

**An Exploration of The Body Image Scale In Young People: A  
Comparison Of Persons With Features Of Gender Dysphoria  
And Control Samples**

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## **ABSTRACT**

Body image is seen as a central component to those who identify as transgender, that is, a feeling of incongruence between bodily features and assigned gender. Previous research has suggested high rates of body dissatisfaction within adolescent general population samples. Therefore, it is critical that clinicians are able to identify and disentangle distress related to gender and the body, from that of general body dissatisfaction. Furthermore, adolescent transgender persons are an understudied group in the psychological literature and many studies looking at body image in this population have been conducted using small sample sizes.

The Body Image Scale (BIS) is used in gender services (GS) around the world and consists of 30 body features that the person is asked to rate in terms of satisfaction with those parts on a 5-point scale. However, there are no studies currently published where the scale has been normed in control samples within young persons populations. This is an important clinical issue as the BIS is used as part of the assessment process in GS's.

This quantitative study is an exploration of the similarities and/or differences in body-part satisfaction in a control sample (n = 262) and in those referred to the UK Gender Identity Development Service (n= 403) using the BIS. The BIS compares primary, secondary and neutral bodily characteristics as well as differences between the sexes and ages of participants between and within the two populations.

Results showed persons with gender dysphoria were significantly more dissatisfied with their bodies than the control group. In addition, this dissatisfaction increased with age during pubertal development, particularly in the clinical group. In the clinical group, natal (biological) males were more dissatisfied with their primary and neutral sexual characteristics, where as in the control group natal females were more dissatisfied than males across all sexual characteristics. Implications for research, service provision and clinical psychology practice are discussed.

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# **1. INTRODUCTION**

This study focuses on young people's (dis)satisfaction with their bodies using the Body Image Scale (BIS) (Appendix A) and compares people with gender dysphoria (GD) with the general population. In this chapter I outline my literature search, review the relevant terminology and lay out a multifactorial view of GD and its relevance to body image in young persons. I also outline the measurement of body image.

## **1.1. Literature Search**

The review of academic literature deals with gender identity, GD and body image in young people. It presents an overview of concepts and theories relevant to the research and the clinical relevance of comparing body image between those persons with GD and those assumed without. The lack of research using the BIS in samples in the general population, and the variability of body image measurements used in research, was a significant factor in reviewing the literature when comparing studies outcomes.

Searches were performed using three online databases (PsycINFO, PubMed and Web of Knowledge), which focus on journals relevant to psychology and allied health professionals. Table 1 shows the output and dates when these searches were conducted.

Table 1. *Databases, dates and total articles found for literature searchers.*

<b>Online Database</b>	<b>Date</b>	<b>Total Articles</b>
PsycINFO	September 2014	781
PubMed	October 2014	712
Web of Knowledge	October 2014	722

Results were initially limited to articles where young people had been used in the studies. The following search terms were used:

- Gender identity AND gender dysphoria
- Gender identity AND body image
- Gender identity AND families
- Gender dysphoria<sup>1</sup> AND body image
- Gender dysphoria AND body dissatisfaction
- Body image scales/questionnaires
- Body image scales AND gender dysphoria

Additionally, the World Professional Association for Transgender Health, seventh edition, *Standard of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People* (WPATH, 2012) was used to identify further references. Publications found using the above methods were used to identify other relevant references (e.g. within adult populations). Key articles or publications – mentioned by several different authors – or those addressing topics closely relevant to this research were examined.

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<sup>1</sup> Due to the recent changes in terminology used in diagnostic manuals, terms also used in the literature search for GD were: gender identity disorder, gender development, gender variance, transgender, transsexual and gender non-conformity.

The literature review showed the complexity of gender identity and body image development. I became interested in the development of gender identity and body image in adolescence and the context to these constructs in the family, peer relationships and the influence of societal and cultural understandings. In addition, the literature search showed the contribution and correlation of emotional and behavioural difficulties to these constructs, such as low self-esteem, low mood, self-harm and eating disorders.

## **1.2. Terminology**

Terminology used in relation to gender identity is not neutral and many terms continue to be questioned. The terms used to describe gender identity are often used incorrectly (e.g. Johnson & Repta, 2012). Therefore, I will start by defining and reviewing the terminology used. Each subsequent section will consider the relevance of the literature to the clinical and general population.

### **1.2.1. Biological Sex**

Biological sex describes one's anatomical and reproductive structures (Dragowski, Río & Sandigursky, 2011) and is often assumed to be binary – male/female (Diamond, 2006) where socially agreed upon criteria for classifying people as 'females' or 'males' is assigned at birth. However, this view has been disputed by the observation that "...absolute dimorphism disintegrates even at the most basic level of biology" (Fausto-Sterling, 2000, p. 213). Having XX chromosomes does not always mean having a female body and having XY chromosomes does not always mean having a male body. Sometimes an individual with XY chromosomes is insensitive to the influence of testosterone, resulting in a female body. There are also other

combinations of sex chromosomes, such as XO, XXX, XXY, and exposure of external hormones as a foetus may also influence sexual characteristics.

There is a range of variation in anatomical and reproductive characteristics – chromosomes, ovaries/testes, genitals, bodily appearance – that do not fit typical definitions of male or female. This variability means that sex is much more complicated than the commonly assumed binary and suggests a continuum of sexual characteristics (Cohen-Kettenis & Pfafflin, 2003).

Persons whose sex chromosomes and genital structures are thought to be incongruent with the body are not considered within the 'lay' perspectives of the dichotomous system (Pasterski, 2008), and so the diversity of sexual anatomies within and between the sexes is masked.

### 1.2.2. Gender

Gender and gender role refer to social norms and standards that in the light of normative conceptions prescribe different activities, duties, opportunities and behaviours for one's sex category (Mahalik, Good & Englar-Carlson, 2003).

Gender roles of femininity and masculinity have been viewed as the public manifestation of gender identity (Money, 1994) and follow a binary construction that structures experience in many sociocultural contexts (Wren, 2014). These binary identities are a powerful means of social organisation and co-define each other by denying unwanted characteristics of the other (Wren, 2014). Gender roles are behaviours that are 'scripted' by culture (Gagnon & Simon, 1973), social constructions influenced by social processes (Harre, 1991). Studies have shown that gendered assumptions and meanings are projected onto children – even before birth (Hare-Mustin & Marecek, 1990). Individuals inevitably internalise stereotypic gender roles and develop their sense of gender whilst being bombarded by messages about a

'right' gender role for their perceived gender. Gender roles influence and restrain people's experiences; men and women are treated differently because of their assigned role and the extent to which they conform. Customary, binary conceptions of gender roles are problematic, as they do not represent the multiplicity that exists within and across societies (Kelly, 1993). Dualistic gender roles are embedded in populations and penalties occur for people who challenge the gender order, which can result in discrimination, violence and even death (Whittle, 2000). Furthermore, gender is not a static role but is 'performative', a process by which there is a negotiation of the self, others and culture, which is enforced by social norms (West & Zimmerman, 1987; Wren, 2014).

### 1.2.3. Gender Identity Development

The term gender identity was introduced in the 1960's and concerns a person's subjective sense of congruence with a particular gender (Di Ceglie, 2010). Contemporary gender identity theories focus on both innate and acquired aspects to the development of gender identity (Diamond, 2006) with development involving an intricate interaction between biological, environmental and psychological factors. Diamonds' (2006) biased interaction theory affirms that an infant's hormonal, anatomic brain and genetic influences interact with experiences of upbringing and societal values to bring about the expression of sexual and gender patterns. People's social environment and others' judgements mediate how people view themselves in relation to their gender. Gender identities develop within gendered social contexts, where there is a 'correct' way of doing gender that 'corresponds' to one's presenting sex (Butler, 2004).

In most cases gender identity develops in accordance with physical gender characteristics. A baby with XY sex chromosomes and male genitalia will be assigned to the male gender and have a male gender identity. However, discordance between these gender aspects does occur. These conditions were called 'intersex' conditions and later, in the 1950's, the term 'disorders of sex development' (American Psychiatric Association (APA), 1952) was used in the clinical literature. Whilst gender identity may be in line with chromosomes and gonads, it may not be with the external genitalia. 'Gender dysphonia' refers to the distress resulting from incongruence between experienced gender and assigned gender. For GD individuals, their experienced gender identity does not match their sex chromosomes, gonads or genitalia, although the physical sex characteristics all correspond with each other (Steensma, Kreukels, de Vries & Cohen-Kettenis, 2013). It is this experience of GD that the present research focuses on.

Little is known about the cognitive gender development of persons who experience gender variance at a young age. However many studies have pointed to the importance of adolescence in early onset gender variant children, either because it consolidates an already existing development, or because "...it initiates a development that eventually leads to full blown GD" (Steensma et al., 2013, p.291).

