Body Satisfaction and Physical Appearance in Gender Dysphoria

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Abstract Gender dysphoria (GD) is often accompanied by dissatisfaction with physical appearance and body image problems. The aim of this study was to compare body satisfaction with perceived appearance by others in various GD subgroups. Data collection was part of the European Network for the Investigation of Gender Incongruence. Between 2007 and 2012, 660 adults who fulfilled the criteria of the DSM-IV gender identity disorder diagnosis (1.31:1 male-to-female [MtF]:female-to-male [FtM] ratio) were included into the study. Data were collected before the start of clinical gender-confirming interventions. Sexual orientation was measured via a semi-structured interview whereas onset age was based on clinician report. Body satisfaction was assessed using the Body Image Scale. Congruence of appearance with the experienced gender was measured by means of a clinician rating. Overall, FtMs had a more positive body image than MtFs. Besides genital dissatisfaction, problem areas for MtFs included posture, face, and hair, whereas FtMs were mainly dissatisfied with hip and chest regions. Clinicians evaluated the physical appearance to be more congruent with the experienced gender in FtMs than in MtFs. Within the MtF group, those with early onset GD and an androphilic sexual orientation had appearances more in line with their gender identity. In conclusion, body image problems in GD go beyond sex characteristics only. An incongruent physical appearance may result in more difficult psychological adaptation and in more exposure to discrimination and stigmatization.

Keywords Gender dysphoria · Body image · Appearance · Sexual orientation

Introduction

Gender dysphoria (GD) describes a status in which one experiences an incongruence between assigned and experienced gender. In line with societal and scientific changes, the development of the diagnostic criteria for GD has been subject to change since it first appeared as a diagnosis in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1980).

Although percentages of severe regret are as low as 1–2 % (Cohen-Kettenis & Gooren, 1999; Landen, Wålinder, Hambert, & Lundström, 1998), given the impact of gender affirming interventions, clinicians would like to be assisted in their treatment recommendations by adequate a priori assessment of factors that predict satisfaction with outcome. Some of the factors associated with dissatisfaction are physical build, incongruence with the new gender role, poor social support, and severe psychological morbidity (Gijs & Breuwaes, 2007). Body image and physical appearance are related to psychological well-being among GD individuals (Vocks, Stahn, Loenser, &...
Legenbauer, 2009). As the experienced incongruence between physique and gender identity/social role is the source of the dysphoria, GD has been conceptualized as a body image syndrome by some (e.g., Money, 1994). However, only a limited number of studies have specifically focused on body image in this group (Ålgars, Santtila, & Sandnabba, 2010; Bandini et al., 2013; Becker et al., 2015; Bodlund & Armelius, 1994; Fleming, MacGowan, Robinson, Spitz, & Salt, 1982; Kraemer, Delsignore, Schnyder, & Hepp, 2007; Lindgren & Pauly, 1975; Roback, Strassberg, McKee, & Cunningham, 1977; Vocks et al., 2009; Wolfradt & Neumann, 2001).

Body image is thought of as a person’s self-concept resulting from more than solely his or her visual self-image. It is conceptualized as consisting of attitudes, experiences, and perceptions pertaining to one’s physical appearance, based on self-observation and the reactions of others (see Cash & Pruzinsky, 2002). The degree of body (dis)satisfaction reflects one’s individual self-concept in relation to the social context. One may assume that a positive body image is a favorable prognostic factor of quality of life after transition (Bodlund & Armelius, 1994) whereas a negative body image may lead to lower quality of life due to lower self-esteem, poorer social functioning, and compensatory conditions, such as eating disorders (Ålgars et al., 2010; Bandini et al., 2013; Bodlund & Armelius, 1994; Vocks et al., 2009). We expect that, even in a population of individuals with GD who have serious body image problems, there is variation between individuals. In addition, clinically reported data on physical congruence with the experienced gender may inform us to what extent the source of body dissatisfaction can be attributed to differences in physical incongruence between the individuals.

In the process of the development of the DSM-5 and the preparation of ICD-11, and as a result of the changing views on the relationship between GD and psychopathology, the GD diagnosis as well as the specification of certain subtypes have been topics of debate (Zucker et al., 2013). Sexual orientation and onset age can be related to the age of onset and sexual preferences, knowledge on subtype differences may help to align gender reaffirming interventions to one’s personal situation.

**Aims**

This study aimed to use the concepts of body image and physical appearance to provide a better understanding of GD, given their potential value in GD counseling. The main research objectives were (1) to describe body (dis)satisfaction and physical appearance with regard to onset age and sexual orientation in natal males and females with GD; (2) to examine the relationship between self-reported body satisfaction and clinician-reported physical appearance in individuals with GD.

