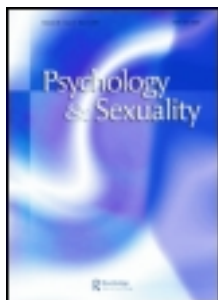


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Queering gender: studying gender identity in ‘normative’ individuals

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In contemporary psychology, normal development is contingent on the establishment of a coherent, universal, stable and unitary ‘core gender identity’. The present study assessed the perception of gender identity in ‘normative’ individuals in Israel using the newly constructed Multi-Gender Identity Questionnaire (Multi-GIQ). The Multi-GIQ includes 32 items assessing gender identity (Feeling like a woman, Feeling like a man, Feeling like both a man and a woman, Feeling like neither), gender dysphoria (Contentment with affirmed gender and the wish to be the ‘other’ gender, Contentment with one’s sexed body) and gender performance (Compliance with gender norms in clothing and language). Of the Men ($n = 570$) and Women ($n = 1585$) that participated in the study, over 35% felt to some extent as the ‘other’ gender, as both men and women and/or as neither. Although such feelings were more prevalent and on average stronger in Queers ($n = 70$), the range of scores for all measures of gender identity was highly similar in Queers and non-Queers. A similar pattern was obtained for measures of gender dysphoria and gender performance. Sexual orientation was not a major contributor to the perception of gender identity in both Men and Women. We discuss our results in view of the current debate around the terminology and diagnostic criteria of gender dysphoria (a substitutive category for Gender Identity Disorder) in DSM-V. We conclude that the current view of gender identity as binary and unitary does not reflect the experience of many individuals, and call for a new conceptualisation of gender, which relates to multiplicity and fluidity in the experience of gender.

Keywords: gender identity; gender dysphoria; performance; queer; sexual orientation

Trans may be uncommon, but gender variance itself is not rare. (Goldner, 2011, p. 163)

Introduction

When asked ‘Are you a man or a woman?’, most people will easily choose one of the two binary options. But what will be the answer if they are asked how much they are a man and how much they are a woman? Answering this question was the aim of the present study.

In psychological and psychiatric discourses, normal development is contingent on the establishment of a coherent, universal, stable, pure and unitary gender identity, as implied by the concept ‘core gender identity’ (Bockting, 2008; Cohen-Kettenis & Pfäfflin, 2010;

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Fast, 1999; Goldner, 1991). This notion leans on a dichotomous perception of gender and on its two mutually exclusive and jointly exhaustive categories, man and woman. Although contemporary psychology and psychiatry accept that one's gender may not match one's sex (American Psychiatric Association, 1980), it still holds as a cultural 'a priori' (De Lauretis, 1990) that regardless of the match between sex and gender, people are either men or women.

Self-reports of trans subjects (genderqueers, transsexuals, cross-dressers, drag queens/kings, bigenders) suggest, however, that people may also experience themselves in ways that transcend the either/or logic of the gender binary system (Bockting, 2008; Bornstein, 1994; Corbett, 2009; Cromwell, 2006; Diamond & Butterworth, 2008; Sanger, 2008). Indeed, several gender and transgender theorists have criticised dichotomous models of gender for failing to represent experiences of trans subjects (Corbett, 2009; Diamond & Butterworth, 2008; Halberstam, 1998; Lev, 2004; Sanger, 2008). However, the complementary assumption, namely, that non-binary gender identification and gender variance are rare phenomena in 'normative' people (Bockting, 2008; Cohen-Kettenis & Pfäfflin, 2010; Diamond & Butterworth, 2008; Sanger, 2008), has never been put to test. The aim of the present study was to study how people perceive their gender identity¹ in a society that views 'being a man' and 'being a woman' as natural experiences within a naturalised dichotomous and binary gender system. Restricting ourselves to a questionnaire that relies on an either/or binary gender logic, we were seeking to find the extent to which women and men may deviate from the binary and unitary gender categories: man and woman.

To date, most of the studies on gender identity have focused on clinical populations and assessed gender dysphoria rather than gender identity (e.g. Cohen-Kettenis et al., 2006; Coolidge, Thede, & Young, 2002; Deogracias et al., 2007; Hines, Brook, & Conway, 2004; Iervolino, Hines, Golombok, Rust, & Plomin, 2005; Strong, Singh, & Randall, 2000). Gender dysphoria is a broad term used to describe phenomena such as unhappiness or unease with one's sex (Parkes, Hall, & Wilson, 2009; Zucker, 2007), distress caused by the social roles associated with one's birth sex (de Vries, Cohen-kettenis, & Delemarre-van de Waal, 2006) and subjective experience of incongruity between genital anatomy and gender identity (Brown, 1990; Cohen-Kettenis & Gooren, 1999; Wilson, Sharp, & Carr, 1999; Zucker, 2008). Gender dysphoria includes cognitive aspects (e.g. a wish to be of the other sex), affective aspects (e.g. distress with physical sexual characteristics) and behavioural aspects (e.g. cross-dressing) (Lai, Chiu, Gadow, Gau, & Hwu, 2010). Another shortcoming of previous studies of gender identity/dysphoria is that they used separate questionnaires for males and females, thus preventing the assessment of an individual's gender identity as a man and as a woman. Taken together, the assessment of gender dysphoria rather than gender identity, the strong emphasis on clinical populations and the assessment of unitary gender identities only, stress the view that variant, non-binary gender experiences are not expected in 'normative' people.

We have used existing questionnaires for the assessment of gender identity/dysphoria (mainly the Gender Identity/Gender Dysphoria Questionnaire for Adolescents and Adults, GIDYQ-AA, Deogracias et al., 2007) to construct a new questionnaire for the 'normative' population, the Multi-Gender Identity Questionnaire (Multi-GIQ) that assesses gender identity both as a man and as a woman as well as aspects of gender dysphoria. The Multi-GIQ includes items assessing one's sense of self as a woman, as a man, as a combination of both, and as neither man nor woman, as well as items assessing contentment with one's affirmed gender and the wish to be the 'other' gender, gender conformity in terms of clothing and language and satisfaction with one's sexed body (following the terminology of the transgender community and some gender theorists and specialists, we use 'Self-affirmed

gender' to denote the gender an individual asserts oneself to be. We use the term 'other' gender to refer to the commonly perceived 'other' gender, that is, man for women and woman for men).

We have also assessed subjects' sexual orientation, because it is often viewed as an important component of gender identity, and relatedly, because homosexual and bisexual individuals are often perceived to have a weaker gender identity as man or woman compared to heterosexual individuals. There are two separate bodies of thought that lead to the latter view. The first is based primarily on studies that found an association between childhood gender nonconformity and adult sexual orientation (e.g. Bailey & Zucker, 1995; Bailey, Dunne, & Martin, 2000; Green, Roberts, Williams, Goodman, & Mixon, 1987; Zuger, 1988), and studies that found higher gender dysphoria in non-heterosexuals compared to heterosexuals (Bailey et al., 2000; Deogracias et al., 2007). The second line of thought is found in contemporary psychoanalytic and critical theories, in which the prevalent view is that individuals have a binary sense of gender and that the heterosexual-homosexual binary constitutes, stabilises and naturalises the male-female binary (Butler, 1990; Sedgwick, 1990). Thus, Butler (1990) argues that a hegemonic model of gender builds on a stable sex expressed through a stable gender (that is, masculine expresses male and feminine expresses female), and that the latter is hierarchically defined through the practice of heterosexuality. According to this view, we would expect that gender identity and sexual orientation would be mutually constituted, and that homosexual and bisexual men and women's perception of gender would be 'troubled', that is, that they would feel less 'man' and less 'woman', respectively, than heterosexual men and women.

Methods

Participants and procedure

The questionnaire was administered over the Internet. Participants were recruited to fill out the Internet questionnaire using various recruitment methods – invitations were sent through the mailing lists of Social Sciences in Israel, Israel Society of Neuroscience, Gender/Women Studies departments in Israeli Universities, Life Sciences in Tel-Aviv University and School of Psychological Science in Tel-Aviv University. A similar invitation was sent to Israel National LGBT Task Force, to colleagues treating transgender individuals and to activists in the queer community in Israel. Last, the invitation was posted in the Facebook profiles of the authors. The invitation included an explicit request to forward the invitation to as many people as possible. A link in the invitation directed the subject to an Internet page in which s/he was informed about the research's goal (studying how people perceive their gender identity), the anonymity of information collected and ways of contacting the researchers. Pressing 'Continue' started the presentation of the questions composing the multi-GIQ, the sexuality questionnaire and the demographic questionnaire (for the full questionnaires, see Appendix 1; the questionnaires will be sent on request, in the interests of transparency and sharing). The three questionnaires were presented one after the other and the questions were presented one at a time. Subjects could press 'Next' without choosing an option, but could not go back and change their answers to previous questions. The study was approved by the ethics committee of Tel-Aviv University.

Table 1 presents the distribution of subjects according to sex and self-affirmed gender. As can be seen, the number of subjects in each of the 'non-normative' categories (with the 'normative'² categories being Male & Man and Female & Woman) was small. Therefore, unless otherwise specified, we grouped all the subjects in the 'non-normative' categories

Table 1. Distribution of subjects according to sex and self-affirmed gender.

		Gender				Total
		Man	Woman	Transgender	Other	
Sex	Male	570 (96.9%)	6 (1.0%)	7 (1.2%)	5 (0.9%)	588
	Female	4 (0.2%)	1585 (97.8%)	7 (0.4%)	24 (1.5%)	
	Other	1 (5.9%)	5 (29.4%)	4 (23.5%)	7 (41.2%)	
Total		575	1596	18	36	2225

into one category titled Queer, so that the variable gender included three categories, Man ($n = 570$, 25.6%), Woman ($n = 1585$, 71.2%) and Queer ($n = 70$, 3.1%).³ Similarly, because for some of the gender groups, the number of subjects who self-identified as ‘bisexual’ (17 Men, 68 Women, 9 Queers), ‘queer’ (8 Men, 21 Women, 17 Queers) or ‘prefers not to define’ (20 Men, 107 Women, 16 Queers) was small, we (unless otherwise specified) grouped all the subjects in these categories together with the subjects who self-identified as homosexuals ($n = 124$) or lesbians ($n = 151$) into one category titled Homo/Bisexual (29% of Men, 21% of Women, 84% of Queers). Tables 2 and 3 present statistics of the different demographic variables. There were several demographic differences between the three gender groups, and especially between the Queer group and the Man and Woman groups, in religion, ethnicity, marital status, formal education, income, self-esteem and feminist/queer attitudes.

We aimed to recruit gender and sexual minority groups (‘minority’ in terms of the proportion of self-assigned categories such as transgenders and homosexuals, respectively, in

Table 2. Median and interquartile range (IR) for religiosity level, education, parents’ education (mother and father), self-esteem and mean and standard deviation (SD) for age and number of children, in Men, Women and Queers.

