Gender congruence and body satisfaction in non-binary transgender people: A case control study

ABSTRACT

Background: Binary transgender people access gender affirming medical interventions to alleviate gender incongruence and increase body satisfaction. Despite the increase in non-binary transgender people, this population are less likely to access transgender health services compared to binary transgender people. No research has yet explored *why* by exploring levels of gender congruence and body satisfaction in non-binary transgender people.

Objective: The aim of this study was to compare levels of gender congruence and body satisfaction in non-binary transgender people to controls (binary transgender people and cisgender (non-trans) people).

Method: In total, 526 people from a community sample in the United Kingdom took part in the study (97 non-binary, 91 binary and 338 cisgender identifying people). Participants were asked to complete an online survey about gender congruence and body satisfaction.

Results: There were differences in gender congruence and body satisfaction between non-binary and binary transgender people. On sex specific parts of the body (i.e., chest, genitalia and secondary sex characteristics), non-binary transgender people reported significantly higher levels of gender and body satisfaction compared to binary transgender people. However, there was no difference in congruence and satisfaction with social gender role between the two transgender groups (non-binary and binary). Cisgender people reported significantly higher levels of gender congruence and body satisfaction compared to transgender people (non-binary and binary).

Conclusion: There are differences in gender congruence and body satisfaction between non-binary and binary transgender people. Non-binary individuals may be less likely to access transgender health services due to experiencing less gender incongruence and more body satisfaction compared to binary transgender people. Transgender health services need to be more inclusive of non-binary transgender people and their support and treatment needs, which may differ from those who identify within the binary gender system.

KEYWORDS: Non-binary; gender congruence; body satisfaction; gender affirming medical treatments; transgender health services

Introduction

Transgender health research, which is a relatively new field, has demonstrated that many of the people accessing transgender health services experience very low levels of gender congruence (i.e., they do not feel that their body matches their gender identity) and body satisfaction (e.g., Bandini et al., 2013; Becker et al., 2016, 2018; de Vries et al., 2014; van de Grift et al., 2016, 2017; de Vries, Steensma, Doreleijers, & Cohen-Kettenis, 2011; Röder et al., 2018). Body satisfaction has been found to be much lower than what is found within the cisgender population (i.e., people who do not experience incongruence between their sex assigned at birth and gender identity) (Witcomb et al., 2015). However, gender congruence and body satisfaction of treatment-seeking transgender people have been found to increase following gender affirming medical treatments (GAMT), such as cross-sex hormones and genital affirming surgery (e.g., Bandini et al., 2013; Becker et al., 2018; de Vries et al., 2011, 2014; Jones, Haycraft, Murjan, & Arcelus, 2016). Research has shown that GAMT also increases mental well-being (e.g., Bouman et al., 2016, 2017; Dhejne et al., 2016; Davis & Meier, 2015) and quality of life (e.g., Gorin-Lazard et al., 2012; 2013; Nobili et al., 2018) in binary (treatment-seeking) transgender people. In this paper, when referring to *binary* transgender identity, we are describing a spectrum of transgender people, who seek cross-gender identification and a complete change in social gender role status (i.e. from one gender to the other; Richards & Barker, 2013).

As societies' understanding of gender expression and diversity has evolved, people have had the freedom to express their gender and to be able to identify outside and other than the binary gender concept of exclusively male or female (Richards et al., 2016; 2018). We use 'non-binary' as an adjective and umbrella term for people who self-identify as such and include all other identities than male or female, such as gender neutral, gender fluid, agender, non-gender, or gender queer, for example (Arcelus & Bouman, 2017; Bouman et al., 2017; Richards et al., 2016; Richards, Bouman, & Barker 2018). In the Western world, the number and visibility of people identifying as non-binary and binary transgender has increased considerably over the past few years (Richards et al., 2016, 2018). Kuyper & Wijsen (2014) examined self-reported gender identity and dysphoria in a large Dutch population sample (N= 8064, aged 15–70 years old), and found that 4.6% of people assigned male at birth and 3.2% of people assigned female at birth reported an 'ambivalent gender identity' (defined as equal identification with other sex as with sex assigned at birth) and 1.1% of people assigned male at birth and 0.8% of people assigned female at birth reported an 'incongruent gender identity' (defined as stronger