**Method**

**Participants**

Of the 1019 applicants (MtF = 637 and FtM = 382), a total of 660 (64.7%; MtF = 374 and FtM = 286) who received a GID diagnosis (American Psychiatric Association, 2000) and could be classified as EO or LO were included in the study. At the time of assessment, the DSM-5 was not published yet. Inclusion was based on a scoring sheet with GID diagnostic and onset age criteria (Nieder et al., 2011; see below as well). Of the excluded group (n = 359), 93 (9.1%) did not fulfill all diagnostic criteria for GID, 103 fulfilled criteria for GID, but could not be assigned to either the early onset or late onset category (residual category), and 163 individuals who received a GID diagnosis had missing onset age data. There were no statistically significant differences in demographic characteristics (age and education) between the included and excluded groups. For 640 applicants, information on both onset age and sexual orientation was available. MtF applicants (M = 34.1 years, SD = 12.6 years) were significantly older compared to FtMs (M = 27.0 years, SD = 9.6 years, see Table 1). MtFs had significantly higher education than FtMs, \( \chi^2(2) = 12.51, p = .002 \). More than half of all included participants were diagnosed in Amsterdam, whereas the other clinics included 22.1% (Ghent), 17.7% (Hamburg), and 8.8% (Oslo) of the subjects. The MtF to FtM ratio of the
whole sample was 1.31:1. Ratios differed per country, which is in line with earlier research (Kreukels et al., 2012). As shown in Table 1, FtM applicants were significantly more likely to have (partially) transitioned than MtF applicants in private, $\chi^2(2) = 26.35, p < .001$ or worklife, $\chi^2(2) = 29.82, p < .001$. Self-prescribed hormone use (self-report) prior to admission was significantly more common in MtFs (22.0%) than in FtMs (7.3%), $\chi^2(1) = 27.71, p < .001$. In MtF applicants, age of admission was significantly correlated with sexual orientation; younger MtFs were more likely to report androphilic orientation ($r = .32, df = 365, p < .001$) whereas this was not found in the FtM group (point biserial correlations; $r = -.01, df = 271$).

**Procedure**

Data collection was part of the European Network for the Investigation of Gender Incongruence (ENIGI) between January 2007 and October 2012. Individuals 17 years of age and older applying for sex reassigning interventions in Amsterdam (the Netherlands), Ghent (Belgium), Hamburg (Germany), and Oslo (Norway) were asked to participate. All data were collected during the diagnostic procedure before receiving any clinical gender-confirming medical interventions. For information on the ENIGI protocol, see Kreukels et al. (2012).

**Measures**

Demographic data, information on social transitioning, previous hormone treatment, and sexual orientation were taken from a background interview (Kreukels et al., 2012).

The criteria of the formal GID diagnosis were scored on a self-constructed form, based on the DSM-IV-TR criteria (American Psychiatric Association, 2000). Based on a similar sheet, while using childhood diagnostic criteria, onset age was assessed. These forms were completed by the clinician at the end of the diagnostic phase. If both DSM-IV-TR core criteria of GID in childhood were fulfilled, individuals were categorized as EO (pre-pubertal “strong cross-gender identification” and “persistent discomfort about one’s assigned sex”). In case of (post-) pubertal onset of the GID (neither “strong cross-gender identification” nor “persistent discomfort about one’s assigned sex” before puberty were reported), individuals were classified as LO (Nieder et al., 2011). Individuals who fulfilled only one of the criteria in childhood were categorized in the residual group.

Sexual orientation was measured by one item from a semi-structured Background Interview (Kreukels et al., 2012) and classified according to the person’s experienced sexual attraction to others. Rating based on clinician-reported sexual orientation was strongly

| Table 1 | Sample characteristics (applicants with formal GID diagnosis) |
|---------|---------------------------------------------------------------|
|         | MtF | FtM |
|         | $n = 374$ | $n = 286$ |
| Mean age (in years; SD)$^a$ | 34.1 (12.6) | 27.0 (9.6) |
| Education | | |
| Low (%) | 79 (21.5) | 66 (23.5) |
| Intermediate (%) | 199 (54.1) | 177 (63.0) |
| High (%) | 90 (24.5) | 38 (13.5) |
| Social role at admission (private) | | |
| Experienced gender (%) | 191 (52.6) | 199 (72.6) |
| Variable (%) | 125 (34.4) | 54 (19.7) |
| Natal gender (%) | 47 (12.9) | 21 (7.7) |
| Social role at admission (work) | | |
| Experienced gender (%) | 126 (38.1) | 134 (52.8) |
| Variable (%) | 30 (9.1) | 42 (16.5) |
| Natal gender (%) | 175 (52.9) | 78 (30.8) |
| Hormone use at admission (%) | 81 (22.0) | 16 (7.3) |