	Overall		Men		Women		Queers		<i>p</i> value
	Median	IR	Median	IR	Median	IR	Median	IR	
Religiosity level	0	0	0	0	0	0	0	0	$p = 0.113^1$
Education	4	1	4	1	5	1	4	2	$p < 0.0001^1$ Q < M = W
Education of Mother	4	3	4	3	4	3	4	3	$p = 0.574^1$
Education of Father	4	3	4	3	4	3	4	3	$p = 0.888^1$
Self esteem (1-6)	5	2	5	2	5	2	4	3	$P < 0.0001^1$ M > W > Q
Age	Mean	SD	Mean	SD	Mean	SD	Mean	SD	$P = 0.017^2$ Q < M = W
Number of children	0.99	1.33	0.86	1.34	1.04	1.32	0.65	1.54	$P < 0.005^2$ W > M = Q

Notes: ¹Kruskal–Wallis followed by Mann–Whitney tests with Bonferroni correction.

²One-way ANOVA followed by Tukey HSD.

Table 3. Income, Parent's income, Marital status, Feminists/queer attitudes, ethnicity and religion in Men, Women and Queers.

	Overall	Men	Women	Queers	<i>p</i> Value*
Income: below Average	47.7%	42.2%	48.9%	68.1%	$p < 0.0001$ Q > W = M
Parents income: below Average	11.2%	10.8%	10.5%	30.4%	$p < 0.0001$ Q > M = W
Marital status: single	37.8%	42.4%	35.3%	57.1%	$p < 0.0001$ Q > M > W
Feminist/queer attitudes: yes	44.4%	31.2%	48.1%	66.7%	$p < 0.0001$ Q > W > M
Childhood residency: urban		80.2%	77.9%	75.5%	$p = 0.429$
Present residency: urban		88.8%	85.0%	91.3%	$p = 0.031$ Q > M > W
Ethnicity: % non-Jewish		1.6%	2.4%	12.9%	$p < 0.0001$ Q > M = W
Religion: % non-Jewish		10.8%	6.1%	32.9%	$p < 0.0001$ Q > M = W

Notes: The table presents for each variable the percent of each category within each Gender group.

**p* values of chi square tests followed by binomial tests with Bonferroni correction.

the population), but no means were taken to guarantee random sampling of the population. In order to assess the 'normativity' of our 'normative' groups (e.g. heterosexual women), we also ran the Multi-GIQ on psychology BA students, as this group is the most studied in psychological research and in this sense (and in this sense only) provides some type of a 'standard' population (Krantz & Dalal, 2000). These subjects were recruited as part of their course requirements in Introduction to Psychology and received credit for filling out the questionnaire.

The multi-gender identity questionnaire

Most of the items of the Multi-GIQ were designed on the basis of the GIDYQ-AA developed by Deogracias et al. (2007) for the assessment of Gender Identity Disorder (GID). The GIDYQ-AA contains 27 items, each rated on a five-point response scale (Always, Often, Sometimes, Rarely, Never) for the previous 12 months. The GIDYQ-AA has two parallel versions, one for males and one for females. In the Multi-GIQ, we used either gender-neutral questions (e.g. '12. In the past 12 months, have you worn the clothes of the other sex?') or presented each question twice, one written as if for males and one as if for females (e.g., '1. In the past 12 months, have you felt satisfied being a woman?'; '2. In the past 12 months, have you felt satisfied being a man?'). For the latter type of questions we added, only where necessary, a sixth response option of 'Not relevant' (for example, the 'Not relevant' option appeared for questions 1 and 2 above, but not for questions like '3. In the past 12 months, have you thought of yourself as a woman?'). The Multi-GIQ is different from the GIDYQ-AA also in that all reference to how a normative individual should feel was omitted. For example, in Item 2 of the GIDYQ-AA version for females ('In the past 12 months, have you felt uncertain about your gender, that is, feeling somewhere in between a woman and a man?'), the underlying assumption is that feeling somewhere in between a woman and a man necessarily entails feeling uncertain about one's gender. In the Multi-GIQ, the corresponding item reads '16. In the past 12 months, have you felt somewhere in between a woman and a man?'. Similarly, we revised Item 4 in the GIDYQ-AA version for females ('In the past 12 months, have you felt, unlike most women, that you have to work at being a woman?'), avoiding the assumption that most women do not have to work at being a woman. In the Multi-GIQ, the corresponding item thus appears as '5. In the past 12 months, have you felt that you have to work at being a woman?'.

The Multi-GIQ includes questions relating to different aspects of gender identity and gender dysphoria. In order to assess these different aspects, we created several variables by calculating the average answer to questions relating to the same aspect.

Feeling like a woman/feeling like a man

For each subject, we assessed how much s/he feels like a woman (Questions 3 [In the past 12 months, have you thought of yourself as a woman?] and 14 [In the past 12 months, have you felt more like a woman than like a man?], Pearson $r = 0.82$), like a man (Questions 4 and 13, Pearson $r = 0.86$), like both a man and a woman (Questions 15 [In the past 12 months, have you felt at times more like a man and at times more like a woman?] and 16 [In the past 12 months, have you felt somewhere in between a woman and a man?], Pearson $r = 0.645$) and like neither (Questions 17 [In the past 12 months, have there been times when you've felt that you are neither a man nor a woman?] and 20 [In the past 12 months, have you felt that you have nothing in common with men and with women?], Pearson $r = 0.364$).

Contentment with affirmed gender and the wish to be the 'other' gender

We assessed the degree to which subjects are content with their affirmed gender and wish to be the 'other' gender, by questions that address subjects' satisfaction with being their affirmed gender, subjects' wish to be the 'other' gender, and subjects' desire, if reborn, to be reborn as a man and as a woman (content/wish to be a man, Questions 2 [In the past 12 months, have you felt satisfied being a man?], 21 [In the past 12 months, have you felt that it is/it would be better for you to live as a man than as a woman?], 23 [In the past 12 months, have you had the wish or desire to be a man?] and 25 [If you could be reborn, would you like to be born as a man?], Cronbach's alpha = 0.86; content/wish to be a woman, Questions 1, 22, 24 and 26, Cronbach's alpha = 0.88).

Gender as performance

Feminist theorists and psychoanalysts, following Judith Butler's theory of performativity (1990), argue that gender is not something people have, like blue eyes, but rather something people do (e.g. Bornstein, 1994; Dimen, 2003; Goldner, 2011; Layton, 1998; Stone, 2004). We assessed this argument directly in Question 5, [In the past 12 months, have you felt that you have to work at being a woman?], and indirectly in Questions 9, [In the past 12 months, have you felt that you were not a "real" woman?], and 7, [In the past 12 months, have you felt pressured by others to be a "proper" woman?]. In answering 'Often', 'Sometimes' or 'Rarely' to these two questions, one reveals that s/he believes that belonging to a specific sex is not enough to be considered a 'real' or a 'proper' member of the traditionally corresponding gender. We therefore created two variables, Woman as performance (Questions 5, 7 and 9, Cronbach's alpha = 0.73) and Man as performance (Questions 6, 8 and 10, Cronbach's alpha = 0.82).

Gender performance

We measured compliance with gender norms in terms of clothing (Questions 11 [In the past 12 months, when you went into a department store to buy yourself clothing, did you shop mostly in a department labelled for your sex?] and 12 [reversed] [In the past 12 months,

have you worn the clothes of the other sex?], Pearson $r = 0.59$) and use of language (Questions 27 and 28 [In the past 12 months, have you been using a masculine/feminine gender when referring to yourself?], Pearson $r = 0.93$; in Hebrew, masculine and feminine language is required also when referring to oneself).

The sexual orientation questionnaire assessed how often in the past 12 months an individual was sexually attracted to men, had sex with men and was involved in romantic relations with men (Cronbach's alpha = 0.98), and how often an individual was sexually attracted to women, had sex with women and was involved in romantic relations with women (Cronbach's alpha = 0.97).

The demographic questionnaire included questions about age, place of origin, residency (urban, rural, etc.) at present and in childhood, ethnicity, religion, education of self and parents, income of self and parents, marital status and number of children, as well as about sex (male, female, other), gender (man, woman, transgender, other) and sexual orientation (heterosexual, homosexual, lesbian, bisexual, queer, prefers not to define). Please note that the last item addresses sexual identity whereas the sexual orientation questionnaire described above addresses sexual practice. There was also a question about feminist/queer attitudes and a question assessing self-esteem.

Statistical analysis

Ordinal variables from the demographic questionnaire were analysed by Kruskal–Wallis or by chi square for variables with three values. Interval variables from the demographic questionnaire as well as the variables created on the basis of subjects' answers to the gender identity and sexuality questionnaires were analysed using ANOVA. It should be noted that although most of these variables do not have a Gaussian distribution (as is clearly seen in the figures), according to the central limit theorem, the sample distributions are expected to be normal due to the inclusion of a large number of subjects in the study. Because of the large number of subjects and the large number of statistical analyses, we used a conservative alpha of 0.01. Significant chi square for independence tests were followed by binomial tests with Bonferroni correction. Significant one-way ANOVAs were followed by Tukey post hoc comparisons, and significant ANCOVAs with Sidak tests.

Because the large number of subjects in this study makes even small differences between groups statistically significant, we also calculated Cohen's d $[(M1-M2)/SD]$ for most of the differences reported here, as an estimate for the size (i.e. practical and theoretical significance) of the difference. As Cohen's d depends on the standard deviation (SD) and not on the standard error, it is not affected by the size of the sample. There is some debate on how the SD should be estimated when the SD of the two groups is different, and particularly relevant for the present study, when the SD of the 'control' group (e.g. heterosexuals) is smaller than the SD of the 'other' group (e.g. queers, homosexuals) (for a short discussion see Zucker, 2005), as found in other publications and in the present study. We used the square root of the weighted average of the variances (as is typically done for estimating Cohen's d when the SD of the two groups are not equal, Hartung, Knapp, & Sinha, 2008), weighting the variances according to the proportion of the different Gender and Sexuality groups reported in large surveys (Chandra, Mosher, Copen, & Sionean, 2011; Sell, Wells, & Wypij, 1995; Smith, Rissel, Richters, Grulich, & de Visser, 2003) and not according to the actual proportion in the present study. When estimating SD for comparing the Men and Women groups, we used 50% for each, and when comparing Men or Women with Queers, we used 90% for Men/Women and 10% for Queers. When estimating SD over Sexuality we used for Men, 93% for Heterosexuals and 7% for

Homo/Bisexuals, and for Women, 97% for Heterosexuals and 3% for Homo/Bisexuals. All Cohen's d are presented in their absolute value. According to Cohen (1992), effect sizes of 0.2, 0.5 and 0.8 are considered small, medium and large, respectively. Yet, it should be noted that the meaning and importance of effect sizes depend on the specific subject matter. The large number of subjects in this study also makes even low correlations statistically significant. We have therefore adapted also here Cohen's (1992) criterion, treating correlations of 0.1, 0.3 and 0.5 as small, medium and large, respectively.

Last, we have performed discriminant analysis to test if the Multi-GIQ can correctly discriminate between subjects who self-identified as transgenders and subjects who self-identified as a man/woman, as has previously been demonstrated for the GIDYQ-AA (Deogracias et al., 2007). Separate discriminant analyses were performed for males and for females using a stepwise method for entering variables. The method of minimising Wilks' lambda was used for inclusion of variables, and the criterion of $p < 0.001$ was set. Because the a-priori proportion of transgenders was extremely low compared to men and women (13 MtF compared to 570 men [2.3%], and 11 FtM compared to 1585 women [0.7%]), and in order to effectively assess the discriminative ability of the Multi-GIQ, we repeated this analysis four times for each sex, using the same transgender subjects but a different randomly selected subgroup of men/women, to keep the proportion of transgenders similar to that in Deogracias et al's study (~25%).

