyed by the fact that their former transsexuality was still an issue that had to be addressed when they became romantically involved.

With regard to their sexual lives, participants expressed moderate to high levels of satisfaction. Thus, these scores are considerably lower than the scores on other areas. However, levels of satisfaction with the sexuality of patients after sex reassignment surgery have varied widely among different studies: In their literature review, Gijs and Brewaeys (2007) documented satisfaction rates ranging from 25.0 to 88.5 % for men and 20.0 to 92 % for women as well as dissatisfaction rates ranging from 5.5 to 75.0 % for men and 5.8 to 80.0 % for women. It was concluded: "At the moment, the only conclusion that can be drawn with certainty is that many transgender people live sexually satisfying lives, but others do not. We do not know what the determinants of this variability are, and we have no sound theoretical models to understand it" (p. 216).

Furthermore, FtM participants in the current study mentioned having mostly heterosexual contacts (based on their present gender role), whereas homosexual experiences were more common among MtF participants.[2] This is consistent with a frequent assumption in other studies, namely, that FtM individuals are heterosexual with regard to their desired gender role (Gijs & Brewaeys, 2007). Nevertheless, there are other studies that have shown a greater variability in sexual orientation among FtM individuals (Chivers & Bailey, 2000; Coleman, Bockting, & Gooren, 1993). Although the majority expressed feeling sexually attracted to women, at least about 30.0 % felt sexually attracted to men. MtF individuals seem to be a more heterogeneous group in terms of sexual orientation. Studies have shown a great deal of variability in sexual orientation (Lawrence, 2005).

Participants' narratives in the interviews concerning different areas of their lives illustrated that they had reached a situation in which most of the problem areas had settled down. Professionally, they were often able to develop a stable position, conflicts with family or friends had calmed down, and although their former transsexuality was still an issue when it came to partnerships, there seemed to be more "normality" (as participants liked to put it) in this area as well.

Overall, the treatment was evaluated as positive and effective by the participants. However, the narratives associated with the different treatment components provided implications for treatment practice. The findings on psychotherapy indicate that negative experiences could mainly be attributed to lack of knowledge on the therapist side. The topic GID should be integrated into psychotherapy training more extensively in order to prevent knowledge gaps and rebut prejudices as these can significantly influence the initiation of psychotherapy as well as the therapist-patient relationship. According to Pfäfflin (1997), the purpose of psychotherapy with individuals with GID can be seen very differently: views may vary from the prescription of psychotherapy for all individuals (e.g., health insurance companies) to its total rejection (e.g., some support groups). Pfäfflin countered that only a few individuals with GID experience a development without conflict or stress and that the long-term prognosis is better for those who have received support by a psychotherapist. The international Standards of Care (World Professional Association for Transgender Health, 2011), however, recommend psychotherapy but do not require it for hormone and surgical treatment. For such a referral, only a mental health assessment is needed.

Both MtF and FtM participants reported complications regarding sex-reassignment surgery; consequently, there is a need for information about clinics and surgeons. The following statement by Lawrence (2003) underlines this need: "Because the physical and functional qualities of the surgical result achieved were so strongly associated with the subjective outcomes, choice of surgeon may be more important than most other preoperative factors examined in this study in influencing postoperative satisfaction or regret" (p. 313). Furthermore, there is a need for improved surgical techniques for FtM individuals, illustrated by the fact that one-third of our participants chose not to undergo genital surgery because of its risks and unsatisfactory results. This percentage is congruent with other studies (Rachlin, 1999). Dhejne et al. (2011) even suggest improved care for these patients after sex reassignment. Moreover, clinicians should better prepare candidates for surgery on possible complications.

Pimenoff and Pfäfflin (2011) proposed to reconsider the doctor-patient relationship and arrange it in a more cooperative manner. In their study, they examined the vocational, social, and psychological adjustment of Finnish patients who had undergone sex

[2] See Footnote 1.

reassignment. They found that the results of patients who complied with the treatment regimen did not differ from the results of patients who did not follow the Finnish medical guidelines. In addition, the latter reached the treatment goal faster. In conclusion, patients' dependence on bureaucratic treatment guidelines seems unnecessary and counterproductive.

Regarding the results of the standardized questionnaires, one finding that stands out is that participants had significantly fewer psychological problems and interpersonal difficulties at follow-up than at the time of the initial consultation. Personality variables, by contrast, showed less change. This is likely due to the fact that personality traits remain more stable over time. The FPI-R should be used only for the measurement of change over a long period of time (Fahrenberg et al., 2001), a use that was fulfilled by the present study with a follow-up time of at least 10 years. The strong increase in life satisfaction constituted the most noticeable change and was consistent with participants' responses on the follow-up questionnaire as well as their narratives in the interviews in which they provided detailed reasons for the increased satisfaction with their lives. The change in psychological problems, interpersonal difficulties, and personality traits did not depend on the length of the follow-up period.

Gender role stereotypes remained stable. Participants had expressed androgynous self and ideal images at their initial consultation and did again at follow-up. Based on a study by Pfäfflin (1993b), this result may be due to the fact that some were already at an advanced stage of treatment when they first consulted the psychosomatic clinic to get an expert's opinion on the judicial recognition of their name change. Some of them had been taking cross-sex hormones, and some even had a date fixed for their surgery and had been living in their desired gender role for some time. Therefore, they had already been able to integrate the characteristics of their initial and desired gender.

The overall positive results of this long-term follow-up might seem like "happy talk." Here, the following argument of Junge (1987) appears insightful: She stated that former patients apparently intend on conformation. However, she was not of the opinion that they try to downplay or negate their problems. In fact, the problems after the treatment appear rather insignificant in contrast to the problems they had before the treatment which might influence their narratives as well as the results in the different questionnaires.

In conclusion, positive and desired changes were determined by the follow-up questionnaire, the interviews, and the standardized questionnaires. Numerous studies with shorter follow-up times have already demonstrated positive outcomes after sex reassignment. As was shown in our study, these positive outcomes persist even 10 or more years after the legal name change which, in most cases, had been achieved before sex reassignment surgery and in very few cases after sex reassignment surgery. There was a large number of positive changes between initial consultation and follow-up, and the treatment led to a greater number of desired effects than complications. Despite these positive results, the treatment of transsexualism is far from being perfect and requires improvement.

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