Gender identification is a broad concept. The terms 'gender variant' or 'gender non-conforming' are often used for people who violate the societal ideals of what it means to be a man or woman (WPATH, 2012). These umbrella terms denote someone whose self-identity does not imitate conventional ideas of male or female gender (Stryker, 2008). These expressions cover a wide spectrum of gender identity descriptors, such as: 'gender neutral', 'gender

fluid', instead of male and female (Bocking, 2008). As evidence of these terms entering the social sphere, the social media platform Facebook now has over 50 options of different gender descriptors on their site for people to choose from ('Facebook Opens Up LGBTQ-Friendly Gender Identity and Pronoun Options,' 2014). Although I acknowledge that a variety of descriptors are used to describe a person whose gender expression falls outside the typical gender norms, for the purpose of consistency in this research, I will use the term 'transgender' or 'trans' to talk about such persons.

#### 1.2.4. Diagnoses

The term 'transvestite' was introduced in 1910 (Cohen-Kettenis & Pfafflin, 2010) and later, in 1949, 'transsexual' was coined. In 1980, the APA listed transsexualism as a 'mental disorder' in the Diagnostic and Statistical Manual of Mental Disorders (DSM), third edition (DSM-III; APA, 1980). By 1994 the DSM-IV (APA, 1994) had altered this diagnosis to 'gender identity disorder' (GID) that involved discrete criteria for children, adolescents and adults. GID was described as necessitating "...a strong and persistent cross-gender identification and a persistent discomfort with one's sex or a sense of inappropriateness in the gender role of that sex" (APA, 2000).

Many viewed the GID diagnosis as controversial; specifically its conjectures of binary gender roles and behaviours (Newman, 2002), its contribution to gender stereotypes and in pathologising gender variance (Lev, 2005). These dualistic notions of gender excluded the experience of people who identify in alternative ways and therefore the reliability and validity of the DSM-IV criteria were called into question (Cohen-Kettenis et al., 2010). Several authors maintained GID was a Western construct that pathologised normal variation

within human identities, and consequently disputed its inclusion in the DSM (e.g. Langer & Martin, 2004).

The authors of the 2013 revision of the DSM (DSM-V) state that a main aim was to reduce stigma. As a result the name GID was replaced with the new diagnostic category GD, defined as "A marked incongruence between one's experienced and expressed gender and assigned gender ... a strong desire to be of the other gender or an insistence that one is the other gender (or some alternative gender different from one's assigned gender)," (APA, 2013, p. 452). Commentators have acknowledged that the revision has been an attempt to shift the focus away from binary gender categories, and place the task of the diagnosis on distress rather than gender nonconformity (Bouman & Richards, 2013). However, others have described the move as "two steps forward, one step back" (Lev, 2013, p. 288). Lawrence (2014) explains how conceptualising GD as distress about 'assigned gender' rather than biological sex, means the principal understanding of wrong embodiment - being "trapped in the wrong body" (Prosser, 1998, p.69) – becomes redundant in the DSM-V understanding. Lawrence also takes issue with the reasoning that an additional advantage of theorising GD as an incongruence between gender identity and assigned gender is that it makes it conceivable for people who have transitioned successfully to "lose" the diagnosis (Zucker et al., 2013). Lawrence argues that gender transition does not "cure" the profound sense of wrong embodiment that transgender and people with GD typically experience.

Some authors have contended that the DSM-V has not gone far enough in de-pathologising gender non-conformity and call for its removal from the DSM. People with GD have conflicted gender identity, but not all individuals with conflicted gender identity inevitably meet the diagnostic criteria for GD,

experience distress or want to live as 'the other gender' (Algars, Santtila & Sandabba, 2010; Diamond & Butterworth, 2008; Lee, 2001). Others have argued that the DSM changes do not resolve the central problem of transgender persons being stigmatised regardless of diagnosis (O'Hartigan, 1997). Rees (1996) describes how transgender persons experience deep unhappiness and feel they are unable to embody, or belong to, society norms. In addition, the removal of the diagnosis from the DSM would damage a transgender person's access to treatment and to a legitimate defense of their legal entitlements (O'Hartigan, 1997).

#### 1.2.5. Cultural constructions of sex and gender

Societies and cultures vary considerably in the nature and intensity of differentiation between the sexes within gender, gender roles, gender-role ideologies and gender stereotypes. Masculine and feminine traits are patterned by culture and are minimised in some cultures and maximised in others (Peoples and Bailey, 2011). For example, Margaret Mead's work in Papua New Guinea found that within Arapesh tribes both sexes are expected to act in ways the western world consider "feminine" and within Mundugamor tribes both sexes were what Western culture would call "masculine" (Mead, 1956). Genders that are neither man nor women have been described by many societies, such as "Hiyra" in India is an alternative gender role conceptualised as neither man nor woman (Money & Ehrhardt, 1972). Similarly, some Polynesian societies 'Fa'afafine' are considered to be a third gender alongside male and female. Fa'afafine are accepted as a natural gender and are neither looked down upon nor discriminated against. They are biologically male, but dress and behave in a manner that Polynesians typically consider female (Money et al., 1972). Masculine and feminine have different

meanings, and associated behaviours, in different countries.

Cultural expectations of the sexes differ also within societies, where “beliefs and behaviors considered appropriate for each sex are constructed within cultures” (Lavenda & Schultz, 2012, pg. 365). Within some cultures a strong gender hierarchy exists, where gendered activities and attributes are related to the distributions of resources, prestige and power in society. Williams and Best (1990) studied 14 countries and found high egalitarian gender-role ideology in the Netherlands, Germany and Finland, and high traditional gender-role ideology in Nigeria, Pakistan and India. India, the Middle East and North Africa, stand out for their very low female employment and freedom of choice for women. These countries are governed by religion-based personal status codes, and treat women essentially as legal minors under the eternal guardianship of their male family members (Jayachandran, 2014). Family decision-making is thought to be the exclusive domain of men, who enjoy by default the legal status of “head of household.” These notions are supported by family courts in the region that often reinforce the primacy of male decision-making power.

Although it is acknowledged that gender inequalities exist within many different cultures around the world, the present research will focus on the Western construct of gender in the UK.

### **1.3. Epidemiology of Gender Dysphoria**

The incidence and prevalence of GD is hard to establish due to cultural differences across countries that alters the expressions of various gender

identities (Zucker & Lawrence, 2009), and so epidemiological studies have not been conducted (APA, 2013). However, recent studies approximate the incidence of GD in the general population to be between 1: 3.000 and 1: 30.000 (Zucker et al., 2009). Historically, sex ratios of pre-pubertal young persons presenting at gender service (GS) was thought to be a 1:1 relationship (Cohen-Kettenis et al., 2003b). However latest research conducted in Toronto and Amsterdam has found a significant rise in natal (biological) females being referred (Aitken et al., 2015). In adolescents and adults, rates of GD are typically founded on incidences of people pursuing gender reassignment and therefore numbers reported in studies vary widely reflecting differences between treatment availability and criteria for treatment eligibility in different countries (Cohen-Kettenis & Klink, 2015).

Significantly, over the past seven years the Gender Identity Development Service (GIDS) at the Tavistock (the only UK GIDS) has experienced an annual increase in referrals of approximately 50% in presenting young people, for both males and females. This is a similar trend to other services (e.g. Reed, Rhodes, Schofield & Wylie, 2009; Zucker et al., 2013). Within children and adolescents populations, the phenomenology and evolving course of GD is different to adult presentations, with dramatic developmental processes leading to greater fluidity and variability in outcomes (WPATH, 2012). A review of prospective follow up studies by Steensma et al., (2011) suggests that only 15.8% of pre-pubertal children persist with feelings of GD into adolescence. Studies have shown that those presenting to GS at and after puberty, are more likely to persist with physical intervention later on, such as with hormones and/or surgery (Drummond, Bradley, Peterson-Badali & Zucker, 2008, Zucker, 2005). Anecdotally, the impression of the author and GIDS staff is that young people are presenting with gender identity issues in

more diverse ways. Many of the children who do not go on to live as transgender or non-binary, grow up to identify as homosexual or bisexual. Wallien and Cohen-Kettenis (2008) tracked children diagnosed with GD eight years later and found that 20% of males and 50% of females continued to meet criteria for GD. For the children who did not meet criteria, 50% of males and 30% of females identified as gay/lesbian or bisexual (Wallien et al., 2008).

#### **1.4. Identity Formation in Adolescence**

Clearly, adolescence is a significant period of change. Importantly, the outcomes of young people entering a GS seem to vary considerably during this time with regard to whether the GD persists or not and what outcome emerges, such as the young person's identification with different gender identities and/or different sexualities.

The World Health Organisation (WHO) describes adolescence as the period in human growth and development occurring after childhood and before adulthood, from ages 10 to 19. It is often depicted as a period of 'critical transition' (e.g. Kroger, 2007), defined by a remarkable pace of growth and transformation. This rapid development is driven by biological processes, where puberty commences, denoting the migration from childhood to adolescence. Although the biological aspects of adolescence are somewhat universal with the development of primary and secondary sexual characteristics, the onset, duration and distinguishing characteristics of this phase diverge vastly across time, cultures and socioeconomic situations.