| Inclusions per center | $N$ | % | MtF:FtM ratio |
|-----------------------|-----|---|---------------|
| Amsterdam             | 339 | 51.4 | 1.63:1 |
| Ghent                 | 146 | 22.1 | 2.24:1 |
| Hamburg               | 117 | 17.7 | 1:1.34 |
| Oslo                  | 58  | 8.8  | 1:3.46 |

Due to missing data, variable sums may not add up to the described number of participants

$^a n(658) = 7.97, p < .001$
correlated to the self-reported measure (phi correlation; $\phi = .73$, $df = 616, p < .001$). Results were scored on a Kinsey scale ranging from being exclusively attracted to one’s natal sex to being exclusively attracted to the other sex. Response categories for being attracted to transgenders or being asexual were added. Androphilia in MtFs and gynephilia in FtMs was defined as being attracted completely or primarily to one’s natal sex. Non-androphilic MtFs and non-gynephilic FtMs included all other options (having a bisexual attraction, an exclusive attraction to the other natal sex, an attraction to transgenders and asexuality).

Body image was measured by the Body Image Scale (BIS). It consists of 30 items to determine satisfaction with various body parts, rated on a 5-point scale of satisfaction ranging from very satisfied (1) to very dissatisfied (5) (Lindgren & Pauly, 1975). There are two versions of the scale: one for natal males and one for natal females. The BIS includes primary sex characteristics, secondary sex characteristics, and neutral (non sex-related) body parts. The BIS contains equivalent sex-specific genital body parts to enable MtF–FtM comparisons. Higher scores represent higher degrees of body dissatisfaction.

Lindgren and Pauly (1975) proposed a subscale analysis of the BIS, using the subscales primary sex characteristics, secondary sex characteristics, and neutral characteristics. However, these subscales do not allow for comparisons per body area. Therefore, an alternative clustering based on body areas within the BIS (see Table 2) was used. Cronbach’s alphas on the subscales for the sample are shown in Table 2.

To measure physical appearance, the Physical Appearance Scale (PhAS) was used. This scale scores the observer’s appraisal of the masculinity/femininity of a person’s physical appearance, rated on a 5-point scale ranging from most congruent with the experienced gender (1) to most incongruent with the experienced gender (5) (Smith et al., 2005b). The scale contains 14 items, and scoring differs per natal sex. Higher scores represent a physical appearance that is less congruent with the experienced gender.

Statistical Analysis

The degree of masculinity/femininity of the PhAS items was recoded, based on the person’s natal sex. Sexual orientation and onset age subgroups were compared with regard to overall scores, subscale scores, and scores on individual items of BIS and PhAS by means of one-way ANOVAs. These tests were carried out for the total group as well as for MtFs and FtMs separately. Within the natal sex groups, BIS scores were compared with regard to transition status, using independent $t$-tests. Bonferroni corrections were used to control for multiple comparisons. Bonferroni corrected $p$ values were $.0017 (.05/30)$ for BIS comparisons and $.0036 (.05/14)$ for PhAS comparisons. Multiple stepwise linear regression analyses of sexual orientation and onset age predicting PhAS and BIS scores were performed. The correlation between sexual orientation and onset age was calculated using phi correlations. BIS subscale reliabilities were calculated by means of Cronbach’s alphas.

All analyses were repeated after excluding participants who were on hormonal therapy prior to admission, as hormones induce physical changes, and consequently may influence both femininity/masculinity of body parts and satisfaction with one’s physique.

Results

Distribution of Sexual Orientation and Onset Age Among Natal Males and Females

Within the MtF subgroup, the androphilic ($n = 126$)-non-androphilic ($n = 241$) ratio was 1:1.91 and the early ($n = 190$)-late onset ($n = 177$) ratio was 1.07:1. In the FtM group, the gynephilic ($n = 219$)-non-gynephilic ($n = 54$) ratio was 4.05:1 and the early ($n = 230$)-late onset ($n = 43$) ratio was 5.34:1 (Table 3). Sexual orientation and age of onset correlations were $\phi = .26$ (MtFs; $df = 365, p < .001$), and $\phi = .21$ (FtMs; $df = 271, p < .001$). This indicates a higher likelihood of androphilic sexual orientation in early onset MtFs and of gynephilic sexual orientation in early onset FtMs.