Results

Around 3210 people filled out the questionnaire. Of these, 760 were excluded because they filled out fewer than 20 of the questions in the Multi-GIQ. Additional 35 subjects were excluded after scrutinising the answers, because of impossible responses such as answering 'Always' to both: 'In the past 12 months, have you felt more like a man than like a woman?' and 'In the past 12 months, have you felt more like a woman than like a man?'

Perception of gender identity

Feeling like a woman, like a man, like a woman and a man, like neither

Figure 1 presents a scatter plot with Feeling-as-a-woman on the X axis and Feeling-as-a-man on the Y axis. Women felt more as a woman than Men did (Cohen's $d = 4.7$), and Queers were in between (Woman-Queer, Cohen's $d = 1.38$; Queer-Man, Cohen's $d = 1.74$; $F(2,2408) = 4173.6$ $p < 0.0001$, all pair comparisons were significant, p 's < 0.0001). Men felt more as a man than Women did (Cohen's $d = 4.6$), and Queers were in between (Woman-Queer, Cohen's $d = 1.61$; Queer-Man, Cohen's $d = 1.58$; $F(2,2400) = 4961.8$, $p < 0.0001$, all pair comparisons were significant, p 's < 0.0001). In addition, Feeling-as-a-man and Feeling-as-a-woman were negatively correlated (Men: $r = -0.277$, $n = 619$; Women: $r = -0.449$, $n = 1708$; Queers: $r = -0.563$, $n = 72$).

Figure 1 reveals in addition less trivial observations. The first is that although most Women felt more as a woman than Men did (and vice versa on the Feeling-as-a-man measure), there was some overlap between the distributions of Men and Women, with some Men feeling more as a woman than some of the Women, and similarly, some Women feeling more as a man than some of the Men. Men and Women did not differ in the extent to which they felt as their affirmed gender nor in the extent to which they felt as the 'other' gender (A mixed ANOVA with Gender [Man, Woman] as a main factor and Feeling-as-affirmed/other-gender as a repeated measurement factor yielded a

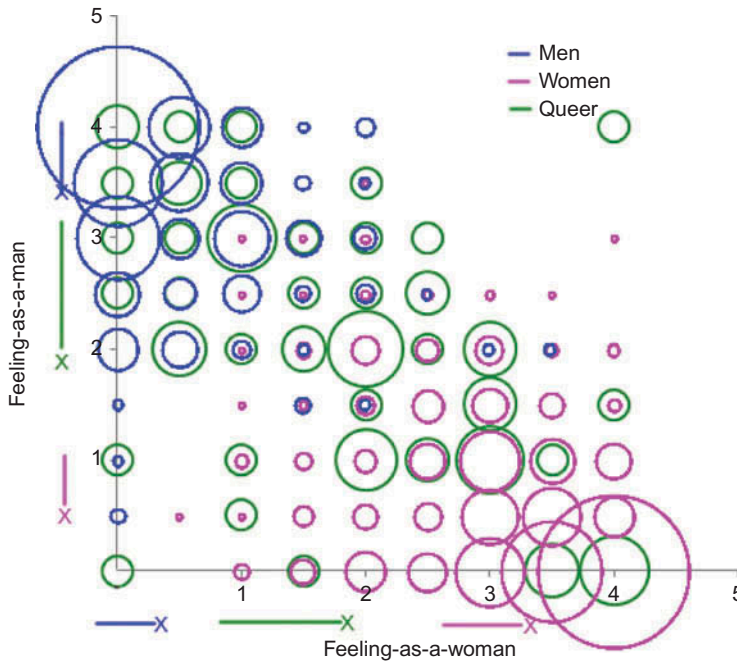


Figure 1. Feeling-as-a-woman and Feeling-as-a-man in Men, Women and Queers. A scatter plot with Feeling-as-a-woman on the X axis and Feeling-as-a-man on the Y axis. Subjects belonging to the Man, Woman and Queer categories are marked in blue, pink and green, respectively. The size of each circle is proportional to the percent of subjects from a given Gender category with an identical score on the two measures. The mean and standard deviation of each Gender category for each measure are marked with an X and an arrow, respectively, near the X and Y axes, using the same colour code.

significant effect of Feeling-as-affirmed/other-gender ($F(1,2325) = 2325.0, p < 0.001$) and a significant Gender \times Feeling-as-affirmed/other-gender interaction ($F(1,2325) = 12.29, p < 0.001$).

A second, related observation is that Queers were not the only ones to feel both as a man and as a woman. About 33% of Men, 38% of Women and 76% of Queers felt both as a man and as a woman. The main difference between Queers and non-Queers was that whereas most Women felt more like a woman than like a man and the reverse was true for Men, many Queers received similar scores on both measures (e.g. feeling both as a man and as a woman, or as neither).

Indeed, assessing the degree to which people perceive themselves as neither men nor women (Figure 2(a)) revealed that on average, Queers felt more as neither men nor women (mean = 1.55 [SD = 1.018]), compared to Men (0.46 [0.683], Cohen's $d = 1.51$) and Women (0.45 [0.690], Cohen's $d = 1.50$), who did not differ, $F(2,2408) = 84.3, p < 0.0001$, only pair comparisons involving Queers were significant, p 's < 0.0001). This is also evident when looking at the percent of people that never in the past 12 months had the feeling that they are neither a man nor a woman, nor did they have the feeling that they have nothing in common with men and with women. While only 18.3% of Queers never had these feelings, 57.3% of Men and 58.9% of Women never had such feelings (chi square test for independence found a significant relationship between Gender and selecting/non-selecting the option never, chi-square(2) = 34.39, $p < 0.0001$. Standardised residuals tests

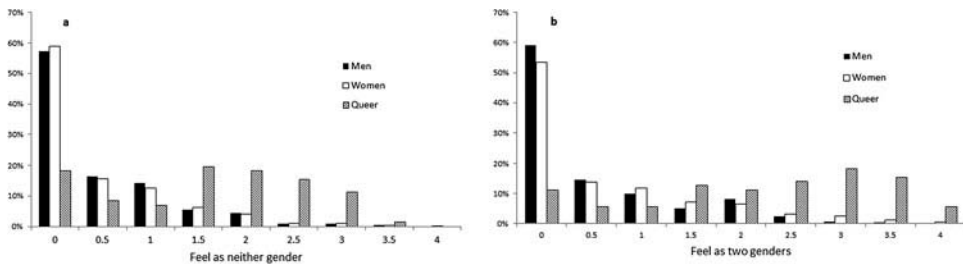


Figure 2. Feeling as neither gender (a) and as two genders (b) in Men, Women and Queers. A histogram presenting the percent of subjects from the Man, Woman and Queer categories (in black, white and grey, respectively) for each score of the (a) Feeling as neither gender and (b) Feeling as two genders variables. (a) A score of 0 means that the subject has never in the past 12 months felt that s/he was neither a man nor a woman, nor that s/he had nothing in common with men and with women. (b) A score of 0 means that the subject has never in the past 12 months felt sometimes more as a man and at other times more as a woman, nor somewhere in between a man and a woman.

for assessing the source of the relationship revealed that Queers selected the option of never having such feelings less than Men and Women ($p < 0.0001$), who did not differ).

Similarly, assessing the degree to which people experience themselves as two genders (Figure 2(b), a score of 0 means that a person never felt sometimes more as a man and at other times more as a woman, nor did s/he feel somewhere in between a man and a woman) revealed that on average, Queers (mean = 2.17, SD = 1.20) felt more as two genders than Men (mean = 0.50, SD = 0.76, Cohen's $d = 2.04$) and Women (mean = 0.64, SD = 0.89, Cohen's $d = 1.65$). There was a small, but significant, difference between Men and Women (Cohen's $d = 0.16$) with Women feeling more as two genders than Men, $F(2,2403) = 116.6$, $p < 0.0001$, all pair comparisons were significant, p 's < 0.004 . Yet, Queers were not the only ones who feel both as a man and as a woman. 88.7% of Queers, 41% of Men and 46.8% of Women experience themselves to some extent as two genders (chi square test for independence found a significant relationship between Gender and feeling as two genders (feeling to some extent/not feeling), Chi-square(2) = 45.94, $p < 0.0001$. Standardised residuals tests affirmed that Queers selected the option of feeling as two genders more than Men and Women ($p < 0.0001$), which did not differ). These figures accord with the percentage of Queers, Men and Women that also feel as the 'other' gender.

Feeling like a woman, like a man, like a woman and a man, like neither and sexual orientation. In order to check whether perception of gender identity is related to sexual orientation, we re-analysed the data of Men and Women on these four variables (Feeling-as-a-woman, Feeling-as-a-man, Feeling-like-two-genders, Feeling-like-neither-gender) adding Sexual orientation (Heterosexual, Homo/Bisexual) as an additional main factor (Queers were not included in this analysis because the number of Queers that identified as Heterosexual was 11, and we believe that we cannot draw any conclusions on the basis of such a small sample). There were no differences between Heterosexual Men and Heterosexual Women in their perception of themselves as their affirmed and as the 'other' gender (Figure 3, note that the data were analysed using a repeated measurements factor of Feeling-as-affirmed/other-gender, but are presented in the graph under Feeling-as-a-woman and Feeling-as-a-man, to avoid the presentation of four almost overlapping lines). Compared to Heterosexuals, Homo/Bisexual Men and Women felt more as the 'other'

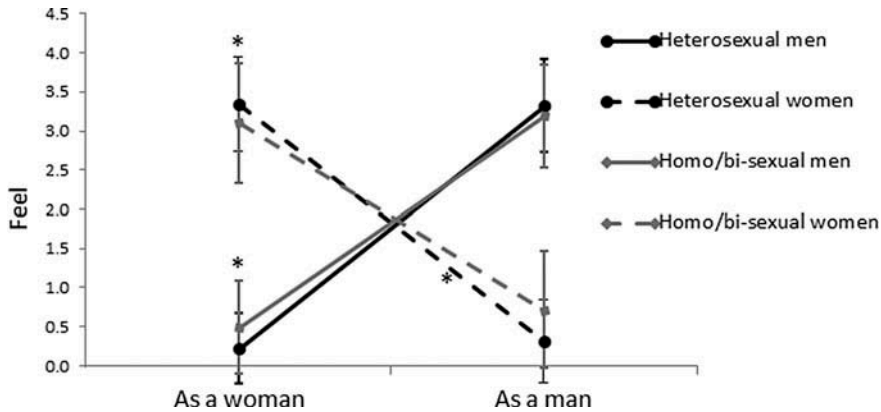


Figure 3. Feeling-as-a-woman and Feeling-as-a-man in Heterosexual and Homo/bisexual Men and Women. The mean and standard deviation of Feeling-as-a-woman and Feeling-as-a-man in Heterosexual (black) and Homo/Bisexual (grey) Men (solid) and Women (dashed). Note: *Denotes a significant difference, $p < 0.0001$.