identification with other sex as with sex assigned at birth). Similarly, van Caenegem et al. (2015) reported results based on two population-based surveys, one of 1,832 Flemish persons and one of 2,472 sexual minority individuals in Flanders, Belgium examining the prevalence of 'gender ambivalence' and 'gender incongruence'. In the general population, gender ambivalence was present in 2.2% of male and 1.9% of female participants, whereas gender incongruence was found in 0.7% of men and 0.6% of women. In sexual minority individuals (lesbian, gay, bisexual), the prevalence of gender ambivalence and gender incongruence was 1.8% and 0.9% in men and 4.1% and 2.1% in women, respectively (Bouman, de Vries, & T'Sjoen, 2016).

Historically, the medical establishment prevented non-binary people from accessing GAMT, as they did not fit the stereotypical binary concept or the binary diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association (APA)); or, the International Classification of Diseases (ICD; World Health Organization (WHO)). The diagnostic labels 'Gender Identity Disorder (DSM-IV; APA, 1994) and 'Transsexualism' (ICD-10; WHO, 1992), and associated criteria have been heavily criticised for not being inclusive of people with a non-binary gender identity. This is valid and significant as having a gender-related diagnosis is instrumental in accessing GAMT (Beek et al., 2016; Richards et al., 2015). However, more recently, the APA (DSM-5; APA, 2013) have updated their criteria to encapsulate non-binary transgender people and the WHO are expected to replicate this with the release of ICD-11 which is anticipated in 2019 (Beek et al., 2016). It is hoped that improvements in diagnosis will allow for more non-binary transgender people to access GAMT. However, there are also a lack of specific clinical guidelines and treatment protocols for non-binary transgender people wanting to access clinical services, including GAMT, which further compounds the issue.

The amount of non-binary transgender people accessing transgender health services and undergoing GAMT remains low (e.g., Beek et al., 2015; Clark, Veale, Townsend, Frohard-Dourlent & Saewyc, 2018; Doan, 2016; Government Equalities Office, 2018; Jones et al., 2017; Thorne, Witcomb, Nieder, Nixon & Arcelus, 2018). A recent survey from the United Kingdom (UK) found that only 7% of non-binary transgender people accessed transgender health services in comparison to 50% of transgender men and 43% of transgender women (Government Equalities Office, 2018), which is in keeping with findings in other European countries (Motmans & Burgwal, 2018). Additionally, in Canada fewer non-binary transgender

youth (13%) have been found to access cross-sex hormone treatment compared to binary transgender youth (52%) (Clark et al., 2018). This study also found that non-binary transgender youth had more difficulties accessing cross-sex hormones compared to binary transgender youth (Clark et al., 2018). Similarly, Taylor, Zalewska, Gates and Millon (2018) found that non-binary transgender patients, who would like to undergo some GAMT were rejected by transgender health services due to their gender identity. The National LGBT survey in the UK found that 76% of non-binary transgender people hide their gender identity from others due to fear of negative evaluation (Government Equalities Office, 2018). People with non-binary gender identities have also reported feeling socially invisible as they do not meet gender norms in Western society (Motmans & Burgwal, 2018; Scottish Trans Alliance, 2015; Taylor et al., 2018). This maybe fore suggest that a larger amount of non-binary identifying transgender people than expected may be accessing clinical services, including GAMT and withholding their non-binary gender identity. Alternatively, non-binary transgender people may not be attending transgender health services as they experience manageable levels of gender congruence and body satisfaction and consequently do not wish to undergo GAMT.

To date there has been no empirical research that has investigated *why* fewer non-binary transgender people may be accessing transgender health services by exploring levels of gender congruence and body satisfaction in this population. As most transgender health research has recruited those attending clinical services and accessing GAMT, the existing knowledge regarding the treatment wishes and needs of this population are largely unknown and appear to be largely extrapolated from the wishes and needs of binary (treatment-seeking) transgender people. Information regarding non-binary transgender people accessing clinical services is limited to a few recent studies which have found that this population appears to present to such services with higher levels of mental health problems than binary transgender people (e.g., Rimes et al., 2018; Thorne et al., 2018). Consequently, there is a lack of knowledge about interventions that non-binary transgender people may wish to undergo to increase gender congruence and body satisfaction.