Differences in Body Image and Physical Appearance Between the Natal Sexes

MtFs scored significantly higher than FtMs on the overall scores of both the BIS (ANOVAs; $M = 101.27, SD = 15.66$ vs. $M = 96.27, SD = 14.93; p = .001$) and the PhAS (ANOVAs; $M = 42.28, SD = 9.55$ vs. $M = 39.18, SD = 7.00; p < .001$) scales, indicating lower body satisfaction and a less congruent physical appearance with their experienced gender.

On the BIS items, MtFs reported highest dissatisfaction scores on the socially related body parts (such as voice), but also on their hair, their face and neck, and posture. FtMs, on the other hand, reported the highest discomfort with their breasts. Other reported areas of discomfort were the hip region and chest size. Dissatisfaction with the genitals was high in both groups, although MtFs tended to score higher on equivalent body parts (e.g., penis versus clitoris although not significant on all items). After Bonferroni correction for multiple comparisons, differences between MtFs and FtMs remained significant for most BIS items in ANOVA testing (Table 4).

Clinicians assessed FtMs’ appearance as more congruent with the experienced gender than MtFs’ appearance. MtFs’ appearance was less congruent with the experienced gender regarding motor movement, speech and voice, hair, facial features, and masculinity. All significant differences between MtFs and FtMs in PhAS items, except for Adam’s apple, feet/hands and figure, remained significant after Bonferroni correction.
When comparing the outcomes of the BIS and PhAS (sub-)scores, clinicians and applicants reports generally showed similar patterns. This implies that the physical characteristics related to higher dissatisfaction were mostly the ones also considered less congruent by clinicians. The only item in which self-report conflicted with clinician report was the figure (clinicians reported FtMs more congruent although they reported to be more dissatisfied with their figure).

No major differences in the overall and subscale scores were observed after excluding participants on prior hormonal treatment \((n=97)\). Only the BIS Adam’s apple item was no longer significantly different between the MtF and FtM subgroups (ANOVA; \(p = .002\) after Bonferroni correction). When comparing participants with and without prior hormone use, overall physical congruence with the experienced gender was significantly lower in people who did not receive hormonal treatment (MtF: \(M = 41.27\), FtM: \(M = 39.77\), \(p = .006\)). No significant difference between overall BIS scores was found (all ANOVAs).

### Differences in Body Image and Physical Appearance Between Sexual Orientation and Onset Age Subgroups Among MtFs and FtMs

With regard to overall body satisfaction (i.e., BIS scores), no significant differences between sexual orientation and onset age subgroups were found in both natal sexes. The only trend was the relatively highly reported body dissatisfaction of LO MtFs (approaching MtF levels) compared to their EO counterparts (MtF: \(p = .095\); see Fig. 1). Excluding participants who used hormonal therapy prior to admission did not change these findings.

Concerning the overall congruence of physical appearance (i.e., PhAS scores), non-androphilic MtFs were considered significantly less feminine than androphilic MtFs (\(p < .001\)). Similarly, LO MtFs scored significantly less feminine than EO MtFs (\(p < .001\)) in ANOVA testing. In FtMs, no statistically significant subgroup differences were found. Nevertheless, gynephilic and EO applicants tended to score somewhat

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**Table 2** Body Image Scale subscales (Lindgren & Pauly, 1975)

| Subscale                           | Items                                                                 | Construct analysis |
|-----------------------------------|-----------------------------------------------------------------------|--------------------|
| Lindgren and Pauly (1975)         |                                                                        |                    |
| Primary sex characteristics       | Body hair, breasts, facial hair, penis/clitoris, scrotum/vagina, and  | \(z = 0.65\)       |
|                                   | testicles/uterus                                                      | 6 items            |
| Secondary sex characteristics     | Appearance, arms, body movement, bottom, chest size, figure, hair,    | \(z = 0.84\)       |
|                                   | hips, muscles, thighs, upper arm muscles, voice, waist, and weight    | 14 items           |
| Neutral characteristics           | Adam’s apple, chin, eye brows, face, feet, hands, height, legs, nose, | \(z = 0.81\)       |
|                                   | and shoulders                                                         | 10 items           |
| Body area subscales               |                                                                        |                    |
| Social and hair items             | Appearance, body hair, body movement, facial hair, hair, and voice    | \(z = 0.72\)       |
|                                   | 6 items                                                               |                    |
| Head and neck region              | Adam’s apple, chin, eye brows, face, and nose                         | \(z = 0.74\)       |
|                                   | 5 items                                                               |                    |
| Muscularity and posture           | Arms, feet, hands, height, legs, muscles, shoulders, upper arm muscles | \(z = 0.79\)       |
|                                   | and weight                                                            | 9 items            |
| Hip region                        | Bottom, figure, hips, thighs, and waist                               | \(z = 0.82\)       |
|                                   | 5 items                                                               |                    |
| Chest region                      | Breasts and chest size                                                | NA                 |
| Genitals                          | Penis/clitoris, scrotum/vagina, and testicles/uterus, and ovaries     | \(z = 0.85\)       |
|                                   | 3 items                                                               |                    |