Historically, theories of adolescent development have been criticised for not taking into account the contextual factors. Most research prior to the mid 1980s concentrated on explaining and accounting for individual development and functioning, such as maturity of moral reasoning (Steinberg & Morris, 2001). Sociologists note the term 'adolescence' is relatively new, emerging in the West in the 1950's. Some describe the period of adolescence as a social construction, generated to delay young people from entering the workforce because of job scarcity (Zelizer, 1994).

Adolescence is the period of identity formation where the distinct characteristics of a person become known (Simmons & Blyth, 1987). Sex, gender and how we identify with our bodies is central to the concept of identity (Diamond, 2002). Gender roles are intensified at puberty where pubertal girls and boys are increasingly differentiated by appearance and behaviour (Simmons et al., 1987). Past psychological theories have seen it as the task of the adolescent to accept the physical self and to take on a masculine or feminine role (Havighurst, 1956). These heteronormative ideas can understandably cause distress to young people who may be unable to define themselves in this way. West et al. (1987) argue that rather than gender identity being an inborn individual characteristic "...gender is an 'accomplishment' that is realised through social interaction guided within normative attitudes and activities appropriate for one's sex category" (1987, p. 127).

Pubertal change is a key developmental task for adolescents (Simmons et al., 1987). As well as biological changes, current understandings of identity development have encompassed the role of context (Adams & Marshall,

1996). Identity development is shown to be an individual as well as a social process. The pre-pubertal years are when children develop the ability to cognitively use social comparison when self-evaluating (Balleur-van Rijn, Steensma, Kreukels, & Cohen-Kettenis, 2012). They internalise reactions of the 'other' and become self-conscious in their emotions such as experiencing shame (Harter, 2006). This period is critical for constructing a positive self-concept built on responses of others. Body dissatisfaction is particularly widespread throughout adolescence when body image has been described as "the most important component" of self-esteem (Levine & Smolak, 2002, p. 17).

### **1.5. Body Image In The General Population**

There has been a significant rise in research into body image in the last twenty years (Grogan, 2006). This is demonstrated by a substantial rise in citations concerning body image and body (dis)satisfaction in PsychINFO and PubMed between 1980 and 2010 (Tiggemann, 2014), and a journal devoted to the subject; *Body Image: An International Journal of Research* in 2004 (Grogan, 2006).

Body image is described as a subjective concept of physical appearance based on self-observation and the reactions of others (Grogan, 1999; Muth & Cash, 1997). It has "perceptual, attitudinal and affective components" (Striegel-Moore & Franko, 2002, p. 183). It has also been proclaimed as the result of the individual's experiences, observations and internalisation of cultural and personal body ideals (Myers & Biocca, 1992). The breadth of normal and extreme body image experiences is wide-ranging and has

emotional, behavioural and developmental effects along the continuum. It is an important part of a person's overall self-concept (Lindgren & Pauly, 1975).

### 1.5.1. Body Dissatisfaction

Even though body image is conceptualised as a multidimensional concept, research has largely concentrated on the narrower construct of body dissatisfaction, defined as the divergence between the perceived shape and the ideal one (Grogan, 1999). Historically, this bias in definition has led to research focusing on dissatisfaction with weight and a desire to be thinner, mainly amongst young women (Tiggemann, 2004), with eating disorders (Orbach, 1993), although more recently with boys and men (Grogan, 1999). This has reinforced beliefs that body image is only applicable to young women and the concept concerns merely weight and shape (Cash, 2004). Body Dysmorphic Disorder as an extreme to body dissatisfaction will be discussed later on.

Body dissatisfaction is now thought of as a serious public mental health problem (Dion et al., 2014). It is also of political concern, shown by an 'All Party Parliamentary Group on Body Image' being established in 2011, launched to enhance knowledge about the sources of body image dissatisfaction and to investigate what actions can be taken to foster and support healthy body image. Studies have shown body dissatisfaction prevalence rates ranging from 57% to 84% among adolescent girls and from 49% to 82% among adolescent boys (Almeida et al., 2012; Cortese et al., 2010; Lawler & Nixon, 2011; Petroski, Pelegrini & Glaner, 2012).

The impact of body dissatisfaction on mental well-being has been subject to extensive analysis within academic sociology since the late 1970's (Frost,

2005) when research into women's body dissatisfaction drew on feminist and Marxist theories to analyse women's lived experience of embodiment (Lovell, 2000). This theorising established that women "doing looks" is symbolic of their standing as the victims of oppressive white patriarchal capitalism (Chapkis, 1986). Later, in the 1980's, feminist theorists drew on the work of post-structuralist writers such as Foucault (Singer, 1989). Foucault was interested in how identity is constructed and limited within discourse, and the power relations that act via discourse to limit it. Bodies are constructed in relation to powerful meanings ascribed to what it is to be a woman or a man, which are continually internalised and applied (Frost, 2005). How people should behave relates to mass standards that define what is considered normal.

#### 1.5.2. Social Construction of body image

Within psychological research there is increasing acknowledgement that body image is subjective and vulnerable to modification through social influence (Groesz, Levine & Murnen, 2002). Body image is socially constructed, not biologically based (Connell, 2002) as bodily characteristics are ambiguous until given meaning by society (Connell, 1983; 1987, Malson & Ussher, 1996;). Therefore, bodies are an expression of a specific period, geography, religious and cultural place.

Antecedent models of body image have implicated social factors in producing body dissatisfaction, preoccupation with weight and discrepancy between perceived and ideal body shape (Grogan, 1999; Thompson, Heinberg, Altabe & Tantleff-Dunn, 1999). Social cultural models of factors contributing to poor body image have pointed to culture, media, family systems and interpersonal

relationships (Thompson et al., 1999).

## **1.6. Body Image and Gender Dysphoria**

A sense of incongruence, where the body or identity is not validated or seen as not 'fitting' with increasingly narrow and rigid societal standards, could lead to confusion and distress (Kozee, Tylka & Bauerband, 2012). Unsurprisingly, in GD populations where there is a discord between the biological and the preferred gender, body image dissatisfaction is fundamental (Algars et al., 2010; Egan & Perry, 2001). Algars et al., (2010) found that persons with conflicted gender identity displayed greater degrees of body dissatisfaction than controls and proposed that body dissatisfaction is correlated with 'gender identity conflict' characterized by a longing to be the opposite gender. People suffering with GD 'correct' this dissonance through a variety of means in an attempt to reduce the body image dissatisfaction experienced. Numerous authors, and trans persons, have discussed the preoccupation of transgendered people aspiring 'to pass' by conquering the physical attributes and behavior of the desired gender (Marone et al., 1998). In interviews with male to female (MtF) persons, Schleifer (2006) reported how one trans person described transitioning as "...living in a body that doesn't make you sick and alienated every time you look in the mirror" (p. 64). In addition, a person's gender identity is exposed to responses from the social environment, which can confirm or challenge the person's private inner world (Marone et al., 1998). This interplay with the external world is complex and can cause considerable distress. However, body image dissatisfaction in individuals with GD has only rarely been investigated with mixed results found (Algars et al., 2010).

Research on transgender body image originated in the 1970's and has concentrated on the diagnostic category of 'transsexualism' (Clarke, Hayfield & Huxley, 2012). This research has mainly focused on evaluating the effectiveness of procedures to modify the body and, on the whole, has reported surgical and endocrinological treatment to have positive effects on transgender people's body image (e.g. Fleming et al., 1982; Kraemer, Delsignore, Schnyder & Hepp, 2008; Weyers et al., 2009; Wolfradt & Neumann, 2001). The centrality of the body in GD has been shown by successful body alteration in being able to alleviate distress (Johansson, Sundborn, Hojerback & Bodlund, 2010). However, this has not been found by all studies. In a Swiss review no relationship was found between surgical intervention and body image dissatisfaction (Vocks, Stahn, Loenser & Legenbauer, 2009). Other research has investigated body image problems unique to the transgender community (Fleming et al., 1982). In one of the few studies conducted, Pauly & Lindgren (1976/1977) observed that both males and females with GD were more dissatisfied with their bodies than those without GD. Furthermore, as well as high rates of dissatisfaction with primary sexual characteristics (sexual anatomy), there was also unhappiness with other non-sex related features of the body such as face, height, hands and shoulders, amongst others (Pauly et al., 1976/1977). Marone et al., (1998) also found that dissatisfaction with a broader range of bodily parts contributes to trans construction of gender identity, and described how for transgender persons the challenge to adjust to internal and external gender role expectations leads to intense preoccupation with aesthetics of outward appearance. They hypothesised this "all consuming obsession" leads to difficulties in body perception, finding it more challenging to reintegrate diverse body areas into a whole one; "...the body becomes the instrument of

a practical act in which desires for an imagined idealized body and its imagined lacking parts must be realized” (p. 2). The authors describe how heightened anxiety impacts on the ability to perceive the body as a whole.

### **1.7. Media, Advertising and Celebrity Culture**

One of the criticisms of the research presented so far is its over-simplicity when conceptualising body image, by neglecting the impact of broader agencies such as culture, media, socio-political influences, rules and values of societal behaviour.

#### **i) General population**

In Western society there are progressively more homogenised forms of what bodies should look like; the ‘thinness ideal’ for women, a muscular physique for men (Garner, Garfinkel, Schwartz, & Thompson, 1980; Turner, 1987).