Previously, research with binary transgender people has focused mainly on gender congruence and body satisfaction with sex-specific characteristics (e.g., Jones, Haycraft, Murjan, & Arcelus, 2016, van de Grift et al., 2016, 2017, 2018). However, one study involving binary transgender people found that body features associated with social gender role recognition (e.g., hairstyle, clothes, mannerism) which cannot be altered through GAMT were the strongest

predictors of overall body satisfaction (van de Grift et al., 2016). In addition to this, age has been found to have a positive relationship with body satisfaction in both cisgender men and women (e.g., Peat, Peyerl, Ferraro & Butler, 2011; Tiggemann & McCourt, 2013). Consequently, sex-specific characteristics as well as social gender role recognition should be explored to obtain a broader understanding of gender congruence and body satisfaction in non-binary transgender people, whilst controlling for age.

Objective

In light of this gap within the literature, the aim of the current study was to explore levels of gender congruence and body satisfaction among non-binary transgender people and to compare these levels to controls (binary transgender people and cisgender people). Only transgender people who had *not* undergone GAMT were selected for this study as GAMT has been found to increase gender congruence and body satisfaction (e.g., Bandini et al., 2013; de Vries et al., 2011, 2014). Age was also controlled for as it has been shown to have a positive relationship with body satisfaction in both cisgender men and women (e.g., Peat, Peyerl, Ferraro & Butler, 2011; Tiggemann & McCourt, 2013). It was hypothesised that there would be a difference in gender congruence and body satisfaction between non-binary and binary transgender people. It was also hypothesised that cisgender people would report higher levels of gender congruence and body satisfaction compared to transgender people (non-binary and binary).

Method

Participants and recruitment

Transgender (non-binary and binary) and cisgender participants aged 18 and over were invited to take part through snowball sampling. The invitation to participate was initially distributed to LGBTQ organisations within the UK, via email and social media sites. The content of this advertisement was the same for transgender and cisgender people. All participants were asked to pass on the survey link to potentially interested parties.

Procedures

Participants were asked to read through the information sheet. Individuals who decided to take part were then asked to complete a survey online which took approximately 20 minutes to complete. The study was approved by Loughborough University Research Ethics Committee at Loughborough University, UK.

Measures

Socio-demographics

Participants were asked to provide information about their age, sex assigned at birth and gender identity. For this study, people who selected their gender identity as transgender male or transgender female were classified as binary transgender people. Participants who selected androgynous, gender neutral, non-binary, pangender, bigender, gender queer, gender fluid or other were classified as non-binary transgender people. As an example, people who selected 'other' self-identified as "intergender", "agenderflux", "gender creative" and "agender". Participants were also asked to provide information about cross-sex hormone use and gender affirming surgeries.

Gender congruence and body satisfaction

To assess gender congruence and body satisfaction in transgender people the Transgender Congruence Scale (Kozee, Tylka, & Bauerband, 2012) and Hamburg Body Drawing Scale (Becker et al., 2016) have been employed (e.g., Jones et al., 2016, 2018). In addition to this, a newly developed tool (Gender Congruence and Life Satisfaction Scale; Jones, Bouman, Haycraft, & Arcelus, 2018) was employed. This measure was developed including non-binary and binary transgender people and provides an understanding of gender congruence and body satisfaction simultaneously by exploring specific body features (Jones et al., 2018). The three measures employed in the study are discussed in more detail below.

Transgender Congruence Scale (TCS; Kozee, Tylka, & Bauerband, 2012)

This measure has 12 questions which assess gender congruence. Nine items correspond with the 'appearance congruence' subscale (e.g., 'My outward appearance represents my gender identity'; 'I am generally comfortable with how others perceive my gender identity when they look at me') which was used in the current study. The measure also has three items relating to 'gender identity acceptance' (e.g., 'I am *not* proud of my gender identity') which were *not* used in the current study. Responses are rated on a 5-point scale from 1 = strongly disagree to 5 = strongly agree. A higher score indicates a higher level of 'appearance congruence'. This measure has been found to have good reliability (α=.93; Kozee et al., 2012) and the appearance congruence subscale had excellent reliability in the current sample (α=.96).