gender (Cohen's $d = 0.60$ for Men and 0.76 for Women). In addition, Homo/Bisexual Women, but not Homo/Bisexual Men, felt less as their affirmed gender compared to Heterosexual Women (Cohen's $d = 0.29$), ANOVA: Gender: $F(1,2118) = 0.53$, Orientation: $F(1,2118) = 32.32$, $p < 0.0001$, Gender \times Orientation: $F(1,2118) = 0.14$, Feeling-as-affirmed/other-gender, $F(1,2118) = 9741.6$, $p < 0.0001$, Gender \times Feeling-as-affirmed/other-gender, $F(1,2118) = 22.3$, $p < 0.001$, Orientation \times Feeling-as-affirmed/other-gender, $F(1,2118) = 60.0$, $p < 0.0001$, Gender \times Orientation \times Feeling-as-affirmed/other-gender, $F(1,2118) = 6.4$, $p = 0.011$, significant Tukey HSD post hoc comparisons are indicated in the figure. Homo/Bisexual Men and Women felt more as belonging to neither gender compared to Heterosexual Men and Women (Figure 4(a), Cohen's $d = 0.44$ for Men and 0.71 for Women) (ANOVA: Gender: $F(1,2146) = 3.7$, $p = 0.055$, Orientation: $F(1, 2146) = 88.6$, $p < 0.0001$, Gender \times Orientation: $F(1, 2146) = 4.8$, $p = 0.028$). Similarly, Homo/Bisexuals felt more as the two genders compared to Heterosexuals, and this difference was more pronounced for Women (Figure 4(b), Cohen's $d = 0.53$ for Men and 1.00 for Women) (ANOVA: Gender: $F(1,2142) = 37.4$, $p < 0.0001$, Orientation: $F(1, 2142) = 158.1$, $p < 0.0001$, Gender \times Orientation: $F(1, 2142) = 18.4$, $p < 0.0001$, significant Tukey HSD post hoc comparisons are indicated in the figure).

The finding that in Women, the perception of gender identity is more related to sexual orientation than in Men was strengthened by the finding that the correlations of Attraction to men and Attraction to women with the variables that assess gender identity were larger in Women compared to Men (Table 4).

Contentment with one's affirmed gender and the wish to be the 'other' gender

Figure 5 presents a scatter plot with Content/wish-to-be-a-woman on the X axis and Content/wish-to-be-a-man on the Y axis. As can be seen, only very few Men (0.2%) and Women (0.3%) in our sample scored 0 on the Content/wish to be their affirmed gender, and only a minority of Men and Women never wished to be the 'other' gender (29.6% of Men and 38.7% of Women; a chi square for independence revealed a significant relationship

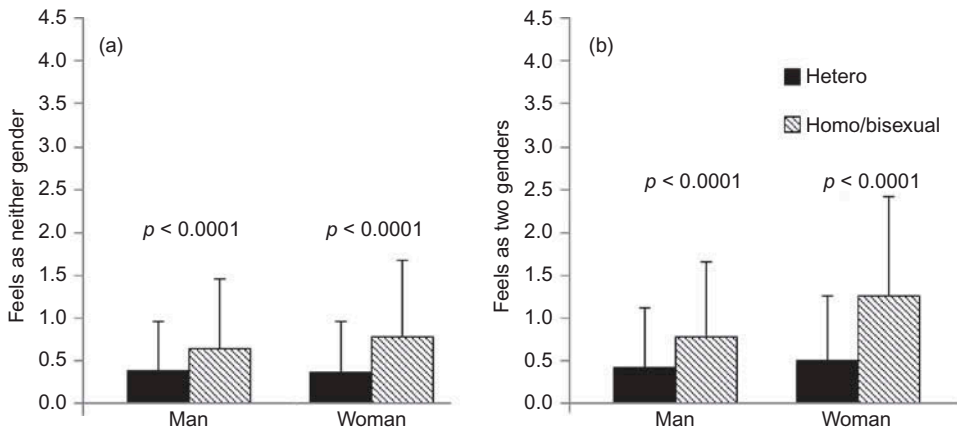


Figure 4. Feeling as neither gender (a) and feeling as two genders (b) in Heterosexual and Homo/bisexual Men and Women. (a) The mean and standard deviation of Feeling as neither gender in Heterosexual (black) and Homo/Bisexual (grey) Men and Women. (b) The mean and standard deviation of Feeling as two genders in Heterosexual (black) and Homo/Bisexual (grey) Men and Women.

Note: Significant differences between Heterosexual and Homo/Bisexual within each Gender are marked in the figures.

Table 4. Correlations between measures of gender identity and sexual orientation.

	Attraction to same gender		p^*	Attraction to 'other' gender		p^*
	Men	Women		Men	Women	
Feel as affirmed gender	0.014	-0.133	.001	0.002	0.141	.001
Feel as 'other' gender	0.179	0.276	.01	-0.171	-0.268	.017
Feel as two genders	0.174	0.327	.0003	-0.154	-0.305	.0004
Feel as neither gender	0.121	0.215	.02	-0.130	-0.230	.016

Note: *The p value of the difference between the correlation in Men and in Women.

between Gender (Men, Women) and the wish to be the 'other' gender (never/some degree), chi square(1) = 18.62, $p < 0.0001$. Standardised residuals revealed that Men 'never wished to be the "other" gender', less than expected ($p < 0.005$). Despite the finding that a lower percent of Men than Women never wished to be the 'other' gender, on average, Men and Women were not significantly different on the degree to which they were content with their affirmed gender (Women, mean = 2.88 [SD = 0.88], Men 2.84 [0.90], $t(2339) = 0.89$, $p = 0.37$), nor on the degree to which they wished to be the 'other' gender (Women, mean = 0.70 [SD = 0.78], Men (0.70 [0.63]). Figure 5 also reveals a negative correlation between Content/wish-to-be-a-woman and Content/wish-to-be-a-man. This correlation was highest in the Woman group ($r = -0.58$, $p < 0.0001$), intermediate in the Queer group ($r = -0.50$, $p < 0.0001$) and lowest in the Man group ($r = -0.43$, $p < 0.0001$) (Men vs. Women, $p < 0.0001$; Men vs. Queers, $p = 0.50$; Women vs. Queers, $p = 0.36$).

Contentment with one's affirmed gender and the wish to be the 'other' gender were related to the different measures of gender identity (Table 5). Thus, regardless of Gender,

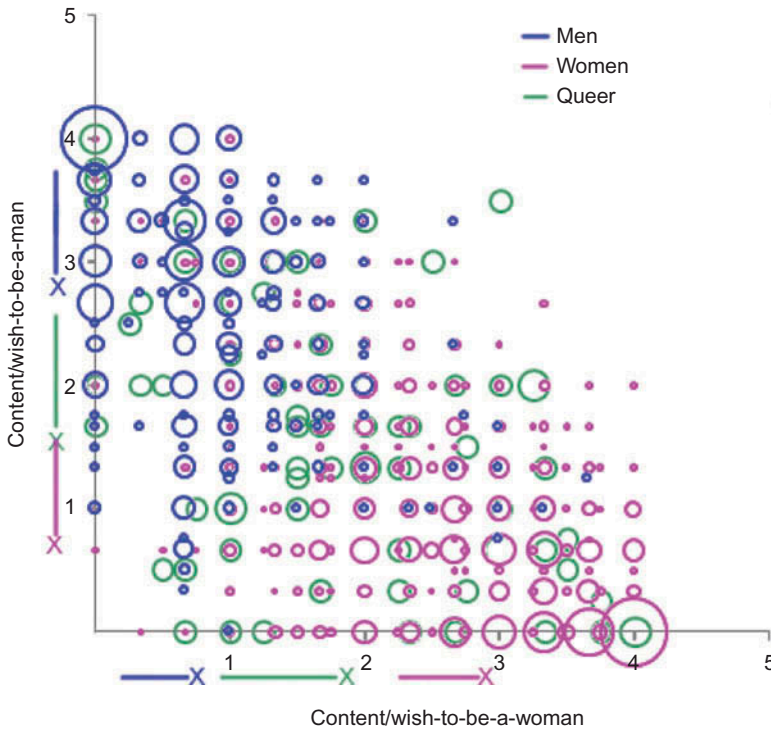


Figure 5. Content/wish-to-be-a-woman and Content/wish-to-be-a-man in Men, Women and Queers. A scatter plot with Content/wish-to-be-a-woman on the X axis and Content/wish-to-be-a-man on the Y axis. Subjects belonging to the Man, Woman and Queer categories are marked in blue, pink and green, respectively. The size of each circle is proportional to the percent of subjects from a given Gender category with an identical score on the two measures. The mean and standard deviation of each Gender category for each measure are marked with an X and an arrow, respectively, near the X and Y axes, using the same colour code.

Table 5. Correlations between the perception of gender identity and contentment with one’s affirmed gender and the wish to be the ‘other’ gender.

	Feel as a Woman			Feel as a Man			Feel as two genders			Feel as neither gender		
	M	W	Q	M	W	Q	M	W	Q	M	W	Q
Content/wish-to-be-a-woman	0.45*	0.39*	0.72*	-0.21*	-0.28*	-0.41*	0.37*	-0.31*	0.17	0.26*	-0.27*	-0.23
Content/wish-to-be-a-man	-0.18*	-0.27*	-0.45*	0.42*	0.41*	0.62*	-0.16*	0.45*	-0.07	-0.15*	0.30*	-0.04

Notes: M, Men; W, Women; Q, Queers.

* $p < 0.0001$.

the more a subject felt as one gender, the more s/he felt content as that gender or wished to be that gender and the less s/he felt content as the ‘other’ gender or wished to be the ‘other’ gender. In addition, in Men and Women, Feeling as two genders and Feeling as no gender were positively correlated with the wish to be the ‘other’ gender, and negatively (and less strongly) correlated with content with one’s affirmed gender (i.e. the more a subject felt as

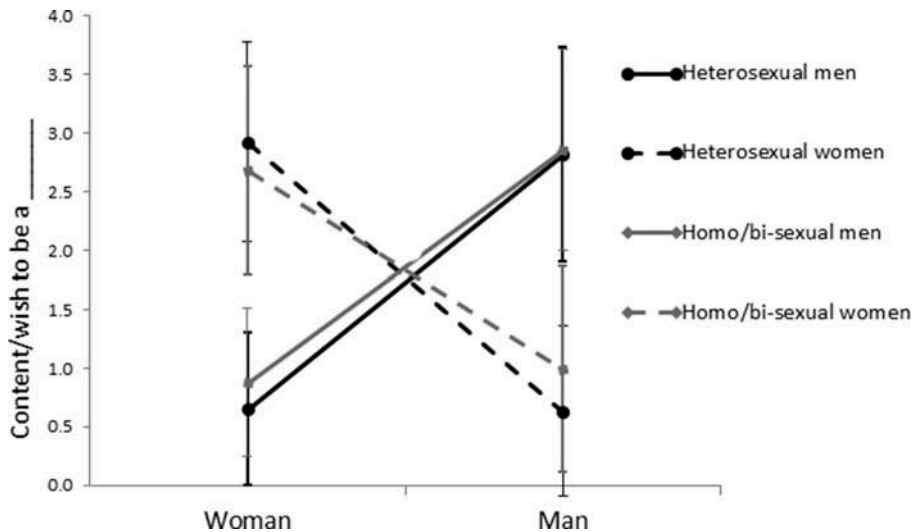


Figure 6. Content/wish-to-be-a-woman and Content/wish-to-be-a-man in Heterosexual and Homo/Bisexual Men and Women. The mean and standard deviation of Content/wish-to-be-a-woman and Content/wish-to-be-a-man in Heterosexual (black) and Homo/Bisexual (grey) Men (solid) and Women (dashed).