**Table 3** Distribution of sexual orientation and onset age subgroups

| MtF   | FTM  |
|-------|------|
|       |      |
| Androphilic | Non-androphilic | Gynephilic | Non-gynephilic |
| Early onset | 88 (24.0%) | 102 (27.8%) | 193 (70.7%) | 37 (13.6%) |
| Late onset | 38 (10.4%) | 139 (37.9%) | 26 (9.5%) | 17 (6.2%) |

MtF: \(\chi^2(1) = 25.09, p < .001\); FtM: \(\chi^2(1) = 12.55, p < .001\)
Table 4  Body image and physical appearance scores in male-to-females versus female-to-males

| Social and hair items | Self-reported (BIS) | Clinician-reported (PhAS) | Test characteristics |
|-----------------------|---------------------|---------------------------|---------------------|
|                       | MtF M (SD)          | FtM M (SD)                | BISb F (df)         | PhASb F (df)         |
| Appearance            | 3.37 (1.13)         | 3.22 (1.07)               | NA                  | NA                  |
| Body hair             | 4.33 (0.96)         | 3.37 (1.05)               | NA                  | NA                  |
| Body movement         | 2.99 (1.11)         | 2.58 (0.87)               | 2.44 (1.00)         | 2.01 (0.68)         |
| Facial hair           | 4.66 (0.77)         | 3.67 (1.17)               | 3.10 (1.05)         | 3.20 (0.82)         |
| Hair                  | 3.14 (1.37)         | 1.99 (0.77)               | 2.46 (1.24)         | 2.11 (0.85)         |
| Speech                | NA                  | NA                        | 2.59 (1.04)         | 2.28 (0.82)         |
| Voice                 | 3.99 (1.09)         | 3.86 (1.12)               | 3.22 (1.10)         | 2.92 (0.98)         |
| Head and neck region  |                     |                           |                     |                     |
| Adam’s apple          | 3.62 (3.62)         | 3.25 (1.04)               | 3.40 (0.84)         | 3.24 (0.71)         |
| Chin                  | 2.98 (1.04)         | 2.25 (0.90)               | 3.16 (0.81)         | 2.88 (0.72)         |
| Eye brows             | 2.86 (1.11)         | 2.18 (0.81)               | NA                  | NA                  |
| Face                  | 3.27 (1.08)         | 2.68 (0.99)               | NA                  | NA                  |
| Jaw                   | NA                  | NA                        | 3.21 (0.82)         | 2.89 (0.71)         |
| Nose                  | 3.03 (1.21)         | 2.02 (0.78)               | 3.24 (0.85)         | 2.85 (0.68)         |
| Skin                  | NA                  | NA                        | 2.98 (0.89)         | 3.06 (0.73)         |
| Muscularity and posture |                 |                           |                     |                     |
| Arms                  | 2.64 (0.90)         | 2.58 (0.98)               | NA                  | NA                  |
| Feeta                 | 3.14 (1.13)         | 2.52 (0.90)               | 3.27 (0.95)         | 3.07 (0.78)         |
| Handsa                | 2.93 (1.11)         | 2.43 (1.00)               | 3.27 (0.95)         | 3.07 (0.78)         |
| Height                | 2.62 (1.14)         | 3.02 (1.13)               | 3.16 (1.03)         | 3.25 (0.92)         |
| Legs/calves           | 2.54 (0.97)         | 2.35 (0.96)               | NA                  | NA                  |
| Muscles               | 3.01 (0.98)         | 3.12 (1.14)               | 3.06 (0.80)         | 2.81 (0.77)         |
| Shoulders             | 2.92 (1.04)         | 2.35 (1.05)               | NA                  | NA                  |
| Upper arm muscles     | 3.20 (1.02)         | 3.20 (1.14)               | NA                  | NA                  |
| Weight                | 2.88 (1.18)         | 3.03 (1.14)               | NA                  | NA                  |
| Hip region            |                     |                           |                     |                     |
| Bottom                | 2.89 (1.08)         | 3.32 (1.06)               | NA                  | NA                  |
| Figure                | 3.13 (1.14)         | 3.56 (1.06)               | 3.00 (1.06)         | 2.76 (0.96)         |
| Hips                  | 3.25 (1.11)         | 3.62 (1.14)               | NA                  | NA                  |
| Thighs                | 2.75 (1.03)         | 3.33 (1.10)               | NA                  | NA                  |
| Waist                 | 3.09 (1.12)         | 3.63 (1.03)               | NA                  | NA                  |
| Chest region          |                     |                           |                     |                     |
| Breasts               | 4.20 (1.05)         | 4.81 (0.60)               | NA                  | NA                  |
| Chest size            | 3.54 (1.10)         | 4.02 (1.13)               | NA                  | NA                  |
| Genitals              |                     |                           |                     |                     |
| Penis/clitoris        | 4.55 (0.82)         | 4.28 (1.02)               | NA                  | NA                  |
| Scrotum/vagina        | 4.62 (0.68)         | 4.54 (0.81)               | NA                  | NA                  |
| Testicles/ovary       | 4.64 (0.68)         | 4.61 (0.77)               | NA                  | NA                  |
| Overall               | 101.27 (15.66)      | 96.27 (14.93)             | 42.28 (9.55)        | 39.18 (7.00)        |