Hamburg Body Drawing Scale (HBDS; originally developed by Appelt & Strauss, 1988; revised version by Becker et al., 2016)

This scale assesses body satisfaction and has been validated with the binary transgender population (Becker et al., 2016). There is an item that assesses overall satisfaction with appearance, which was the only item used in the current study. The subscales were not used as they are different for people assigned male and female at birth and therefore subscales are not comparable. Participants are asked to rate their responses on a 5-point Likert scale (1 = very dissatisfied; 5 = very satisfied) and therefore a higher score indicates a higher level of body satisfaction. Becker et al. (2016) found the HBDS subscales to have good reliability in a transgender population (α=.62-.91). As it is not possible to conduct reliability analysis with just one item, this was not calculated in the current study.

Gender Congruence and Life Satisfaction Scale (GCLS; Jones, Bouman, Haycraft, & Arcelus, 2018)

The GCLS aims to measure improvements in gender congruence, body satisfaction, related psychological well-being, and life satisfaction during a gender transition. In addition to the TCS and HBDS, this tool was chosen as it was specifically developed to be inclusive of non-binary and binary transgender people (Jones et al., 2018). The items in the GCLS are gender neutral and the same subscales can be administered to everyone regardless of sex assigned at birth or gender identity. Participants are asked to rate their responses on a 5-point Likert scale (always=1; never=5). A higher score is associated with a positive outcome (i.e., greater gender congruence, greater body satisfaction, greater gender-related well-being, and greater life satisfaction). Mean scores are also calculated for each of the seven subscales, four of which (relating to body congruence) were used in the current study: genitalia, chest, other secondary sex characteristics, and, social gender role recognition. Within the current sample, the Cronbach's alphas for the subscales used within the current study was very good (α=.77-.95).

Analysis

The data were analysed using SPSS 23 (IBM, 2016). The data were not normally distributed and as there were no non-parametric alternatives, robust parametric tests were selected (Field, 2009). For descriptive purposes, a Chi-Square Test was conducted to explore differences in sex assigned at birth between non-binary, binary and cisgender people. An ANOVA was conducted to explore differences in age between non-binary, binary and cisgender participants. Post-hoc (Sidak) tests were conducted to explore where difference lied in relation to age. To explore differences in gender congruence and body satisfaction between non-binary transgender people and controls (binary transgender people and cisgender people), a series of one-way ANCOVAs

were conducted, controlling for age. The sample was divided by sex assigned at birth (i.e., male or female) and these groups were analysed in relation to gender identity (i.e., non-binary transgender, binary transgender or cisgender). This analysis was then followed up with post-hoc tests (Sidak) to determine where any significant difference lay. The significance level was set at $p<0.05$.

Results

Descriptive analysis

In total, 833 people were recruited in to the study. Seven people were removed as they provided no information about their gender (sex assigned at birth or gender identity) and a further 37 people were removed as they identified as cisgender, but reported that their sex assigned at birth was different to their gender identity. For the purpose of this study, only people who were yet to undergo GAMT were included within the analysis. Therefore, a further 263 people were removed. The final sample consisted of 526 people. Of this sample, 97 were non-binary transgender people, 91 were binary transgender people and 338 were cisgender people. The distribution of sex assigned at birth is displayed in Table 1.

Insert Table 1. about here

There was a significant effect for sex assigned at birth between non-binary and binary transgender people ($\chi^2 = 5.97$; $p<.015$; Cramer's V=.18; $p<.015$). The standardised residuals demonstrated that there were significantly more people assigned male at birth in the binary transgender group (z=1.4) compared to the non-binary transgender group (z=-1.3). In addition, there were significantly more people assigned female at birth in the non-binary transgender group (z=1.1) compared to the binary transgender group (z=-1.1).

The mean age of the whole sample was 35.70 years (*SD*=13.16). For the mean age of each group see Table 1. There was a significant group effect for age ($F(2, 519)= 3.14$, $p=.044$). Post-hoc tests revealed that cisgender people were significantly older than non-binary identifying transgender people (Mean difference= 3.80; $p=.037$). There was no significant difference in age between cisgender people and binary identifying transgender people (Mean difference= .69; $p=.960$).