Note: *Denotes a significant difference, $p < 0.0001$.

two genders [or as neither] the less s/he was content with her/his affirmed gender). These correlations were lower and not significantly different from 0 in the Queer group, but this could simply be a result of the inclusion of both males and females in this group.

Contentment with one's affirmed gender and the wish to be the 'other' gender and sexual orientation. In order to check whether contentment with one's affirmed gender and the wish to be the 'other' gender are related to sexual orientation, we re-analysed the data adding Sexual orientation (Heterosexual, Homo/Bisexual) as an additional main factor (Figure 6). All groups were more content with their affirmed gender than they wished to be the 'other' gender, and this difference was more pronounced for Heterosexuals (Men and Women). Both Homo/Bisexual Men and Women wished to be the 'other' gender more than Heterosexual Men and Women did (Cohen's $d = 0.40$ and 0.48 for Men and Women, respectively), but only Homo/Bisexual Women were less content with their affirmed gender compared to Heterosexual Women (Cohen's $d = 0.28$ and 0.03 for Women and Men, respectively; ANOVA: Gender: $F(1,2132) < 1$, Orientation: $F(1,2132) = 18.4$, $P < 0.001$, Gender \times Orientation: $F(1,2132) = 2.96$, $p = 0.086$, Content-affirmed/Wish-other, $F(1,2132) = 2751.5$, $p < 0.0001$, Gender \times Content-affirmed/Wish-other, $F(1,2133) < 1$, Orientation \times Content-affirmed/Wish-other, $F(1,2132) = 27.2$, $p < 0.0001$, Gender \times Orientation \times Content-affirmed/Wish-other, $F(1,2132) = 6.1$, $p = 0.013$, significant Tukey HSD post hoc comparisons are indicated in the figure).

Contentment with one's sexed body

We assessed the degree to which subjects disliked their sexed body, analysing separately dislike to one's body because it is female and dislike to one's body because it is male (we

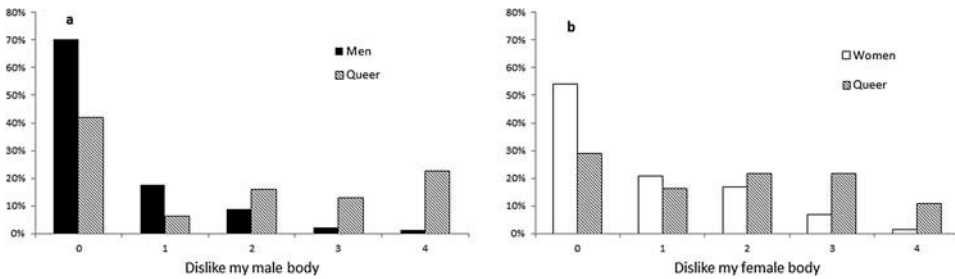


Figure 7. (a) Dislike my female body in Women and Queers, (b) Dislike my male body in Men and Queers. A histogram presenting the percent of subjects from the different Gender categories for each score of the (a) Dislike my female body and (b) Dislike my male body. A score of 0 means that the subject has never in the past 12 months felt dissatisfied with her/his sexed body.

achieved this by including in the analysis of female body only Women and Queers and in the analysis of male body only Men and Queers, and omitting from each analysis subjects who chose 'Not relevant' [the number of subjects thus omitted appears below]. Queers disliked their sexed body more than Women and Men did (Figure 7(a), Dislike my female body: Queers (mean = 1.80 [SD = 1.33], 16 [22.5%] omitted) vs. Women (0.81 [1.04], 22 [1.3%] omitted), $t(1724) = 6.0, p < 0.0001$, Cohen's $d = 0.9$; Figure 7(b), Dislike my male body: Queers (1.50 [1.64], 39 [55.7%] omitted) vs. Men (0.47 [0.84], 27 [4.4%] omitted), $t(604) = 5.6, p < 0.0001$, Cohen's $d = 1.09$), and Women disliked their sexed body more than Men did (Dislike my sexed body: Women vs. Men, $t(2264) = 7.19, p < 0.0001$, Cohen's $d = 0.36$).

Contentment with one's sexed body and sexual orientation. Sexual orientation was not related to contentment with one's sexed body (ANOVA: Sexual orientation, $F(1,2074) = 5.39, p = 0.02$, Sexual orientation \times Gender, $F(1,2074) = 3.18, p = 0.075$).

Perceiving gender as performance

We measured the perception of gender as performance for Men, Women and Queers, omitting subjects who chose 'Not relevant'. Queers perceived gender as performance more than Women and Men did (Woman as performance: Queers (mean = 1.89 [SD = 1.03], range: 0–4) vs. Women (mean = 1.40 [SD = 0.83], range: 0–4), $t(1776) = 4.5, p < 0.0001$, Cohen's $d = 0.58$; Man as performance: Queers (mean = 1.75 [SD = 0.91], range: 0–4) vs. Men (mean = 1.17 [SD = 0.82], range: 0–4), $t(670) = 4.9, p < 0.0001$, Cohen's $d = 0.70$), and Women perceived gender as performance slightly more than Men did (Affirmed gender as performance: Women vs. Men, $t(2336) = 6.0, p < 0.0001$, Cohen's $d = 0.28$).

Perceiving gender as performance and sexual orientation. We also tested whether sexual orientation is related to the perception of gender as performance. This analysis revealed that Homo/bisexuals perceived their affirmed gender as performance slightly more than Heterosexuals did (Cohen's $d = 0.18$, ANOVA: Gender: $F(1,2132) = 17.9, p < 0.0001$, Sexual orientation: $F(1,2132) = 19.1, p < 0.0001$, Gender \times Sexual orientation: $F(1,2132) = 3.7, p = 0.053$).

Gender performance

Men were more compliant with dress code (mean = 3.81 [SD = 0.44], range: 1–4) than Women (3.40 [0.74], range: 0–4, Cohen's $d = 0.7$), and both Men and Women were more compliant than Queers (2.27 [0.76], range: 0–4, Cohen's $d = 2.5$ and 1.3, respectively, $F(2,2412) = 182.5$, $p < 0.0001$, all pair comparisons were significant, p 's < 0.0001). For comparing the three Genders in their compliance to gender norms in the use of language (Questions 27 and 28), we divided the Queer group into Male Queers and Female Queers according to their choice of Sex in the demographic questionnaire, and omitted from this analysis Queers who chose 'Other' as sex. We analysed the degree to which subjects used language 'appropriate' to their Sex using Sex (Male, Female) and Queer/non-Queer as between group variables. Non-Queer Males (i.e. Men) used language that traditionally matches their sex to a slightly greater extent than non-Queer Females (i.e. Women), and both groups used language 'appropriate' to their sex more than Male and Female Queers, who did not differ (Sex: $F(1,2202) = 1.65$, $p = 0.20$, Queer/non-Queer: $F(1,2202) = 144.6$, $p < 0.0001$, Sex \times Queer/non-Queer: $F(1,2202) = 5.34$, $p = 0.02$; Male: Men, 3.79 [0.43], range: 2–4, Queers, 2.64 [1.44], range: 0–4, Cohen's $d = 2.04$, Tukey HSD $p < 0.0001$; Female: Women, 3.71 [0.55], range: 1–4, Queers: 2.93 [1.11], range: 0–4, Cohen's $d = 1.36$, Tukey HSD $p < 0.0001$; Men vs. Women, Cohen's $d = 0.17$, Tukey HSD, $p = 0.011$).

Gender performance and sexual orientation. We also tested whether gender performance is related to sexual orientation by re-analysing the data adding Sexual orientation (Heterosexual, Homo/bisexual) as an additional main factor to Gender (Men, Women). This analysis revealed that Heterosexuals used language 'appropriate' to their affirmed gender more than Homo/bisexuals, and that this difference was larger for Men (Men: Heterosexuals, 3.89 [0.34], Homo/bisexuals, 3.44 [0.72], Cohen's $d = 1.17$, Tukey HSD $p < 0.0001$; Women: Heterosexuals, 3.75 [0.52], Homo/bisexuals, 3.53 [0.70], Cohen's $d = 0.41$, Tukey HSD $p < 0.0001$; Gender: $F(1,2166) < 1$, Sexual orientation: $F(1,2166) = 128.83$, $p < 0.0001$, Gender \times Sexual orientation: $F(1,2166) = 14.73$, $p < 0.001$).

We performed the same analysis for dress code. This analysis revealed that Men were more compliant with their dress code compared to Women, Heterosexuals were more compliant than Homo/bisexuals, and that the latter difference was larger for Women (Gender: $F(1,2168) = 138.63$, $p < 0.0001$, Sexual orientation: $F(1,2168) = 236.89$, $p < 0.0001$, Gender \times Orientation: $F(1,2168) = 18.31$, $p < 0.001$, Men: Heterosexuals, 3.82 [0.42], Homo/bisexuals 3.42 [1.02], Cohen's $d = 0.82$, Tukey HSD $p < 0.0001$; Women: Heterosexuals, 3.55 [0.55], Homo/bisexuals 2.84 [1.02], Cohen's $d = 1.25$, Tukey HSD $p < 0.0001$).