One-way ANOVA; Bonferroni corrected: PhAS .05/14 = .0036; BIS .05/30 = .0017; NA the item is not applicable to this scale

a Combined item in PhAS

b * p < .05, ** p < .01, *** p < .001
more congruent with the experienced gender (see Fig. 2). Repeating the analyses while excluding participants who used hormonal therapy prior to admission resulted in similar findings.

Regression analysis showed that, in the MtF subgroup, satisfaction with body parts of social relevance and hair was predicted by sexual orientation (see Table 5). Furthermore, overall reported physical congruence was predicted by both sexual orientation and onset age. In the sample as a whole, sexual orientation and onset age were both weak predictors of body image and physical appearance, although sexual orientation was a somewhat stronger predictor than onset age. This suggests that MtFs with early onset gender dysphoria and androphilic sexual orientation more often have a more satisfactory body image and physical appearance congruent with their gender identity. No significant predictors for body image and physical appearance scores were found in the FtM applicants.

**Social Transition and Body Image**

In MtFs, social transition in private life at clinical admission corresponded with lower BIS scores \( M = 107.97, SD = 13.84 \) vs. \( M = 96.39, SD = 16.07 \) for socially transitioned; \( p < .001 \), indicating lower body dissatisfaction in this group. The same was found for social transition at work \( M = 106.02, SD = 13.53 \) vs. \( M = 94.50, SD = 15.27 \) for socially transitioned; \( p < .001 \). In the FtM group, no such differences were found when performing ANOVAs.

**Discussion**

The objective of this study was to assess self-reported body (dis)satisfaction and physical appearance as evaluated by clinicians in relation to various subgroups of individuals with GD before the start of medical treatment.

As expected, individuals reported the highest degree of dissatisfaction with their primary and secondary sex characteristics, but body dissatisfaction in GD appeared to go beyond this kind of sex-anatomically related dysphoria. The findings on primary and secondary sex characteristics were generally in line with earlier research (Ålghars et al., 2010; Bandini et al., 2013; Bodlund & Armelius, 1994; Fleming et al., 1982; Kraemer et al., 2007; Vocks et al., 2009; Wolfhardt & Neumann, 2001). Our data showed higher overall scores on both the BIS and the PhAS in MtFs, compared to FtMs, indicating less body satisfaction and a physical appearance that was less congruent with the experienced gender. As described earlier, body image is often conceptualized as one’s self-concept of physique in relation to the social context (Cash & Pruzinsky, 2002). The source of the observed differences in body satisfaction between the groups, therefore, may be found in both physical characteristics and psychosocial characteristics.

Significantly more FtMs lived (partially) in their experienced gender role, compared to MtFs. Transition in both private and work life before they entered the clinic corresponded with significantly lower reported body dissatisfaction. Therefore, the difference between the sexes in body (dis)satisfaction may be related to the difference in social transitioning between the groups: FtMs are more satisfied with their body and this may be due to more frequent social transition. In society, the masculine role of FtMs is generally more accepted than the female role of MtFs, making social transition for the first group easier. Living in the social role of the experienced gender may contribute to a more positive attitude toward one’s body. On the other hand, the ones who already have a more positive body image may also be the ones that transitioned earlier.