These narrow body forms saturate the social sphere where reality is increasingly constructed through an endless play of digitised images.

Sociocultural theories have suggested body dissatisfaction is a product of these unrealistic societal beauty standards that are transmitted through mass media (Levine & Murnen, 2009; Thompson et al., 1999). Indeed, studies have found associations between viewing idealised images and increased body dissatisfaction (Hargreaves & Tiggemann, 2004). Foucault’s’ (1977) work on identity is relevant here where the gaze of the powerful other exercised by surveillance is internalised and leads to a state of permanent ‘self policing’. Western consumerist society is increasingly medicalised and the growth of cosmetic surgery has produced a belief in the perfectible body, which “...has led to a diminution of the rich variety of human bodily expressions” (Orbach,

2009, p. 11). Davis (1995) describes the processes of normalisation and homogenisation which, perpetuated through cosmetic surgery, defines the female body as deficient and in need of constant transformation. The growth of markets for physical enhancement means the category of what is considered 'normal' has shrunk (Featherstone, 2010). Emotional distress and body insecurity is caused by those failing to conform to these idealised types (Grogan, 2007), or, as Leidolf (2006) describes, "people don't fail to meet the definition of 'normal' gender, but the definitions fail to meet the people" (p. 169).

Exposure to idealised images has only increased in the last decade with the advent of social media. Individuals are progressively subject to media messages that they have not sought when others post, tweet or pin video clips (Oliver et al., 2014). However, other authors have proposed a different view, that social media offers a connection with others from diverse backgrounds and may provide alternatives to body ideals (Andsager, 2014). Indeed publications such as *"Embodied Resistance: Challenging the Norms, Breaking the Rules"* (edited by Bobel & Kwan, 2011) discuss how a failure to fit into social norms which, seen as deviant by some, actually signifies a feat of resistance. This resistance could foster increased visibility in mainstream society rendering deviant physical forms more typical– which may in turn lead to raised tolerance within society.

## ii) GD populations

Historically, the transgender community has been hugely underrepresented within mainstream media. However over the past five years or so, this has begun to change (GLAD, 2014). The growth in visibility for transgender people

is a significant and vital stage in acknowledgement of the prejudice and social inequalities for this group. However, reference to non-binary gender in media is scarce and to date there are no scholarly articles published exclusively attending to non-binary gender. According to Judith Butler's (1990) theory of 'gender performativity', recurrent use of a concept, such as non-binary gender, ascribes legitimacy and coherence to that concept. Gender variance is demonized and characterised as abnormal in mainstream media using the language of danger and victimhood (Grey, 2009). These depictions affect public opinion and encourage audiences to view this group as abnormal based solely on their gender identity (Grey, 2009). Gender performance will occur only when there are repeated depictions of non-binary gender in the mass media.

## **1.8. Gender 'Differences'**

### **i) General population**

Gender 'differences' have repeatedly been looked at within psychology research. Dividing the population into genders has been criticised for reinforcing the rigidity of the gender binary and with it the knowledge about the nature of male and female (Johnson et al., 2012). Connell (1983) reported that similarities between the sexes are neglected, and dissimilarities are exaggerated or fabricated through a process of 'attention' and 'dis-attention'. Connell claims this is done in order to legitimise and reproduce social inequalities.

Other theorists have argued the physical presentation of gender is a considerable part of what influences our experience of gender and needs investigation (Bobel & Kwan, 2011). The prevalence of appearance-based

disorders are elevated in 14-18 year old girls in comparison to all other social groups (Ransley, 1999), including body dysmorphic disorder, self-harming (Muehlenkamp & Brausch, 2012), poor self esteem and body loathing (Grogan, 1999). Feminist authors, amongst others, have proposed that the socio-cultural burden on women, to achieve an unrealistically slim ideal precedes body dissatisfaction (Bordo, 1993; Thompson et al., 1999), eating disorders (Levine & Piran, 2004), and cosmetic surgery (Sarwer & Crerand, 2004). Murnens' (2011) research indicated that body image was noticeably gendered in children from eight years of age, and this remains stable across the lifespan (Tiggemann, 2004). Most studies find that sociocultural pressures on appearance are greater for woman than for men (e.g. Fernandez & Prichard, 2012; Murnen, 2011).

Historically men have been exposed to a wider range of acceptable body types in media than women (Gill, Henwood, & McLean, 2005), and have typically experienced much lower levels of body dissatisfaction than girls. However, this trend has begun to change in the 21<sup>st</sup> century with images of men showing a comparable narrower range of bodily types as female images (Hargreaves & Tiggemann, 2009). There is now considerable evidence to suggest that body dissatisfaction is a salient issue for boys (Ricciardelli & McCabe, 2001; 2004). However, research has shown that social pressure on men is quantitatively and qualitatively distinct from the strain on women (Pope, Phillips & Olivardia, 2000) with males focusing primarily on increased muscularity (Law & Labre, 2002; McCreary, Saucier & Courtenay, 2005). Authors have noted that men can be unwilling to talk about body image and so studies may be underestimating male concerns (Hargreaves et al., 2004).

## ii) GD populations

Research has shown that GD populations are affected by the same stereotyped and dimorphic gender roles that are typical in most Western cultures (Vocks et al., 2009). Effeminate boys are often labeled as “Sissies” or “Faggots” by their peers and come under much more abuse than their female counterparts, whose tomboyish behaviour is more tolerated (Pauly, 1990; Kraemer et al., 2008). In addition, a ‘normal’ male body is harder to pass off as female than the other way round (Pauly et al., 1977). Kraemer et al., (2008) found that on a scale measuring particular attention to physical appearance, female to male (FtM) scored low but MtF scored high, compared to norm values showing MtF to be more preoccupied with their physical appearance than FtM. They note from clinical experience that MtF struggle to fit the cross-gender appearance. Adjusting to male appearance is perhaps easier for FtM as male attributes in females are more readily accepted than female’s attributes in males (Kraemer et al., 2008).

## 1.9. Sexuality

### i) General population

Body dissatisfaction is associated with gender, gender role coercions and sexual orientation. Sexual orientation (or sexuality) refers to people’s actions and preferences in relation to whom they show affection and/or have erotic desires (Dragowski et al., 2011).

Homosexual men appear to have a greater risk for developing body dissatisfaction (Williamson & Hartley, 1998) than heterosexual men (Beren, Hayden, Wilfley & Grilo, 1996) and clinicians have remarked that gay men are

overrepresented in eating disorder treatment programs (Atkins, 1998). Similar to heterosexual women, homosexual men are more preoccupied with their appearance than heterosexual men (Siever, 1994).

In contrast, research into people identifying as lesbian has shown outcomes in relation to their body image to have mixed results, with some studies finding scarce or no differences between lesbian and heterosexual women's body image (e.g., Huxley, Halliwell & Clarke, 2014; Koff, Lucas, Migliorini & Grossmith, 2010), and others finding increased body satisfaction in lesbian samples compared to heterosexual women (e.g., Bergeron & Senn, 1998; Polimeni, Austin & Kavanagh, 2009). Much of this research has been critiqued for its flaws in methodology. These shortcomings include evaluations comparing (older) lesbians recruited from LGB communities and (younger) heterosexual undergraduates (e.g. Beren et al., 1996; Wagenbach, 2003), which causes problems owing to the known links between body image and age (Rothblum, 2010). In addition, many lesbians will not access LGB communities so are omitted from the literature.

## ii) GD populations

Some studies have found differences in body image between same-sex attractions in GD populations compared to non GD populations. A few studies have looked at homosexual sexuality and body image in GD samples, and have found increased risk for developing eating disorders due to body dissatisfaction (Fichter & Dazser, 1987). In addition, studies that have looked at associated factors with the persistence of GD into adolescence, have found that 'persisters' reported more body dissatisfaction and higher reports of same-sex orientation compared to the 'desisters' (Drummond et al., 2008;

Steensma et al., 2013; Wallien et al., 2008). More recently same-sex attraction was more strongly associated with poorer relationships with peers in adolescents who were more gender nonconforming (Bos & Sandfort, 2014).

However, this research makes distinctions and comparisons between sexuality and gender identity, which act to maintain the binary between these identifications, when in reality there is much fluidity between them (Wiseman & Davidson, 2011). More recent publications highlight a shift that instead of pathologising difference by categorising alternative expressions of gender and sexuality, move to more 'identity-based' perspectives, which are inclusive of all identifications (Bockting, 2009).

#### **1.10. Interpersonal Relationships; Family and Peers**

##### **i) General population**

All aspects of our lives are co-created through conversations and communication processes with others (Grogan, 2006). Therefore, during the most impressionable years of adolescence, cultural and societal values are translated through the family and are powerful influences on developing young people (Grogan, 2006). Theorists have suggested puberty represents the major developmental transition in the family life cycle requiring reorganisation and reintegration of these changes in terms of gender role identity and body image (Simmons et al., 1987). Parental influence, including criticism, about their own child's weight and body shape is a decisive feature in developing body image dissatisfaction (Clarke & Griffin, 2007).