Sexual orientation

Figure 8 presents a scatter plot with Attraction to men on the X axis and Attraction to women on the Y axis for all the subjects who in the past 12 months felt sexual attraction, or were in a romantic relationship or had sex. (0.9% of the sample were not included in this analysis because they reported not feeling sexual attraction to men or women, not being in a romantic relationship with men or women and not having sex with men or women in the past 12 months. About 1.2% of the entire sample reported they did not feel sexual attraction in the past 12 months). About 40.5% of Men and 49.3% of Women reported sexual attraction to the 'other' gender only, about 13.7% of Men and 3.6% of Women reported

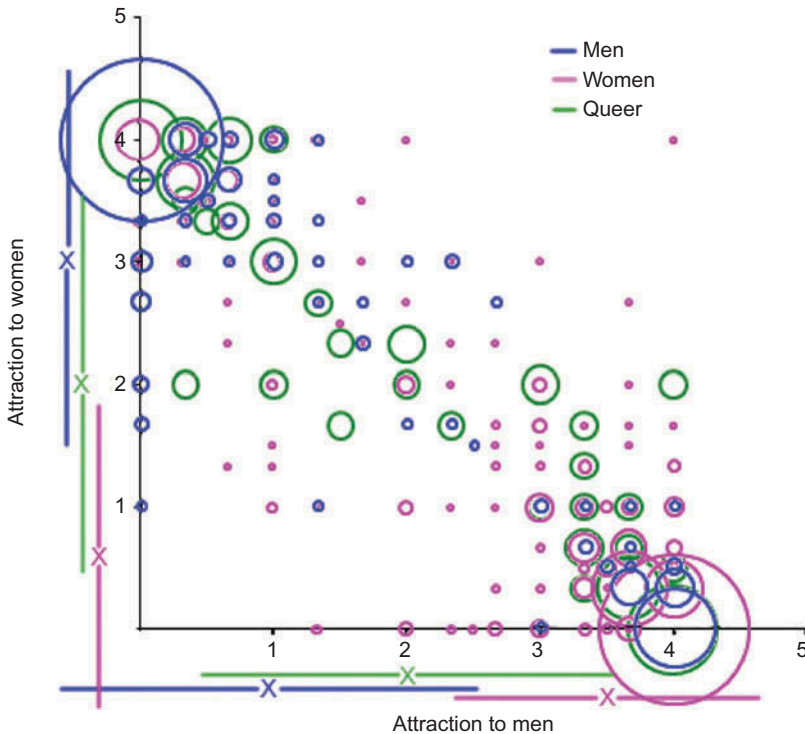


Figure 8. Attraction to men and Attraction to women in Men, Women and Queers. A scatter plot with Attraction to men on the X axis and Attraction to women on the Y axis. Subjects belonging to the Man, Woman and Queer categories are marked in blue, pink and green, respectively. The size of each circle is proportional to the percent of subjects from a given Gender category with an identical score on the two measures. The mean and standard deviation of each Gender category for each measure are marked with an X and an arrow, respectively, near the X and Y axes, using the same colour code.

attraction to their affirmed gender only, and about 46% of Men and Women reported some degree of attraction to both men and women (chi square for independence found a significant relationship between Gender [Men, Women] and the three options of sexual attraction (only affirmed gender, only 'other' gender, both genders) $\chi^2(2) = 76.88$, $p < 0.0001$). Standardised residuals revealed that Men were more attracted than expected to their affirmed gender only ($p < 0.0001$), while Women were less attracted than expected to their affirmed gender only ($p < 0.0001$). About 16.7% of Queers reported attraction to men only, 13.9% attraction to women only and 70% attraction to both men and women (chi square for independence found a significant relationship between Gender [Queers, Men, Women] and sexual attraction (to both men and women/to only men or to only women), $\chi^2(2) = 12.11$, $p < 0.005$). Standardised residuals revealed that Queer were more attracted than expected to both men and women ($p < 0.01$). As expected, on average, Men were more attracted to women than Women were ($d = 1.68$, Queers were in between, Queers vs Men, $d = 0.57$; Queers vs Women, $d = 1.18$, $F(2,2287) = 705.7$, $p < 0.0001$, all pair comparisons were significant, p 's < 0.0001), and Women were more attracted to men than Men were ($d = 1.69$, Queers were in between (Queers vs Men, $d = 0.63$; Queers vs Women, $d = 1.12$, $F(2,2304) = 726.8$, $p < 0.0001$, all pair comparisons were significant, p 's < 0.0001)).

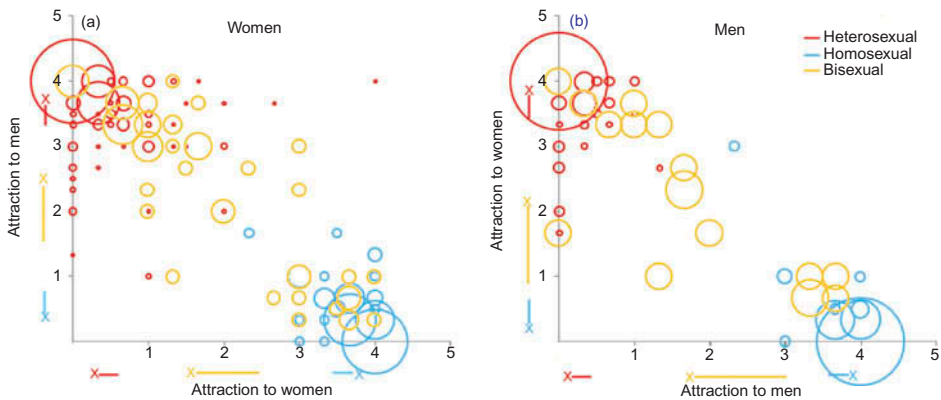


Figure 9. Attraction to men and Attraction to women in Heterosexual, Homosexual and Bisexual Women (a) and Men (b). A scatter plot with Attraction to same gender on the X axis and Attraction to ‘other’ gender on the Y axis for Women (a) and Men (b) separately, showing on each figure subjects who self-identified as heterosexual, homosexual or bisexual in red, blue and yellow, respectively.

Figure 8 clearly demonstrates that sexual attraction does not easily lend itself to categorisation (e.g. heterosexual, homosexual, bisexual), as stressed already by Kinsey, Pomeroy, and Martin (1948). Rather, individuals may be found at any point between sexual attraction to only men, only women, both men and women or neither. That sexual attraction is not suitable for categorisation is also evident when looking at the relations between subjects’ self-categorisation as heterosexual, homosexual or bisexual and their self-reported attraction to the two genders. Figure 9 presents a scatter plot with Attraction to same gender on the X axis and Attraction to ‘other’ gender on the Y axis for Women (Figure 9(a)) and Men (Figure 9(b)) separately, showing on each figure subjects who self-identified as heterosexual, homosexual or bisexual in red, blue and yellow, respectively. As can be seen, people differ in their criteria for categorising themselves, and the degree of sexual attraction to the two genders in bisexuals overlaps with that in heterosexuals and homosexuals. In addition, Men seem to be more stringent in self-labelling as heterosexual or homosexual compared to Women. That is, Men were less likely to self-categorise as heterosexual if they also reported some attraction to men, and similarly, less likely to self-categorise as homosexual if they also reported some attraction to women. This difference in self-categorisation between Men and Women is most dramatic for heterosexuals, with 35.9% of heterosexual Women reporting some same-sex attraction compared to only 13.5% of heterosexual Men ($\chi^2(1) = 100.46, p < 0.0001$).

We directly assessed the gender difference in self-categorisation by analysing how much Heterosexual and Homosexual Men and Women were attracted to the same gender and to the ‘other’ gender (ANOVA with Attraction-to-same/other-gender as repeated measures and Gender (Men, Women) and Sexual orientation (Heterosexual, Homosexual) as main factors). This analysis revealed that although Heterosexual Men and Women did not differ in their attraction to the ‘other’ gender (Heterosexual Men: 3.906 [0.350], Heterosexual Women: 3.855 [0.319]), Heterosexual Men reported less attraction to the same gender (0.070 [0.264]) compared to Heterosexual Women (0.170 [0.315], Cohen’s $d = 0.34$, Tukey HSD, $p < 0.0001$). Similarly, while there was no difference between Homosexual Men and Homosexual Women in their attraction to the same gender (Homosexual Men: 3.882 [0.431], Homosexual Women: 3.776 [0.307]), Homosexual Men reported less attraction to the ‘other’ gender (0.188 [0.489]) compared

to Homosexual Women (0.329 [0.352], Cohen’s $d = 0.33$, Tukey HSD $p = 0.013$). (Gender: $F(1,1870) = 3.58, p = 0.06$, Orientation: $F(2,1870) = 15.50, p < 0.001$, Gender \times Orientation: $F(2,1870) < 1$, Attraction-to-same/other-gender: $F(1,1870) = 23.3, p < 0.0001$, Gender \times Attraction-to-same/other-gender $F(1,1870) = 1.5, p = 0.22$, Orientation \times Attraction-to-same/other-gender: $F(2,1870) = 35083.0, p < 0.0001$, Gender \times Orientation \times Attraction-to-same/other-gender: $F(2,1870) = 25.9, p < 0.0001$). These results reinforce the view that the gender difference in same-sex attraction among self-categorised heterosexuals reflects a gender difference in the criteria for self-categorisation as heterosexual or bisexual (Blumstein & Schwartz, 1977) rather than higher plasticity or fluidity of female sexuality, as has been previously suggested (e.g. Baumeister, 2000).

Comparison to the psychology students sample

Of the 189 students that filled out the Multi-GIQ, 73% were Women, 26% were Men and ~1% were Queers; 83% were Heterosexual and 17% were Homo/bisexual. Thus, the only group that was large enough to be considered representative was the Heterosexual Woman group ($n = 112$). Table 6 presents the scores obtained by this group as well as the results of a direct comparison between this group and the Heterosexual Woman group of the Internet sample. This analysis revealed small (Cohen’s d ’s < 0.23) and non-significant differences between the groups on most of the measures except Contentment being a woman and Wish to be a man on which the Psychology sample were more ‘queer’ than the Internet sample (i.e. they were less content being a woman, Cohen’s $d = 0.43$, and expressed a greater wish to be a man, Cohen’s $d = 0.83$).

Discriminating between subjects who self-identified as transgenders and subjects who self-identified as a man or a woman

In the discriminant analyses for women, the transgenders proportions in the four samples ranged between 0.19–0.24 (one of the FtM subjects had missing data on some of

Table 6. Comparison of the heterosexual woman groups from the psychology sample and from the internet sample.

	Internet sample		Psychology sample		p^*	Cohen’s d
	Mean	SD	Mean	SD		
Feeling as a woman	3.393	0.689	3.469	0.586	0.260	−0.111
Feeling as a man	0.309	0.530	0.263	0.435	0.375	0.088
Feeling as two genders	0.498	0.754	0.344	0.545	0.035	0.209
Feeling as neither gender	0.365	0.593	0.237	0.440	0.025	0.221
Contentment being a woman	2.926	0.851	2.571	0.605	0.000	0.426
Wish to be a man	0.630	0.726	1.222	0.558	0.000	−0.829
Discontentment with one’s sexed body	0.764	1.024	0.636	0.864	0.205	0.126
Perceiving gender** as performance	1.365	0.807	1.458	0.678	0.238	−0.117
Gender-‘appropriate’ use of language	3.754	0.508	3.763	0.484	0.849	−0.019
Complying with dress code	3.550	0.547	3.629	0.428	0.135	−0.148
Attraction to men	3.854	0.322	3.854	0.342	0.996	−0.001
Attraction to women	0.170	0.314	0.116	0.196	0.075	0.177

Notes: *Two tailed t -test. **Gender = woman.

Downloaded by [Tel Aviv University], [individualUser.displayName] at 07:22 05 September 2013

the discriminant variables, therefore only 10 FtM subjects were used in these analyses). The number of variables entered into the discriminative formulas ranged between 3–12, the eigenvalues ranged between 4.7–19.7, Wilk's lambda ranged between 0.05–0.18, and chi square ranged between 50.5–103.1 (all p 's < 0.001). The sensitivity ranged between 95.3–100 (average 98.1%) and the specificity was 100% in all samples.

In the discriminant analyses for men, the transgenders proportions in the four samples ranged between 0.18–0.27. The number of variables entered into the discriminative formulas ranged between 2–5, the eigenvalues ranged between 1.4–2.3, Wilk's lambda ranged between 0.31–0.43, and chi square ranged between 28.8–60.4 (all p 's < 0.001). The sensitivity ranged between 92.7–100 (average 96.2%) and the specificity between 75–100 (average 84.1%).