Other factors that differ between the sexes and that may explain differences in body (dis)satisfaction between these groups are prior hormone use and age. We could, however, not confirm a relation between prior hormone use or age and the degree of body (dis)satisfaction. Although (self-)administration of hormones is expected to influence the congruence of physical characteristics with the experienced gender, the results may have been
unsatisfactory, because these individuals applied to a clinic to receive further gender-confirming treatment. In addition, hormones may not have been used long enough or in suboptimal doses to induce the desired physical changes.

Clinicians judged FtMs as more physically congruent with the experienced gender than MtFs on all listed body items. As MtF applicants were older than FtMs, and age was significantly correlated with higher physical incongruence scores, this may explain some of the difference between the natal sexes. In addition, social transition may not only favor body satisfaction directly, but also influence the social evaluation of a person’s physical characteristics, and significantly more FtMs lived (partially) in their experienced gender role, compared to MtFs. Finally, sex differences in physical appearance and body satisfaction may be explained by the construction of gender as described by Kessler and McKenna (1978). The attribution of gender primarily depends on the existence or absence of male traits (e.g., physical masculinization). Masculine body characteristics (e.g., hair growth, facial characteristics) are often more difficult to mask and, therefore, it may be more difficult for MtFs to

Table 5  Results of regression analyses for physical appearance and body image with sexual orientation and onset age as predictors

| Predictors^c  | BIS sum | Sexual orientation | .10* |
|---------------|---------|--------------------|------|
| BIS social and hair items | Sexual orientation | .28*** |
| BIS chest region | Sexual orientation | -.11** |
| PhAS sum | Sexual orientation | .26*** |
| MtFs | Sexual orientation | .16*** |
| BIS social and hair items | Onset age | -.13* |
| BIS genitals | Onset age | -1.3 |
| PhAS sum | Sexual orientation | .27*** |
| Onset age | .20*** |

^ Sexual orientation labels: 1 = androphilic (MtFs) or gynephilic (FtMs), 2 = non-androphilic (MtFs) or non-gynephilic (FtMs); onset age labels: 1 = early onset, 2 = late onset

b Higher PhAS corresponds with less physical congruence with the experienced gender; higher BIS scores represent higher degree of body dissatisfaction

c Phi correlation sexual orientation and onset age; ø = .36, df = 638, p < .001

d  * p < .05, ** p < .01, *** p < .001

BIS Body Image Scale, PhAS Physical Appearance Scale
present themselves in a feminine way than vice versa. A similar 
argument for social transition and body image may be followed 
here for social transition and physical appearance. Social 
transition may be easier for FtMs, because their appearance is 
more easily aligned to their experienced gender. In addition, 
people who have already transitioned might be more easily per-
ceived as their experienced gender than those who have not.

The observation that FtMs were perceived as more congruent 
with their experienced gender, even without (hormonal) treat-
ment, may also be indicative of the social attitudes toward bodily 
masculinity and femininity. For MtFs, pronounced features, such 
as jaw line or facial hair growth, may impede their feminine ap-
pearance. These body attributes, which are most difficult to hide, are 
the ones with the highest dissatisfaction scores, when compared to 
the other sex. The different areas of dissatisfaction for the natal 
sexes could also be the result of a difference of importance which 
is attributed to this item in personal and societal standards (e.g., 
masculine mesomorphic standard), how this body item impacts 
social interaction, and if it can be influenced via modifying tech-
niques (e.g., such as make-up, clothing, surgery, or weight loss). 

With regard to reported total body (dis)satisfaction, no sub-
type differences were found within the MtF and FtM groups.
Clinicians, however, viewed the physical appearance of appli-
cants with a sexual preference for their natal sex (i.e., androphilic 
MtFs and gynephilic FtMs) and with an early onset more con-
gruent with their experienced gender. Their sexual preference 
and relational experiences may have steered androphilic MtFs 
and gynephilic FtMs toward presenting their appearance in a 
more congruent way. In contrast, non-androphilic MtFs and 
non-gynephilic FtMs may have had “heterosexual” relation-
ships prior to admission, in which they may have been more 
likely to present their physique in a way that corresponded with 
social norms of the natal sex, rather than of the experienced 
gender (Cerwenka et al., 2014). In case of LO gender dysphoric 
people, this may be related to the fact that cross-gender identi-
ﬁcation and presentation became more present at a later age. 
Findings on physical differences between sexual orientation sub-
types (Blanchard et al., 1987), such as lower body weight of 
androphilic MtFs, have not been replicated (Smith et al., 2005b).
Moreover, sexual orientation is described to be fluid over time 
(Cohen-Kettenis & Pfäfflin, 2010). Therefore, an explanation for 
the perceived subtype differences in physical congruence may be 
more likely found in differences in relational role and the use of 
body part modifying techniques between the sexual orientation 
subgroups. Individuals who are enabled to live in the social role 
of their experienced gender within their relationships may feel 
more empowered to express this role socially through clothing, 
hairstyle, make-up, and physical behavior.