Furthermore, attitudes towards parents' own bodies are associated with adolescent body dissatisfaction (Schuman, 2010). In particular, parents emphasising thinness in pre-adolescent boys and girls seems to be correlated

with dissatisfaction (Smolak, Levine & Shermer, 1998; Lawrence & Thelen, 1995).

Parents are positioned in a complex dynamic between finding ways for their children to cope and adapt to bodily changes as well as negotiate the change in their own relationships with their children (La Sorsa & Fodor, 1990). Family connectedness has been found to produce body dissatisfaction, but only in girls (Crespo, Kielikowski, Jose & Pryor, 2010).

The role of peers in influencing body image becomes increasingly significant throughout the adolescent years; through exchanging information, modelling actions, applying peer pressure and bullying (Groesz et al., 2002; Paxton, Neumark-Sztainer, Hannan & Eisenberg, 2006). Social comparison emerges in early primary school and is thought to contribute to children's awareness of negative stereotypes associated with body shapes such as body fat (Oliver & Thelen, 1996). Some studies have found peer modelling and teasing to be more strongly related to body dissatisfaction than parental influence (Lawrence et al., 1995).

## ii) GD populations

Clinicians have reported that an increasing proportion of parents accept gender-variance while being primarily concerned for their child's wellbeing and are uncertain as to how to manage the challenge (Gregor, Hingley-Jones & Davidson, 2014). However, some parents strongly reject gender variance and their responses can include, shock, fear, anger, sadness, shame, or even disgust (Malpas, 2011). Several authors have argued it is other people's

distress (e.g. parents') that is the underlying issue in the distress experienced by the gender variant child (Bartlett, Vasey, & Bukowski, 2000).

Psychopathology found among people with GD may be a consequence of coping with rebuff by family and friends rather than from a primary psychiatric syndrome (Factor & Rothblun, 2007). An audit of referrals to the GIDS in the UK illustrated that over 50% of the young people suffered relationship problems with peers and/or parents and carers (Di Ceglie, Freedman, Mcpherson & Richardson, 2002). Other studies have discovered high levels of difficulties with peer relationships and bullying within GD populations, (Holt, Skagerberg & Dunsford, 2014; Zucker et al., 2012), and peer relationships were the greatest predictor of behavioural problems (Cohen-Kettenis et al., 2003a).

### **1.11. Adolescence Body Image And Development Of Co-morbid Problems**

#### i) General population

##### a) Adolescence and Body Image

Adolescence is a period when many psychological complaints such as low mood and eating disorders appear (Fairburn, 2008; Kessler et al., 2005).

Body shape and weight are critical factors contributing to adolescent wellbeing and the relationship between body image, and psychological wellbeing has been found to be strongest during this developmental period (Carroll, Tiggemann & Wade, 1999). Female adolescents in particular are socialised to believe appearance is a critical evaluation of the self and of others and therefore the concept of body image has become central to their self-definition (Thompson et al., 1999). The arrival of puberty involves bodily

transformations that typically shift girls away from societal ideals of female attractiveness (Clay, Vignoles & Dittmar, 2005) where the 'perfect' body is described as tall and extremely thin (Parker et al., 1995). Most longitudinal studies investigating body dissatisfaction in males and females have found that it increases with age (e.g. Calzo et al., 2012).

Body dissatisfaction related to body image has been associated with many other co-morbid problems emerging in adolescence, such as low self-esteem, depression, suicidal ideation and eating pathologies (Crow, Eisenberg, Story & Neumark-Sztainer, 2008; Neumark-Sztainer et al., 2006a; Stice, 2002; Tiggeman, 2005).

#### b) Self-esteem and Body Dissatisfaction

Self-esteem is defined as a "positive or negative attitude toward...the self" (Rosenberg, 1965, p. 30). In Western cultures, girl's self-esteem deteriorates significantly throughout adolescence, with alterations in body image suggested as a likely explanation (Cantin & Stan, 2010; Clay et al., 2005, Paxton et al., 2006). Research has consistently shown that perceptions of appearance and self worth are intimately correlated (Davidson & McCabe, 2006; Tomori & Rus-Makovec, 2000). This link between body image and self-esteem is particularly challenging for young people maturing within contexts of mass consumer societies (Becker et al., 2002). In one study, self-esteem was lower among older girls (12 to 17 years old) and this age trend was in part explained by an equivalent decrease in body satisfaction (Baldwin & Hoffmann, 2002). However, not all studies found close associations between body image and self-esteem (Tiggeman, 2005).

### c) Depression and Body Dissatisfaction

Depression has also been associated with body dissatisfaction (Paxton et al., 2006). Kaplan, Busner and Pollack (1988) found adolescents who thought of themselves as average weight reported better mood than those who saw themselves as underweight or overweight. Similarly, other studies have found that negative thoughts serve to destabilise adolescents' body perception, leading those who experience depression to acquire higher levels of body dissatisfaction (Paxton et al., 2006). However not all studies have found this relationship (Holsen, Kraft & Roysamb, 2001), with one study finding that when self-esteem was controlled for, depression was no longer correlated with body dissatisfaction (Allgood-Merten, Lewinsohn & Hops, 1990).

### d) Suicide, Self-harm and Body Dissatisfaction

Adolescence is the age when self-harm and suicidal ideation is typically first reported (Heath, Schaub, Holly & Nixon, 2009). Depression and/or negative affect are commonly associated with suicidal behaviour and self-harm (Lloyd-Richardson, Perrine, Dierker & Kelly, 2007). Self-harm is used as a strategy for emotion regulation. In a longitudinal study, Wildman, Lilienfeld and Marcus (2004) noticed that low mood came before self-harm behaviours in a sample of adolescents. The existing data suggests that a significant proportion of adolescents are likely to engage in self-injury or have suicidal ideation during their lifetime. Prevalence rates vary depending on the methodology employed by researchers and definition of terms. Evans and colleagues' systematic review of studies found average prevalence rates in adolescent populations to be 9.7% for suicide attempts and 13.2% for self-harm (Evans, Hawton & Rodham, 2005).

However, there is a large proportion of adolescents who experience severe low mood and yet never self-harm or have suicidal ideation. Researchers have looked to other variables that could contribute to the initiation of this behaviour, such as negative body image. Orbach (1996) has written that attitudes towards physique is a significant aspect in understanding self-harm behaviour. Orbach proposes that it is a person's investment in looking after their body that is critical and that body dissatisfaction and a disregard for the body enables self-harm to take place (Orbach, 1996).

Self-objectification theory, when one evaluates oneself based on appearance and the judgements of others (Fredrickson & Roberts, 1997), offers further evidence for the contribution of body dissatisfaction leading to self-harm in order to disconnect from internal bodily experiences. Studies of adolescents presenting with suicidal behaviours have found increased poor body image and that body unhappiness is predictive of suicidal ideation beyond depression and despair (Brausch & Gutierrez, 2009; Orbach & Mikulincer, 1998).

More recently, authors have contested that body image is closely coupled to self worth in adolescence (Markey, 2010). It is conceivable that the theoretical proposition that body dissatisfaction facilitates self-harm and suicidal ideation may have some traction.

#### e) Eating disorders and Body Dissatisfaction

High levels of body dissatisfaction are consistently found in research looking at adolescents experiencing clinical levels of eating pathology (Attie & Brooks-Gunn, 1989; Crowther, Post & Zaynor, 1985; Gross & Rosen, 1988). Body dissatisfaction has also been associated with socially accepted restrictive dietary behaviours (Wertheim et al., 1992). Many researchers now believe

there is a line of continuum concerning 'normative' levels of body dissatisfaction, with initial dietary behaviours at one end and clinical eating disorders at the other (e.g. Wertheim et al., 1992).

#### f) Body Dysmorphia

The above studies relate to different comorbidities in relation to the body. A diagnosis that is often made under the guise of body dissatisfaction is body dysmorphic disorder (BDD). It is relatively common with about a 2% prevalence rate, yet it is very under-recognised (Kelly, Walters & Phillips, 2011). It is characterised by a preoccupation with defects or flaws in one's appearance, when to others these are not observable or slight (APA, criterion A, 2013). In addition, strong feelings are triggered such as depression, anxiety or distress and repetitive compulsive behaviours are carried out in order to alleviate the emotional distress (APA, criterion B, 2013). Those who suffer from BDD have a disconnection between the reality they perceive and how others perceive that reality.

Despite the DSM-V classifying BDD as a distinct diagnostic category to that of body dissatisfaction (APA, 2013), there are many overlaps between diagnoses in the DSM. What is considered a healthy body image, dissatisfaction with the body, and when so-called symptoms meet a diagnostic threshold for BDD in relation to low mood, is arbitrary. Vanheule (2012), amongst others, have criticised the DSM for hindering efforts to recognise disorders that run across classes. For example, Vanhuele notes that BDD resembles the obsessive-compulsive disorders more than it does the somatoform disorders. Body image researchers consider body dissatisfaction as occurring along a spectrum (e.g. Grogan, 1999; Levine & Smolak, 2006;

Neumark-Sztainer et al., 2006b); BDD being the most severe form on this continuum.