Body congruence in individuals assigned male at birth: comparing cisgender, non-binary and binary transgender people

A total of 31 non-binary people (assigned male at birth) were compared on measures of body congruence to 45 transgender females and 84 cisgender males. There was a significant difference between these three groups on the appearance congruence subscale from the TCS after age was controlled for (see Table 2). Post-hoc tests revealed that on the TCS appearance congruence subscale, cisgender males scored significantly higher (more congruence) compared to both non-binary (Mean difference= 2.24; p<.001) and binary transgender people (transgender females) (Mean difference= .2.51; p<.001). There was no significant difference between non-binary and binary transgender people assigned male at birth (Mean difference= .27; p=.166). This indicates that cisgender males experience more gender congruence with their appearance compared to transgender people assigned male at birth (non-binary and binary) and that there is no difference in the levels of appearance congruence between non-binary and binary people assigned male at birth.

There was also a significant main effect for body satisfaction, as measured by the HBDS, after controlling for age (see Table 2). As expected, cisgender people scored higher (most body satisfaction) compared to non-binary transgender people (Mean difference= -.95; p<.001) and binary transgender people (Mean difference = 1.79; <.001; See Table 2). Body satisfaction scores on the HBDS were also significantly higher for the non-binary transgender people when compared to the binary transgender people (Mean difference = .84; p<.001). This indicates that while body satisfaction is highest in cisgender people, non-binary transgender people have higher levels of body satisfaction (on the HBDS) than binary transgender people assigned male at birth (transgender females), after controlling for age.

To obtain a more in-depth understanding regarding gender congruence and body satisfaction in these three groups, differences were explored using the GCLS. For people that were assigned male at birth there was a significant difference between non-binary transgender people, binary transgender people (transgender females) and cisgender males on the chest, genitalia, secondary sex characteristics and social gender role recognition subscales of the GCLS (see Table 2). Post-hoc tests showed that cisgender people scored significantly higher on the chest (Mean difference = .73; p<.001), genitalia (Mean difference = .60; p<.001) and secondary sex characteristics (Mean difference = 2.05; p<.001) subscales of the GCLS compared to non-binary transgender people. Cisgender people also scored higher compared to binary

transgender people on the chest (Mean difference = 2.26; $p<.001$), genitalia (Mean difference = 1.81; p<.002), and secondary sex characteristics (Mean difference = 3.22; $p<.001$) subscales of the GCLS. Non-binary transgender people scored significantly higher on the chest (Mean difference = 1.54; $p<.001$), genitalia (Mean difference = 1.21; $p<.001$) and secondary sex characteristics (Mean difference = 1.15; $p<.001$) subscales of the GCLS compared to binary transgender people (transgender females). These findings indicate that for those assigned male at birth, non-binary transgender people have higher levels of gender congruence and body satisfaction regarding their chest, genitals and secondary sex characteristics compared to binary transgender people (transgender females), but lower than cisgender males after controlling for age.

On the social gender role recognition subscale of the GCLS, cisgender males scored significantly higher compared to both non-binary (Mean difference = .84; $p<.001$) and binary transgender people (transgender females) (Mean difference = 1.18; $p<.001$). There was no significant difference in congruence between non-binary and binary transgender people on the social gender role recognition subscale (Mean difference = .34; $p=.343$). This indicates that transgender people (both binary and non-binary) assigned male at birth experience less congruence and satisfaction with their social gender role compared to cisgender people but there is no difference in social gender role congruence between both groups of transgender people after controlling for age.

Insert Table 2. about here

Body congruence in individuals assigned female at birth: comparing cisgender, non-binary and binary transgender people

In total, 66 non-binary transgender people were compared to 46 binary transgender people (transgender males) and 254 cisgender females. It was found that there was a significant main effect between these groups on the appearance congruence subscale from the TCS (see Table 3). Post-hoc tests showed that cisgender people scored significantly higher on the TCS appearance congruence subscale compared to non-binary (Mean difference = 2.24; $p<.001$) and binary transgender people (transgender males) (Mean difference = 2.43; $p<.001$). There was no significant difference between the non-binary and binary transgender people on this subscale (Mean difference = .19; $p=.356$). These findings demonstrate that cisgender females experience more gender congruence with their appearance compared to both non-binary and

binary transgender people (transgender males) assigned female at birth after controlling for age.

There was also a significant main effect of body satisfaction, as measured by the HBDS, between the three groups (see Table 3). As expected, cisgender people scored significantly higher compared to non-binary transgender people (Mean difference= .945 $p<.001$; see Table 3) and binary transgender people (Mean difference = 1.67; $p<.001$). It was also found that non-binary transgender people scored significantly higher (more body satisfaction) compared to binary transgender people (transgender males; Mean difference= .71; $p<.001$). Findings from the HBDS therefore suggest that, after controlling for age, cisgender people are the most satisfied with their body, followed by non-binary transgender people. Binary transgender people (transgender males) are the least satisfied with their bodies.