An explanation for the more congruent physical appear-
ance of the EO versus the LO applicants may be found in their 
younger age. As mentioned before, younger age was found to 
be associated with a more congruent physical appearance 
with the experienced gender. In addition, it may be easier to 
physically “pass” as the experienced gender when transi-
tioning earlier in life, resulting in higher chance of finding a 
partner from the preferred gender role and developing a more 
satisfactory self-image.

In relation to physical appearance, one’s sexual orientation may 
also be informative on possible membership of a certain subcul-
ture. The male homosexual subculture is known to have high stan-
dards on physical appearance whereas the lesbian subculture is 
more tolerant toward diversity in appearance (Ålgars et al., 2010; 
Morrison, Morrison, & Sager, 2004; Vocks et al., 2009). Applying 
high bodily standards to oneself may increase the likelihood of 
body dissatisfaction. Sexual orientation and relational functioning 
may also influence one’s treatment preferences (Cerwenka et al., 
2014); sexuality could be a decisive factor in choosing for a phal-
lloplasty or characteristics of the neovagina (such as depth). 

The relationship between sexual orientation and onset age 
remains a topic of debate (Lawrence, 2010). Recently, the sub 
workgroup on the DSM-5 classification concluded that clinical 
decisions are currently no longer based on the sexual orientation 
classification (Zucker et al., 2013). Onset age and sexual orienta-
tion correlate as low as $\rho = .26$ (MtFs) and $.21$ (FtMs), a find-
ing in line with earlier research (Lawrence, 2010). Therefore, 
one cannot be substituted for the other. Although both variables 
appeared to be weak predictors of body (dis)satisfaction and of 
clinician-viewed physical congruence, sexual orientation appeared 
to be a stronger predictor of physical appearance, and (aspects of) 
body image than onset age. Therefore, information on sexual ori-
entation, acknowledging the shortcomings of this concept, may 
contribute to a more focused counseling in some individuals when 
it comes to body changing interventions. Gender role in previous 
relationships and the assumed impact of medical interventions 
should be subject of counseling. Also, sexual behavior should be 
considered when choosing gender affirming interventions (e.g., 
possibility of vaginal penetration).

**Limitations**

The current study was limited by the self-report character of 
sexual orientation, onset age, and BIS. As data were collected 
during the diagnostic phase, individuals might have respond-
ed in a socially desirable way to receive a diagnosis and, 
therefore, treatment. Furthermore, the assessment of physical 
appearance was done by only one clinician. However, earlier 
data published on this scale found inter-observer correlation 
coefficients ranging from .68 to .79 for the individual items 
(Smith et al., 2005a).

Data on the BIS and PhAS scales were collected at different 
moments of the diagnostic phase; data on body image were col-
lected at the beginning of the diagnostic procedure, whereas data 
on physical appearance were collected later on in the diagnostic 
process. Finally, as mentioned earlier, the concept of sexual ori-
entation has its limitations. In the GD population, sexual orien-
tation may be subject to change over the course of transition,
perhaps even more than in non-GD populations (Cohen-Kettenis & Pfäfflin, 2010). Therefore, the conclusions of this study regarding this concept merely apply to the phase before clinical interventions and the diagnostic considerations made at that point. Also, in this study sexual orientation was coded as a dichotomous measure whereas actual sexual orientation may be viewed on a continuum. The classification based on the onset of gender dysphoria is limited by the fact that some people could not be categorized as early or late onset (i.e., the residual group).

Conclusion

Body image problems in GD go beyond sex characteristics and congruence of physical appearance only. As body dissatisfaction may be indicative of one’s ability to adapt to one’s body and of (hidden) clinical expectations, it seems a valuable target of counseling at admission. Particularly, individuals with low body satisfaction extending beyond sex characteristics only should receive special attention. Information on sexual orientation may be informative as it may have an impact on preferences for body-related interventions. Ultimately, more effective counseling should make individuals more resilient during transition and medical interventions. As slightly different patterns of clinician-reported PhAS and self-reported BIS scores were observed, one should be aware of the potential bias between external and internal interpretation of physique. A congruent appearance does not necessarily imply a positive body image. Therefore, clinicians should remain sensitive to potential body image issues in all applicants, not specifically in the group who they expect it to have.

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Compliance with Ethical Standards

Conflict of interest None.

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