## ii) GD populations

### a) Adolescence

For individuals struggling with gender identification, feelings of discomfort often heighten during puberty, as individuals perceive their physical development as foreign and/or disturbing (Lee, 2001; Holt et al., 2014; Morgan & Stevens, 2008). Some studies have found as participants age they become less body dissatisfied (Vocks et al., 2009). One explanation is that body dissatisfaction peaks during adolescence and then levels as other things come into play and persons become more independent and sophisticated in their thinking. During this process, they find ways in which to integrate their feelings about their body and gender into a coherent identity. In addition, as previous studies have found, those older persons with GD may be experiencing a more positive body image due to the effect of sex-reassignment surgery on their body image (Kraemer et al., 2008; Pauly et al., 1976/1977).

### b) Affective disorders

The persistent, conflicting relationship with natal gender, and the frequent intolerable pubertal changes that can be present in people with GD, have been found frequently to lead to social withdrawal, feelings of low mood and low self-esteem (e.g. Skagerberg, Parkinson, & Carmichael, 2013). Wolfradt and Neumann (2001) found that transgender males and male controls attained elevated scores on self-esteem and dynamic body image compared to female controls. In addition, studies have found associations between GD

and significant psychiatric problems such as abuse, trauma and depression (Roberts et al., 2012). However, the article by Roberts et al., presumes that the gender variance comes before the maltreatment but are unable to verify it as a causal effect of abuse.

With regards to low mood, some studies have found comparable quantities of emotional problems in samples with GD compared to the general population (Cohen, de Ruiter, Ringelberg & Cohen-Kettenis, 1997; Cole, O'Boyle, Emory & Meyer, 1997; Haraldsen & Dahl, 2000). However others have found higher mean depression scores in GD samples contrasted with controls, although these were not in the clinical range (Vocks et al, 2009). Vocks et al., (2009) postulate whether the initiation of these increased scores is causally associated with the progression of GD, or whether it can be considered as emerging as a consequence of adjusting to a transgender identity (Cohen et al, 1997). Self harm and suicidality has also commonly been found in GD populations (Grossman & D'Audelli, 2007; Holt et al., 2014). A study conducted in 2011 (Grant et al.) by the National Gay and Lesbian Task Force and the National Center for Transgender Equality found that in their sample of 6450 transgender people, one in two had attempted suicide and they were four times more likely to live in impoverished circumstances. Furthermore, persons with GD suffer from considerable social stigma, including verbal abuse, which could be hypothesised to contribute to low mood (Vocks et al., 2009) leading to negative feelings, body embarrassment and feelings of ugliness and inadequacy (Coates & Person, 1985).

Depersonalisation, "a persistent or recurrent feeling of being detached from one's mental processes or body" (DSM-IV, APA, 1994) has also been found

to be high in GD populations (Coons, 1992; Walling, Goodwin & Cole, 1998). Hartmann, Becker and Rueffer-Hesse, (1997) found persons with GD have the highest scores on depersonalisation and negative body image. These results have been explained by emphasising the importance of dissociative experiences in coping with GD by reducing negative affect (Wolfadt & Engelmann, 1999). However, these findings have not been supported by other studies (Wolfradt et al., 2001) that found a normal range for such phenomena in GD populations.

Overall, GD populations seem to be more vulnerable to mental health conditions, although these appear to be socially induced and not inherent to GD itself.

### c) Eating disorders

A body of research is growing that shows transgender people may be at heightened risk for eating disorders due to body image disturbances contributing to the development and maintenance of eating pathology (e.g. Algars et al., 2010; Fairburn, 2008; Vocks et al., 2009). Vocks et al., (2009) conducted the first experimental study of GD and disordered eating in a sample of German, Swiss and Austrian participants. They found the rates of eating disturbance to be higher in MtF than natal male and female controls (Vocks et al., 2009). The researchers proposed that because MtF transgender persons typically have a higher body mass index (BMI) than natal females, they might feel more pressure to lose weight.

Case reports from the United Kingdom and Spain have also shown an association between GD and a greater risk for eating disorders in both natal

males and females (Fernandez-Aranda et al., 2000; Hepp & Milos, 2002).

This trend has been linked with a cultural association between thinness and femininity. As a result MtF transgender people may internalise the same pressure as natal females to achieve a thinner, more feminine body (Vocks et al., 2009).

FtM transgender persons have been found to have similar body image and eating disturbance to natal female controls. This finding has been attributed to FtM transgender persons wanting to lose weight to suppress secondary sex characteristics such as breasts (Fernandez-Aranda et al., 2000; Hepp et al., 2002). It has been suggested that a further explanation of why GD is associated with disordered eating is that those with conflicted gender identity have an elevated negative self-image and lack self-efficiency (Fernandez-Aranda et al., 2000). However, a recent study comparing a sample of GD with eating disordered patients and a control group, found that although GD and eating disorders were both characterised by severe body uneasiness, they represented different dimensions of this concept (Bandini et al., 2013). In eating disordered persons body uneasiness was predominately related to general psychopathology while in GD persons this association was absent with levels of body uneasiness being independent from general psychopathology. This implies body uneasiness plays a fundamental role in the wellbeing of persons with GD. The authors suggest that their findings indicate a requirement for specialised therapeutic approaches for body uneasiness in the two conditions (Bandini et al., 2013).

Considering how intimately gender identity concerns the body and experience of it, it is surprising how little research has looked at body image in GD

samples. When it has, mixed results have been found (Algars et al., 2010; Vocks et al., 2009). Furthermore, the research has rarely looked at these concepts within populations of young persons and no studies currently exist comparing these samples to the general population.

### **1.12. Body Image Measurement**

As described above, body image is multidimensional, and therefore a multitude of definitions have arisen to exemplify the diverse features of body image: "...weight, body dissatisfaction, size-perception-accuracy, body satisfaction, appearance satisfaction, appearance evaluation, appearance orientation, body esteem, body concern, body dysmorphia, body dysphoria, body schema, body attitude, body distortion, body image, body image disturbance and body image disorder..." (Thompson et al., 1999). A host of different measurement scales have developed to evaluate these definitions of body image.

Within the non GD young person population, body image evaluation, or attitudinal body image (Gardner, 2002), signifies how content one is with one's body (Muth et al., 1997), and is the most frequently measured aspect. Both figure drawings and questionnaires are employed to gauge body dissatisfaction in children and adolescents. However, these studies have been criticised for having too small sample sizes from mostly white middle-class backgrounds (Smolak, 2004). In addition, many of these scales are not valid to reliably use with young children (Smolak, 2004). Most body dissatisfaction questionnaires have shown strong construct validity with eating problems, and so have focused on female body areas of greatest concerns: feelings about hips, thighs, buttocks and stomach (Gardner, 2002).

### 1.13. Body Image Scale (BIS)

Body image research in GD has historically concentrated on a diagnostic category instead of an idiosyncratic experience (Clarke et al., 2012). In 1975, Lindgren and Pauly developed the BIS to support the evaluation and treatment of transgenderism. The BIS consists of a list of 30 body parts and asks respondents to rate their feelings about that body part on a 5-point scale from very satisfied (1) to very dissatisfied (5). Their research, and other studies conducted since, has shown that transgender persons consistently scored *primary sexual characteristics* as 5, or 'very dissatisfied' (Kuiper & Cohen-Kettenis, 1988; Smith, Van Goozen, Kuiper, & Cohen-Kettenis, 2005; Theron, 1983). A list of primary, secondary and neutral sexual characteristics for MtF and FtM transgender persons can be seen in Table 2. This pattern of dissatisfaction is thought to be quite specific in identifying those GD individuals, with GD populations scoring higher on the BIS than non-transgender persons (Lindgren et al., 1975).

Table 2. *Sexual characteristics for transgender persons shown by the BIS.*

MtF	FtM
<b>Primary Sexual Characteristics</b>	
Breasts Scrotum Penis Facial Hair Testicles Voice Chest	Vagina Ovaries-Uterus Breasts Clitoris Chest Facial Hair
<b>Secondary Sexual Characteristics</b>	
Hips Thighs Arms Waist Muscles Buttock Weight Biceps Hair Figure Body Hair Appearance Stature	Hips Thighs Arms Waist Muscles Buttock Weight Biceps Hair Voice Figure Chest Appearance Stature
<b>Neutral Sexual Characteristics</b>	
Nose Shoulders Chin Calves Hands Adam's Apple Height Eyebrows Face Feet	Nose Shoulders Chin Calves Hands Adam's apple Height Eyebrows Face Feet

Although sexual anatomy was found to be an obvious source of dissatisfaction for transgender persons, other bodily aspects also caused discontent (Pauly et al., 1976/1977). The BIS is currently used in at least five national GS for young people (up to 18 years). However, to our knowledge, the BIS has not been used in samples of young persons who are notably absent from the literature (Kuper, 2011). Nor has the BIS been normed in control samples for this age group. Given how high body dissatisfaction is in the general population, specifically in adolescents, an exploration of the scores on the scale would offer a baseline so that test scores could be compared to the general population and therefore allow an investigation into the range of scores across the whole population (McIntire & Miller, 2007). Without these, scores could give skewed results showing young people with GD to be more different than they actually are.