Gender congruence and body satisfaction between these groups was explored in more detail using the GCLS. There was a significant main effect for the chest, genitalia, secondary sex characteristics and social gender role recognition subscales of the GCLS (see Table 3). Post-hoc tests showed that cisgender females scored higher on the chest (Mean difference = 1.67; $p<.001$), genitalia (Mean difference = .73; $p<.001$) and secondary sex characteristics (Mean difference= 1.21; $p<.001$) subscales compared to non-binary transgender people. Cisgender people also scored higher than binary transgender people on the chest (Mean difference = -3.03; $p<.001$), genitalia (Mean difference = 2.02; $p<.001$) and secondary sex characteristics (Mean difference = 2.81; $p<.001$) subscales of the GCLS. Non-binary transgender people scored significantly higher (more congruence) on the chest (Mean difference = 1.36; $p<.001$), genitalia (Mean difference = 1.28; $p<.001$) and secondary sex characteristics (Mean difference = 1.60; $p<.001$) subscales of the GCLS compared to binary transgender people (transgender males). These findings demonstrate that when age is controlled for, non-binary transgender people experience more gender congruence and body satisfaction with their sex characteristics compared to binary transgender people (transgender males). However, cisgender females experience more gender congruence and body satisfaction with sex characteristics when compared to transgender people (non-binary and binary).

On the social gender role recognition subscale of the GCLS, cisgender females scored significantly higher (more congruence) compared to both non-binary transgender people (Mean difference = 1.49; $p<.001$) and transgender males (Mean difference = 1.50; $p<.001$). There was

no significant difference in congruence between non-binary and binary transgender people on the social gender role recognition subscale (Mean difference = .02; *p*=.994). Cisgender people, as expected, therefore report experiencing more gender congruence and body satisfaction with their social gender role compared to transgender people assigned female at birth (non-binary and binary).

Insert Table 3. about here

Discussion

This study explored levels of gender congruence and body satisfaction among non-binary transgender people and compared these levels to two control groups, which included binary transgender people yet to undergo GAMT, and cisgender people. As hypothesised, there were differences in gender congruence and body satisfaction between non-binary and binary transgender people. On sex specific parts of the body (i.e., chest, genitalia and secondary sex characteristics), non-binary transgender people reported significantly higher levels of gender congruence and body satisfaction compared to binary transgender people. There was no difference in congruence and satisfaction with social gender role between the two transgender identifying groups (non-binary and binary). As expected, cisgender people reported significantly higher levels of gender congruence and body satisfaction compared to transgender people (non-binary and binary). The findings from this study may indicate that non-binary individuals may be less likely to access transgender health services due to experiencing less gender incongruence and more body satisfaction compared to binary transgender people (e.g., Beek et al., 2015; Clark et al., 2018; Government Equalities Office, 2018; Thorne et al., 2018). However, gender congruence and body satisfaction with the chest, genitalia and secondary sex characteristics is still much lower among non-binary transgender people compared to cisgender people. Consequently, some non-binary transgender people may wish to undergo GAMT. Clinicians working at transgender health services should be mindful of this and create an inclusive and supportive environment to enable transgender people to disclose their gender identity without this having any bearing on their desired gender affirming treatment, whether medical or other (Rider et al., 2018). Recent research in a UK transgender health service showed that clinicians need to adopt an affirmative approach to encourage non-binary transgender patients to articulate their gender identity and treatment requests (Taylor et al., 2018). Transgender health services should also review their treatment pathway and protocols to be inclusive of non-binary transgender people, and refrain from insisting on specific, fixed trajectories (i.e., hormone treatment before chest reconstructive surgery), as there is little

empirical evidence to underpin the benefit of these. Further research that explores the long-term effects of various different treatment trajectories (e.g., gender affirming hormone treatment and/or surgery before or without social gender role transition; chest reconstructive surgery before or without testosterone treatment) among non-binary transgender people would also facilitate the development of evidenced-based treatment protocols for this population.