Discussion

The main aim of the present study was to put to test the prevailing assumption that 'normative' individuals have a coherent, pure and unitary 'core gender identity', by assessing the gender experience of 'normative' subjects. An additional aim was to test whether gender identity is 'troubled' in non heterosexuals, as has been previously suggested on the basis of theories and studies of gender identity. Our study is the first to administer a gender identity questionnaire that assesses the perception of gender identity both as a man and as a woman in 'normative' subjects. The most important finding of the present study is that a large proportion of 'normative' subjects experience themselves in ways that transcend the either/or logic of the gender binary system. These experiences are similar to those reported by trans and queer subjects as found in the present study and in previous studies. Another important finding is that sexual orientation is not a major contributor to the perception of gender identity, and that it is more related to subjects' perception of themselves as the 'other' gender than as their affirmed gender. This latter finding most likely reflects the non-binary view of gender which allows for a stronger feeling as the 'other' gender without compromising one's feeling as the affirmed gender.

Following a discussion of the limitations of our study, we summarise our findings on gender identity and gender dysphoria in 'normative' subjects and compare them to the findings from previous studies. Next, we describe and discuss the relations found between sexual orientation and gender identity and gender dysphoria. We end with a discussion of the implications of the present study to the current debate around the terminology and the diagnostic criteria of gender dysphoria (a substitutive category for GID) in the fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V).

Methodological considerations

There were several limitations to our study. First, subjects were recruited using mailing lists and Internet posts and no means were taken to guarantee random sampling of the population. Although the main focus of our study was to explore the variability of individuals' self-perception of gender identity and not to estimate population parameters such as means and proportions, we did compare the scores of our Heterosexual Woman group to the scores of a Heterosexual Woman group of Psychology undergraduate students. This comparison revealed similar scores in the two groups, in line with previous findings of similar responses from Internet samples and from Psychology students (Krantz & Dalal, 2000). On the two variables in which the two groups differed significantly, the Psychology sample was on average more 'queer' than the Internet sample. Second, we attempted to

obtain a high number of sexual and gender minority groups by sending the questionnaire to relevant mailing lists and colleagues. Although this strategy was effective in recruiting a high number of self-identified homosexuals, we did not recruit a high enough number of self-identified bisexuals and transsexuals to allow separate analyses of these groups. Therefore self-identified homosexuals and bisexuals were grouped together, and all the subjects with 'non-normative' gender identification were grouped together. Further studies using larger samples are needed to better describe the experiences of subjects belonging to different sexual/gender minority groups.

Third, all subjects were Israeli, and the majority were Jewish. As it is interesting to assess the perception of gender identity in other ethno-cultural groups, we are currently running a similar study with a slightly modified English version of the questionnaire.

Fourth, we attempted to study self-perception of gender identity using a questionnaire which limits the perception of gender identity to 'man' and 'woman' only, and therefore to the binary gender system which we seek to test. Moreover, our questionnaire did not assess the quality or content of a person's experience of gender. We were therefore unable to assess other possible perceptions of gender identity that transcend the logic of that system. However, as detailed in the Introduction, this approach allowed for the participation and collaboration of a large number of 'normative' individuals who could have found a more 'queer' questionnaire offensive or incomprehensible. Indeed, although the language we used in the questionnaire was relatively normative, we still received a few emails from participants who complained about the apparent confusion that the questionnaire evoked (for example, we were asked why we did not ask for one's sex at the beginning of the questionnaire and used this information to present the subject with the relevant questions only).

Last, it was difficult to demonstrate the convergent or predictive validity of the Multi-GIQ because our study is a pioneer in the field, and there is currently no existing criterion to which our data on 'normative' subjects can be compared. Specifically, our results could not be compared with the results predicted by current theories of gender identity in 'normative' individuals, because the aim of our study was to empirically test the assumptions of these theories. It was also not possible to validate the Multi-GIQ by comparing our results to the results of previous studies, as gender identity as a man and as a woman has never been measured before in 'normative' individuals. Yet, a comparison of our results to studies that included at least some relevant measures supported some of our findings (see below). The content validity of the Multi-GIQ is supported by the fact that it includes items that are typically used in questionnaires that measure gender identity/dysphoria (the main differences from previous questionnaires being the inclusion of items directed to assess both gender identity as a man and as a woman, and the omission of all reference to how a normative individual should feel). The validity of the Multi-GIQ is further supported by findings of predicted differences between Men and Women in gender identity, and between the Men and Women groups and the Queers group in gender dysphoria (see below). Last, we have also demonstrated the discriminant validity of the Multi-GIQ between subjects who self-identify as a man or as a woman and subjects who self-identify as a transgender, with sensitivity and specificity similar to those reported for the GIDYQ-AA (Deogracias et al., 2007), except for the lower sensitivity for males in our study, 84.1% compared to 90.4% in Deogracias et al. (2007).

Gender identity

Four measures were used to assess subjects' perception of gender identity – Feeling as a woman, Feeling as a man, Feeling as two genders, Feeling as neither gender. The most

surprising finding, given the prevalent belief that ‘normative’ subjects have a unitary sense of gender, is that above 30% of ‘normative’ Men and Women felt to some extent as the ‘other’ gender, as two genders and/or as neither gender. In general, although such ‘queer’ feelings were more prevalent and on average stronger in Queers, the range of scores for all measures of gender identity was similar in Queers and non-Queers (i.e. Women and Men). These findings suggest that the perception of gender identity of many individuals who self-identify in ‘normative’ ways (that is, as male and man or as female and woman) deviates from a unitary sense of gender, and that their gender experience may be as deviant from a unitary sense of gender as the gender experience of individuals who self-identify in ‘non-normative’ ways (e.g. as female and man, male and ‘other’ for gender, etc).

Another interesting finding of the present study is that although Feeling as a man and Feeling as a woman were negatively correlated (Men: $r = -0.277$, Women: $r = -0.449$, Queers: $r = -0.563$), these correlations were not as high as may have been expected in view of the prevailing model of gender as an ‘either (a man) or (a woman)’ experience. Rather, our results suggest that for many ‘normative’ subjects the gender categories ‘man’ and ‘woman’ are not mutually exclusive. We would like to note that although it has been recognised for more than 40 years that masculinity and femininity are not two poles of a continuum but are rather independent attributes (e.g. Bem, 1974; Constantinople, 1973; Jenkin & Vroegh, 1969; Spence, 1980; Spence, Helmreich, & Stapp, 1975), most theoreticians in this field still hold that ‘core gender identity’ means being either a ‘man’ or a ‘woman’ (e.g. Fast, 1999; Person & Ovesey, 1983; Spence, 1993). The present findings question this view.

Taken together, our findings suggest that dichotomous gender categorisation does not reflect the complexity and multiplicity of gender experience. Rather, our study provides supportive evidence to non-binary theories of gender (e.g. Corbett, 2009; Dimen, 1995, 2003, 2005; Goldner, 1991, 2003; Harris, 1991, 2005) that perceive gender as fluid rather than dichotomous, and consider all human beings, not just gender nonconforming individuals, to have complex assemblages of gendered selves (Harris, 2005).

Gender dysphoria

A similar pattern of results was obtained for other measures in our study, including, contentment with one’s affirmed gender and the wish to be the ‘other’ gender, contentment with one’s sexed body, perceiving gender as performance and gender performance. Also for these variables, ‘non-normative’ feelings were more prevalent and on average stronger in Queers, but the range of scores was highly similar in Queers and non-Queers.

As detailed in the Introduction, feeling as the ‘other’ gender, the wish to be the ‘other’ gender, discontent with one’s sexed body and performance of the ‘other’ gender are all components of gender dysphoria. Although our sample may not be representative of the Israeli population (see the ‘Methodological considerations’ section above), our findings clearly demonstrate that gender dysphoria is not restricted to transgender individuals and is experienced by a non-negligible proportion of ‘normative’ subjects. Specifically, 36.6% of our non-Queer subjects reported that they sometimes feel as the ‘other’ gender (of these, 24% received scores above 1), 63.7% reported that they sometimes wish to be the ‘other’ gender (of these, 34% received scores above 1), 49% did not always wear clothes ‘appropriate’ to their sex (of these, 26% received scores below 3) and 41.9% were sometimes discontent with their sexed body (of these, 52% received scores above 1). These findings suggest that except for discontent with one’s sexed body, which is by its very

definition dysphoric, the other types of feelings should not be viewed as reflecting gender dysphoria but rather the complexity and multiplicity of 'normal' gender experience.

Comparison to previous studies on gender identity and gender dysphoria

Most studies on gender identity which included 'normative' subjects were conducted on children and adolescents who served as a control group for children and adolescents diagnosed with GID or used twin samples in an attempt to assess the heredity of GID. We are aware of only two studies that assessed gender identity in non-clinical adults (Bailey et al., 2000; Lai et al., 2010). The different studies typically use questionnaires which assess gender dysphoria rather than gender identity, and report only subjects' scores on the entire questionnaire and not the actual distribution of scores for the different items (e.g. Cohen-Kettenis et al., 2006; Coolidge et al., 2002; Deogracias et al., 2007; Hines et al., 2004; Iervolino et al., 2005; Strong et al., 2000). Even so, some of these studies clearly demonstrate that, as found in the present study, 'non-normative' gender identities are more prevalent among 'normative' subjects than is commonly believed. Thus, Coolidge et al. (2002) reported that 2.3% of children scored in the clinically significant range of a six-item DSM-IV-based GID scale. Other studies report cross-gender behaviour in 2.4–10.4% of boys and 3.3–22.5% of girls (van Beijsterveldt, Hudziak, & Boomsma, 2006; Zucker, Bradley, & Sanikhani, 1997), the wish to be the other sex in 1–13.3% of boys and 2.8–13.3% of girls (Wallien et al., 2009; Zucker et al., 1997) and feeling like the other sex or more like the other sex in 4.6–10.4% of children (Wallien et al., 2009). Lai et al. reported that 1.9% of adult males and 7.3% of adult females were gender dysphoric; rates that are much higher than the highest estimated rates of GID in adults (1:7000 in males and 1:31,000 in females; Lai et al., 2010).

Gender identity, gender dysphoria and sexual orientation

The present study found that sexual orientation is not a major contributor to the perception of gender identity in both Men and Women, and that it has a larger effect on Women's perception of gender identity than on Men's. Specifically, the correlations between sexual attraction and the different measures of gender identity were small in Men and small to medium in Women. In addition, self-categorisation as a Heterosexual or as a Homo/Bisexual was more related to subjects' perception of themselves as 'other' gender than as their affirmed gender, and again, the relation between self-categorised sexual orientation and measures of gender identity was more pronounced in Women.

A similar pattern of results was obtained with regard to other aspects of gender experience and gender dysphoria. Specifically, self-categorisation as a Heterosexual or as a Homo/Bisexual was not related to contentment with one's affirmed gender in Men, and only weakly related to this variable in Women, with Homo/Bisexual Women being slightly less content being a woman compared to Heterosexual Women. Both Homo/Bisexual Men and Women wished to be the 'other' gender more than Heterosexual Men and Women did, with the size of the difference being small to medium. Self-categorisation as a Heterosexual or as a Homo/Bisexual was not related to contentment with one's sexed body, and only weakly related to the perception of gender as performance. In contrast, a strong relation was found between sexual orientation and gender performance, with Heterosexuals complying more with the traditional use of language and dress code compared to Homo/Bisexuals.