#### **1.14. Summary**

In most cultures, male and female are identified from biological characteristics such as genitalia (Smolak, 2004). Nevertheless, categories of femininity and masculinity are objective, and so not separate from culture, environment, language and power. Gender is the social and societal expectation of how males and females should feel, act and be regarded (Diamond, 2002). Our society has an increasingly binary discourse of what it is to be masculine and feminine (Wiseman et al., 2011), and these distinctions of gender are loaded with practical and moral implications (Harre, 1991). Research has shown a rising of body dissatisfaction in Western society, especially within adolescent populations, with increasingly narrow ideals of what a masculine or feminine body should look like. People are punished by society if they do not conform

to these ideals (Whittle et al., 2007). This reinforces conformity to rigid male/female expressions and encourages the desire to modify their physiques to look like their internal sense of gender, and/or better represent society's expectations.

Previous research has shown the huge complexity and multifactorial nature of the body and identity, and therefore of gender. Currently GS in Europe and America are experiencing a sharp increase in referrals and a decline in the age at which interventions are requested (De Vries & Cohen-Kettenis, 2012; Wood et al., 2013). Given the high proportion of body dissatisfaction in the general population, this spike in referrals could be postulated as a result of this trend. It is therefore crucially important that the range of body dissatisfaction is investigated so clinicians can use appropriate scales when assessing the GD population and are able to compare them with those who do not report GD.

### **1.15. Justification, Aims & Research Question**

The research presented has shown that issues relating to the body, identity and gender, are complex and multi-factorial. No published studies as yet have looked at the scores for the BIS using a control group in a young person population. There is a need to investigate the experiences of those who are not usually included in the literature. Additionally most studies looking at body image in the general population have small sample sizes and have focused on the female population. The focus of this research is on one questionnaire, the BIS, which will be used to establish the range of body-part satisfaction of those with GD, as well as those without.

The research question is:

Do persons with GD differ from the control sample in terms of body part-satisfaction? Are the two populations, clinical (GD sample) and control (without GD), similar or different on primary, secondary and neutral characteristics and individual body parts, as well in terms of wanting to change their body parts through surgical or medical treatment?

In addition to these main analyses, other effects of covariates, and along with natal sex, will be considered as modifying factors. For example, does the sample with GD score more in line with their perceived or natal gender in the control sample? As well as, does age within and between samples of those with GD and the control sample relate to body-part satisfaction?

## **2. METHOD**

### **2.1. Epistemological Position**

#### 2.1.1. Background

Epistemology concerns the theory of knowledge - how one comes to hold ideas about phenomena that are regarded as real (Barker, Pistrang, & Elliot, 2002). It is especially concerned with the makeup of knowledge, its methods, validity, scope and reliability of claims to knowledge (Willig, 2001).

Positivism is an epistemological position adopted by many who conduct research on the premise that a linear relationship exists between entities, events and our perception and comprehension of it (Willig, 2001). It seeks to reach a scientific “truth” where the world could be predicted (Trochim, 2000). Behaviourist psychologists adopted this approach, that psychology should focus its efforts on understanding only what could be directly observed and measured, rather than studying unobservable emotions or thoughts. However, positivism was criticised for reducing everything to observable events including social processes. As a result social constructionism emerged as an important perspective, which in contrast to positivism, believes reality is socially constructed. The aim of research therefore becomes to explore how these social constructions happen.

Critical realism also grew out of the post-positivism era, criticising positivism and social constructionism as superficial and unrealistic. Critical realism recognises there are unobservable events that cause observable ones, that there is reality, independent of human thinking that can be studied. However it is critical of the ability to know that reality with any certainty. A critical realist

perspective acknowledges that every observation includes human error and cultural biases (Trochim, 2006). The aspiration of critical realism is to employ measures and observations to enhance understanding of reality while recognising the inaccuracies and intrinsic individual prejudices of the researcher. Philosopher, Roy Bhaskar (1997), initiator of the critical realism movement, has argued that science is an on-going process, constantly evolving its concepts in order to comprehend the processes that are examined.

Critical realism also rejects the relativist position, which lies at the other end of the continuum of epistemological positions to positivism. This holds that individuals construct their own reality, which exists only within the subjective perception of the individual (Trochim, 2006). Although positivism, social constructionism, critical realism and relativism thus diverge substantially, these positions are not discrete and there are many challenges and complexities within these positions. Social constructionism is a very broad field and the range of different approaches that fall under this label includes quite diverse viewpoints. In addition, some commentators emphasise the similarities when comparing the orientations; for example, critical realism accepts constructionist elements in research.

#### 2.1.2. Positioning of the current study

This research will take a critical realist position, that although the world is 'real' and objectivity is aimed for, it cannot be entirely conceptualised as observation is fallible and encompasses human error and biases (Trochim, 2000). The research aims to explore young people's scores on the BIS (Lindgren & Pauly, 1975) which aims to tap into a person's construct of

satisfaction with their body parts. Within scientific theory, constructs, either hypothetical or social, are explanatory variables which are not directly observable. The creation of these constructs is the operationalisation of the studied phenomenon. In this study a person's satisfaction with their bodily parts is looked at by the person rating each body part on a Likert scale. It is recognised that this is one particular attempt at measuring body-part satisfaction and there may be other ways. The limitation of this methodology is that there is no adequate criterion for the operational definition of constructs. However, using a critical realist stance the fact that the constructs are socially defined and produced does not make the phenomenon any less real, as mechanisms are real even if not observable (Fleetwood, 2005). Causality is complex, occurring at many levels and understood as contextual. The scores produced by young people filling out the scale will therefore be seen as corresponding to their satisfaction with their bodily parts, and results will be compared against the research hypotheses. However, it is acknowledged that we can never fully describe a phenomenon because we are always framed by our own assumptions. In light of this, and with the research questions in mind, an experimental approach using quantitative analyses will be used here. This approach is considered to best fit the research questions and the epistemological position.

## **2.2. Recruitment**

Two sample groups were recruited.

### **2.2.1. Clinical group**

Young people from the clinical sample comprised of all referrals to the nationally commissioned GIDS in London. The BIS were collected over a four-year period, from January 2010 to December 2014.

### 2.2.2. Control group

The control group sample was recruited from a mainstream secondary school based in London in a week in April 2014.

### 2.3. Inclusion / Exclusion Criteria

The only exclusion criterion was age, with data from persons who were 12 to 18 years being used in the study. This is the age range GIDS use for administering the BIS as puberty has been seen as a critical period in the development of ones body image. In addition, for the under 12's the BIS is seen as not age appropriate in the description of body parts. In the clinical sample the BIS were collected as part of routine outcome monitoring at GIDS. Therefore, the control group was also bound by this age restriction. In the control sample, all young persons from 12 to 18 years of age were invited to participate in the study.

Apart from age, no other restrictions were imposed. Additional factors could have been observed, such as ethnicity, however, due to using retrospective data for the clinical group other restrictions could not be controlled for.

### 2.4. Young People Taking Part in the Study

A total of 907 young people took part in the study. Of these, 591 were from the clinical sample and 316 from the control sample. A total of 240 questionnaires were then excluded from the data set due to the young people not filling out all the answers on the questionnaires and their ages falling

outside the inclusion criteria (12-18 years old). This was done so that the two samples datasets were comparable.

#### 2.4.1. Clinical Sample

In the clinical sample 188 questionnaires were excluded due to their partial completion as well as the age of the young persons falling outside the inclusion criteria. The final number of questionnaires used in the analysis was 403. There were 163 natal males and 240 natal females with a mean age of 15.19 (SD = 1.41).

#### 2.4.2. Control Sample

In the control sample, on three questionnaires the young persons had written that they refused to take part due to finding filling out the questionnaire “embarrassing”. A total of 31 questionnaires were excluded due to their partial completion and the young persons and ranges falling outside the inclusion criteria. The final number of questionnaires used in the analysis was 262. There were 131 males and 131 females with a mean age of 14.30 (SD = 1.86)

### 2.5. Materials

The BIS is used to assess the dissatisfaction that young people GD have towards their body. The scale includes 30 body features and the person is asked to rate each individual feature on a 5 point Likert scale (very satisfied, satisfied, neutral, dissatisfied and very dissatisfied). Each of the 30 items falls into one of three basic groups based on its relative importance as a gender-defining body feature: primary sexual characteristics (e.g. breasts), secondary sexual characteristics (e.g. hips) and the assumed hormonally unresponsive,

neutral body characteristics (e.g. nose). A higher score indicates more dissatisfaction. If the young person scores 3 or above on any of the body parts they also have to indicate whether they would prefer to change that physical feature if it was possible through medical or surgical treatment.

The BIS has been used in previous research for the same age group in other GS and has shown good reliability (for example see Kuiper & Cohen-Kettenis, 1988; Lindgren & Pauly, 1975; Smith, van Goozen & Cohen-Kettenis, 2001, 2005; de Vries et al., 2011, 2014; Wallien & Cohen-Kettenis, 2008). However, it was designed for use by gender specialist services where distress about gender identity is already suspected.