In this study both transgender groups (non-binary and binary) reported less gender congruence and body satisfaction with their social gender role compared to cisgender people. There was no significant difference in congruence and satisfaction with social gender role between non-binary and binary transgender people. Non-binary transgender people have reported feeling socially invisible in social settings in particular, and society in general, which tend to adhere to and advocate a binary gender system, including a binaried language system (see for instance, Bradford et al., 2018; Nicholas, 2018). This tends to leave non-binary transgender people not feeling accepted or validated by society (Saltzburg & Davis, 2010). Without a societal structure and a language reflecting the existence and experiences of non-binary identifying people underpinned by legislation and supported by one's country or State non-binary people remain ignored and invisible. Invisibility and victimisation in non-binary transgender youth has been found to have an association with poor mental well-being (Rimes, Goodship, Ussher, Baker & West, 2018; Thorne et al., 2018). This is likely to further contribute to low levels of congruence and satisfaction with social gender role – i.e., if non-binary people feel that their social gender role is not recognised and widely accepted by those around them. In contrast, binary transgender people have been found to be most dissatisfied with unwanted body features that are difficult to hide in everyday social situations such as the jaw, facial hair, hands and hips (van de Grift et al., 2016). This may increase anxiety and distress relating to "passing" as their gender identity (i.e., male or female) (McGuire, Doty, Catalpa & Ola, 2016). Therefore, it appears that non-binary and binary transgender people experience (in)congruence and (dis)satisfaction with their social gender role in different ways. This may explain why no significant difference in gender congruence and body satisfaction with social gender role was found between the transgender groups in this study. Societal awareness of transgender people, especially non-binary transgender people, should continue to be increased. This can be achieved through mass media awareness campaigns on television, by providing educational resources to schools, universities and workplaces, for example (e.g., Nicholas, 2018).

The findings of this study are strengthened by the fact that participants were recruited from the community as opposed to from a transgender health service. The number of non-binary and binary transgender people recruited within this study were similar in size, which is another strength of this study. In contrast, research conducted in transgender health services has typically recruited much smaller samples of non-binary transgender people (Thorne et al., 2018; Taylor et al., 2018). Participants in the current study may have felt empowered to be open and honest about their gender identity rather than feeling a need to withhold their non-binary identity to satisfy clinical expectations and medical gatekeeping in order to obtain GAMT. Much of the current literature in transgender healthcare is often criticised for social desirability bias. When recruiting from clinical transgender health services, participants may over-report their distress and dissatisfaction and follow a specific binary transgender narrative to access GAMT in a timely manner. However, the current community study supports previous clinical literature that has found transgender people to report less body satisfaction compared to cisgender people (e.g., Witcomb et al., 2015).

It is noteworthy that 'non-binary' is a very broad term which captures a wide variety of different gender identities that fall between and outside the gender binary (Richards et al., 2016; 2017; 2018). This study therefore failed to capture nuances between people with different gender identities who fall under the umbrella term of 'non-binary'. Future research therefore may wish to refine this group further to explore differences in specific gender identities (e.g., gender fluid, gender queer, gender neutral). The findings of the study can also only be generalised to English-speaking transgender people within the UK. Countries differ in their tolerance of transgender people which will affect how comfortable people feel identifying as transgender (both binary and non-binary) (e.g., Ahmadzad-Asl et al., 2010; Dhejne, Öberg, Arver, & Landén, 2014). Future research could consider exploring cross-cultural differences in non-binary transgender individuals. The current study was also cross-sectional and future research would benefit from a longitudinal research design so that potential changes in gender congruence and body satisfaction in non-binary and binary transgender people can be followed overtime.

Conclusion

Transgender health research has typically neglected the inclusion of non-binary transgender people. This is an important omission as the current study has shown that there are nuances in gender congruence and body satisfaction between non-binary and binary transgender people.

Consequently, the GAMT that non-binary transgender people wish to access in order to increase their gender congruence and body satisfaction may be different from that desired by binary transgender people. The implications of this research are that transgender health services need to be more inclusive of non-binary transgender people and their treatment needs and adjust their treatment guidelines accordingly. This recommendation is similarly supported in the Standards of Care for transgender and gender non-conforming people (Coleman et al., 2012). Future research should explore gender congruence and body satisfaction longitudinally in non-binary transgender people.

Declaration of Conflict of Interest

The authors have no conflict of interest to declare.

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