Our findings support the view that gender identity and sexual orientation are two separate components of identity (e.g. Bockting, Benner, & Coleman, 2009) and contrast the

prevailing view that heterosexual individuals have a stronger gender identity as man or woman compared to homosexual and bisexual individuals. Two studies that assessed gender dysphoria and sexual orientation in adults found that non-heterosexuals had higher gender dysphoria than heterosexuals, and that this difference was higher for women (Bailey et al., 2000; Deogracias et al., 2007). This latter finding is in line with our observation that the relation between sexual orientation and gender identity is stronger in Women compared to Men.

Our results also do not support the prevalent view in contemporary psychoanalytic and critical theories that individuals have a binary sense of gender and that the heterosexual–homosexual binary constitutes, stabilises and naturalises the male–female binary (Butler, 1990; Sedgwick, 1990). Specifically, the small to medium correlations between sexual attraction and the different measures of gender identity do not support the assumption that gender identity (Feeling as a man/Feeling as a woman) and sexual orientation (attraction to women/attraction to men) are mutually constituted. Similarly, our findings that Homo/Bisexual Men did not feel less ‘man’ compared to Heterosexual Men, and Homo/Bisexual Women felt only slightly less ‘woman’ than Heterosexual Women do not support the assumption that homosexual and bisexual men and women have a ‘troubled’ gender identity compared to heterosexual men and women. We did find, however, that Homo/Bisexual Men and Women feel more as the ‘other’ gender compared to Heterosexual Men and Women. This latter finding may partially account for the prevalent view that Homo/Bisexuals have a weaker gender identity as man or woman compared to Heterosexuals, because according to a binary view of gender, perceiving oneself as more of the ‘other’ gender will lead to a concomitant reduction of feeling as one’s affirmed gender. The finding that this is not the case most likely reflects a non-binary view of gender which allows for a stronger feeling as the ‘other’ gender without compromising one’s feeling as the affirmed gender. Our finding that Homo/Bisexuals are much less compliant with ‘their’ gender performance compared to Heterosexuals may provide another account for the prevalent view that Homo/Bisexuals have a weaker gender identity compared to Heterosexuals. This is because gender performance provides the most easily accessible information for assessing a subject’s gender identity in real-life situations.

Clinical implications

Heated debates are taking place nowadays around the terminology and the diagnostic criteria of GID (to be named gender dysphoria) in DSM-V. The DSM is concerned with defining psychopathology, and a major question is what is normal and what is pathological. Our results clearly show that a non-unitary sense of gender identity, a wish to be the other gender and dissatisfaction with one’s sexed body are not unique to trans people, but are also common, albeit to a lesser degree, in the ‘normal’ population. Thus, our results provide evidence supporting the statement of The WPATH Consensus Group that ‘gender variance is not in and of itself pathological’ (<http://www.gidreform.org/dsm5.html>).

Our results challenge the binary view of gender that underlies the new definition of gender dysphoria in DSM-V. The assumption that there are two dichotomous types of gender identity that result in two sets of gender experiences, ‘being a man’ and ‘being a woman’, and that these experiences are similar for most ‘normative’ men and women, respectively, is most clearly evident in the sixth criterion: ‘a strong conviction that one has the typical feelings and reactions of the “other” gender’. Our study clearly demonstrates that even for the psychological variable on which men and women differ the most, namely, gender identity (Cohen’s d around 4.7), there is some overlap between the two

genders. Thus, 'normative' men and women may not only experience themselves as being the 'other' gender, but their experience as the 'other' gender may be stronger than that of some 'normative' subjects of the 'other' gender (see Figure 1). This observation adds to the ample data on gender similarities and differences that reveal that there are hardly any gender differences on most psychological characteristics and that in the few domains in which consistent gender differences are found, these differences are small with a high degree of overlap between the two genders (for review, see Feingold, 1994; Halpern, 1997; Hyde, 2005). These data stand in marked contrast to the idea that there are gender-typical feelings and reactions. Clearly, transgender individuals differ from non-transgender individuals in translating their gender experience into action (such as transforming their body so that it matches their felt gender). Whether these actions reflect feelings of discontent with one's sexed body or are merely reactions to a society that does not acknowledge and permit gender variability and multiplicity could be answered only once we do not live in a latter type of society.

Concluding remarks

We live in a highly gendered society in which scientists, physicians and laypeople alike strongly believe that men and women are fundamentally different, in spite of a wide range of evidence to the opposite. That children and young adults believe that one is either a boy/man or a girl/woman and that there is only one way to be either is understandable. That physicians hold the same beliefs and treat patients on their basis is not.

Our results show that the current view of gender identity as binary and unitary does not reflect the gender experience of many 'normative' individuals. Replacing this view with a less dichotomous and more flexible and fluid view of gender identity, which better describes the experiences of 'normative' subjects, will also accommodate the experiences of transgender individuals and enable them to express their felt gender identity without having to be at risk of becoming socially unintelligible. We call for a new conceptualisation of gender identity, which emphasises and celebrates multiplicity and fluidity in the experience of gender identity.

Notes

1. We adopt the view that although gender is not a natural attribute or essence at the core of a person, it is still a core experience that comes to constitute one's identity (e.g. Benjamin, 1988; Dimen & Goldner, 2005; Harris, 1991).
2. We use the terms 'normative' and 'non-normative' in quotation marks to note that we are referring to these terms strictly in a statistical sense and not as value judgments.
3. We use capital letters for Man, Woman and Queer to emphasise that these are the names of the categories we have created on the basis of subjects' answers to the questionnaire, and to differentiate the names of the categories from the common use of these words. So there may be phrases like, sexual attraction to men in Women, where 'men' relates to the word as it is typically understood, and 'Women' relates to the group of people that were included under this category in the present study. For the same reason we use capital letters when referring to Heterosexual and Homo/Bisexual.

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Appendix 1. The questionnaire

(The Internet version did not have a title for the different parts of the questionnaire, and the questions were not numbered)

The Gender identity questionnaire

- (1) In the past 12 months, have you felt satisfied being a woman?
Always, Often, Sometimes, Rarely, Never, Not relevant
- (2) In the past 12 months, have you felt satisfied being a man?
Always, Often, Sometimes, Rarely, Never, Not relevant
- (3) In the past 12 months, have you thought of yourself as a woman?
Always, Often, Sometimes, Rarely, Never
- (4) In the past 12 months, have you thought of yourself as a man?
Always, Often, Sometimes, Rarely, Never
- (5) In the past 12 months, have you felt that you have to work at being a woman?
Always, Often, Sometimes, Rarely, Never, Not relevant
- (6) In the past 12 months, have you felt that you have to work at being a man?
Always, Often, Sometimes, Rarely, Never, Not relevant
- (7) In the past 12 months, have you felt pressured by others to be a 'proper' woman?
Always, Often, Sometimes, Rarely, Never, Not relevant
- (8) In the past 12 months, have you felt pressured by others to be a 'proper' man?
Always, Often, Sometimes, Rarely, Never, Not relevant
- (9) In the past 12 months, have you felt that you were not a 'real' woman?
Always, Often, Sometimes, Rarely, Never, Not relevant
- (10) In the past 12 months, have you felt that you were not a 'real' man?
Always, Often, Sometimes, Rarely, Never, Not relevant
- (11) In the past 12 months, when you went into a department store to buy yourself clothing, did you shop mostly in a department labeled for your sex?
Always, Often, Sometimes, Rarely, Never
- (12) In the past 12 months, have you worn the clothes of the other sex?
Always, Often, Sometimes, Rarely, Never
- (13) In the past 12 months, have you felt more like a man than like a woman?
Always, Often, Sometimes, Rarely, Never
- (14) In the past 12 months, have you felt more like a woman than like a man?
Always, Often, Sometimes, Rarely, Never
- (15) In the past 12 months, have you felt at times more like a man and at times more like a woman?
Always, Often, Sometimes, Rarely, Never
- (16) In the past 12 months, have you felt somewhere in between a woman and a man?
Always, Often, Sometimes, Rarely, Never
- (17) In the past 12 months, have there been times when you've felt that you are neither a man nor a woman?

Always, Often, Sometimes, Rarely, Never

(18) In the past 12 months, have you felt that you did not have a lot in common with women?

Always, Often, Sometimes, Rarely, Never

(19) In the past 12 months, have you felt that you did not have a lot in common with men?

Always, Often, Sometimes, Rarely, Never

(20) In the past 12 months, have you felt that you have nothing in common with men and with women?

Always, Often, Sometimes, Rarely, Never

(21) In the past 12 months, have you felt that it is/it would be better for you to live as a man than as a woman?

Always, Often, Sometimes, Rarely, Never

(22) In the past 12 months, have you felt that it is/it would be better for you to live as a woman than as a man?

Always, Often, Sometimes, Rarely, Never

(23) In the past 12 months, have you had the wish or desire to be a man?

Always, Often, Sometimes, Rarely, Never, Not relevant

(24) In the past 12 months, have you had the wish or desire to be a woman?

Always, Often, Sometimes, Rarely, Never, Not relevant

(25) If you could be reborn, would you like to be born as a man?

No, To some extent, To a large extent, Not sure, Don't care

(26) If you could be reborn, would you like to be born as a woman?

No, To some extent, To a large extent, Not sure, Don't care

(27) In the past 12 months, have you been using a masculine gender when referring to yourself? [in Hebrew masculine and feminine language is required also when relating to oneself]

Always, Often, Sometimes, Rarely, Never

(28) In the past 12 months, have you been using a feminine gender when referring to yourself? [in Hebrew masculine and feminine language is required also when relating to oneself]

Always, Often, Sometimes, Rarely, Never

(29) In the past 12 months, have you disliked your body because it is female?

Always, Often, Sometimes, Rarely, Never, Not relevant

(30) In the past 12 months, have you disliked your body because it is male?

Always, Often, Sometimes, Rarely, Never, Not relevant

(31) In the past 12 months, have you been bothered by having to check the box 'F' for female on official forms (e.g., driver's license, passport)?

Always, Often, Sometimes, Rarely, Never, Not relevant

(32) In the past 12 months, have you been bothered by having to check the box 'M' for male on official forms (e.g., driver's license, passport)?

Always, Often, Sometimes, Rarely, Never, Not relevant

The sexual orientation questionnaire

- (1) In the past 12 months, have your romantic relationships been with men?
Always, Often, Sometimes, Rarely, Never, I have not been in a romantic relationship in the past 12 months
- (2) In the past 12 months, have your romantic relationships been with women?
Always, Often, Sometimes, Rarely, Never, I have not been in a romantic relationship in the past 12 months
- (3) In the past 12 months, when you felt sexually attracted, was this to men?
Always, Often, Sometimes, Rarely, Never, I did not feel sexually attracted in the past 12 months
- (4) In the past 12 months, when you felt sexually attracted, was this to women?
Always, Often, Sometimes, Rarely, Never, I did not feel sexually attracted in the past 12 months
- (5) In the past 12 months, when you had sex, was it with men?
Always, Often, Sometimes, Rarely, Never, I did not have sex in the past 12 months
- (6) In the past 12 months, when you had sex, was it with women?
Always, Often, Sometimes, Rarely, Never, I did not have sex in the past 12 months