No other materials were administered to participants.

## **2.6. Ethical Approval**

Ethical approval was given by the University of East London ethics committee (see Appendix B for application for ethics approval, Appendix C for thesis registration and Appendix D for ethical approval being awarded). National Health Service (NHS) ethical approval was not required as the clinical sample data was already collected and anonymised (Appendix E for confirmation of this from NHS ethics and the academic tutor at University of East London). For the control sample NHS ethical approval was also not required because the site where the young people were recruited from was a school and not an NHS site. Permission to recruit young people from this site was given by the Special Educational Needs Coordinator (SENCO) at the school (Appendix F for evidence of this approval).

## **2.7. Consent**

In the clinical sample all young people seen at the GIDS are informed that their data will be anonymised and used for outcome monitoring and research purposes.

In the control sample, consent from young people was gained by teachers informing them that if they chose to complete the questionnaire then they were giving their consent for their data to be used in the study. Young people were also given an invitation letter (Appendix G) to read prior to being asked to fill out the questionnaire which detailed this consent information. The young people were given opportunities to ask questions and were informed who they could ask about the study if the researcher was not available. Questionnaires were then stored in a locked cabinet in the SENCO's office.

## **2.8. Procedure**

### **2.8.1. Clinical sample**

For the clinical sample the BIS (Lindgren & Pauly, 1975) was completed as part of the standard assessment pack at the GIDS and were completed during the first 4-6 appointments. This data was collected anonymously. All fully completed questionnaires were used as part of this study.

### **2.8.2. Control sample**

- i) How teachers were informed

Heads of year were notified of the study and offered the opportunity to attend a short presentation by the researcher on how to administer the questionnaire. An instruction sheet was also provided on how to administer the questionnaire and necessary debriefing to go through with the young people after completion of the questionnaire (Appendix H).

ii) How parents were informed

For the control sample parents were notified in the school bulletin (which is emailed and sent out via post to parents) one week before the questionnaires were administered. The bulletin detailed that the research project was being undertaken for a doctorate thesis and gave brief information regarding the nature of the questionnaire, including that it will ask the young people to rate on a scale how satisfied they were with a number of body parts including sexual bodily characteristics. It also stated that their child did not have to participate in this research and were informed of ways in which they could opt out. Parents were also given contact details of the researcher and the SENCO. The SENCO was also provided with a list of appropriate support organisations to direct parents to should they need them (Appendix I).

iii) How young people were informed

All adolescents fulfilling the age criteria, and attending the school on the day of administering the questionnaires, were asked to take part in the study and complete the BIS. In addition, the questionnaire asked the young people for their natal sex, birth date and age, as well as asking whether they were seeing a health care professional currently, and if so why. This was done in order to know whether they attended the GIDS service, and therefore to distinguish them from the clinical sample.

An invitation letter was handed out to the young people in their morning tutor time allowing for adequate time for it to be read and for questions to be answered. After this, during their personal, social, health and economic (PSHE) lesson, the BIS was given to students to fill out. Teachers were asked to read the instructions carefully and allow time for any questions. The young people were informed that the questionnaires were anonymous and were asked to fill the questionnaire out in private. The questionnaire took approximately 15 minutes to complete. After completion participants were asked to put their questionnaires in confidential sealable envelopes at the front of the classroom.

iv) How the questionnaires were stored

The sealed envelopes containing each school year's questionnaires were securely stored in a locked cabinet in the SENCO's office. All questionnaires were collected from the school at the end of the week due to each year filling their questionnaires out at different times and days during that week.

### 2.8.3. Data Entry

Data was entered into SPSS, version 20, (Statistical Package for the Social Sciences), after which questionnaires were destroyed. Missing data from the questionnaires were looked at to see the spread of these scores over the two groups and within the groups.

The control sample had a total of 10% (n = 31) excluded due to missing data. The majority of this missing data was for primary sexual characteristics (61% of the total excluded) with a larger percentage occurring within the younger

age ranges. These findings could be explained by children finding it embarrassing to fill out the questionnaires in a classroom setting or because children were not sure what some of these parts were. In the clinical group 20% (n = 188) were excluded because of missing data. However, in this sample there was more of an even spread across all three categories of sexual characteristics; primary, secondary and neutral, and across age groups.

The data was transformed into categories for the sub scales: primary, secondary, neutral sexual characteristics as well as for overall means. Taking into account the scale used in this research, there is more than one way of analysing the data (Carifio & Perla, 2007). The points on the Likert scale could be seen as distinct categories, and therefore chi square tests could have been used to analyse differences in responses between the categories. However, the BIS is used clinically and not just to carry out research. Clinically the scale is used as increasing in dissatisfaction, from (1) satisfied to (5) dissatisfied, and so it was used in this way for the analysis (Carifio et al., 2007). Statistical tests to compare means between the two samples are Analysis of Variance (ANOVA's). Chi-square tests were used to compare ordinal data as to whether young people wanted to change body parts.

## **2.9. Participants**

A breakdown of the number of young people used in the analysis for group, sex at birth and age group can be seen in Table 3. There are more females in the clinical group than males in this group  $X^2(1) = 14.71, p < .05$ . For the analyses participants were grouped into three age categories; 12-14, 15-16, 17-18. This was done so that the age groups roughly reflected early, mid and

late pubertal development, as previous research has suggested that pubertal development is critical in the development of body dissatisfaction (e.g. Vocks et al., 2009). In addition, by grouping the ages in this way, it makes it easier to see changes in participant's scores between the age ranges. In the clinical group the numbers of participants rise as age increases, where as in the control group the opposite trend is shown.

Table 3. *Characteristics of final sample used for analysis, including: group, sex at birth and age group*

<b>Sample Group</b>	<b>Characteristic</b>	<b>N</b>
<b>Clinical</b>		403
	Sex at birth	
	Male	163
	Female	240
	Age Group	
	12-13	32
14-15	118	
16-18	253	
<b>Control</b>		262
	Sex at birth	
	Male	131
	Female	131
	Age group	
	12-13	126
14-15	61	
16-18	72	
<b>Total No of Participants</b>		<b>665</b>

### 3. RESULTS

#### 3.1. Exploring the Data

The data was initially explored to examine the distribution of variables and whether assumptions of normality were met for the requirements of parametric analysis. Boxplots and histograms were reviewed and a Shapiro-Wilk test was conducted.

The results of these exploratory analyses are shown in Tables 4 and 5. The Shapiro-Wilk test revealed that for both the clinical and control group the mean scores for overall, primary, secondary and neutral sexual characteristic were significantly nonnormal, as well as for all item scores in both groups. Within the clinical group a review of the histograms of means for overall mean and primary sexual characteristics showed an uneven distribution across the range of scores, as well as showing high kurtosis, although no skewness (see Table 5). However, all values of kurtosis were below the upper threshold of 3.29 (see Field, 2009). Z-scores were also calculated to check for outliers and less than 5% had values greater than 2.58, and so no cases had to be removed (Field, 2009). The overall mean score for the control group ( $M = 1.94$ ) is lower than the overall mean score for the clinical group ( $M = 3.56$ ), and this pattern is the same for all subscales and item scores between the groups. This is an expected finding as the persons with GD have been found to be much more distressed with their bodies than the general population. However, the lack of body dissatisfaction in the control group is an unexpected finding given past research showing high rates body dissatisfaction in adolescent samples.

Table 4. *Descriptive statistics of the control group scores addressing the overall mean, subscales and item scores.*

n = 262	Min	Max	Mean	SD	Skewness	Kurtosis	Shapiro-Wilk
Overall mean	1.00	5.00	1.94	.73	.60	.26	.00
Primary	1.00	5.00	1.94	.75	.48	-.27	.00
Secondary	1.00	5.00	1.97	.79	.72	.44	.00
Neutral	1.00	5.00	1.90	.72	.59	.36	.00
Nose	1	5	2.00	.98	.78	.21	.00
Shoulders	1	5	1.79	.83	.81	.13	.00
Hips	1	5	1.93	1.00	.90	.24	.00
Chin	1	5	1.86	.91	.92	.47	.00
Calves	1	5	1.90	.98	.94	.30	.00
Breasts	1	5	<b>2.16</b>	1.15	.86	.06	.00
Hands	1	5	1.78	.87	1.13	1.20	.00
Adam's apple	1	5	1.87	.96	1.00	.73	.00
Scrotum/Vagina	1	5	1.83	.86	.83	.44	.00
Height	1	5	2.05	1.09	.95	.31	.00
Thighs	1	5	<b>2.10</b>	1.09	.82	-.05	.00
Arms	1	5	1.94	1.00	.94	.33	.00
Eyebrows	1	5	1.91	1.00	1.10	.83	.00
Penis / Clitoris	1	5	1.82	.91	1.13	1.26	.00
Waist	1	5	1.91	1.02	1.16	.97	.00
Muscles	1	5	2.05	1.01	.66	-.10	.00
Buttock	1	5	1.91	.93	.72	-.20	.00
Facial hair	1	5	2.00	1.08	1.07	.75	.00
Face	1	5	1.92	.98	1.07	.94	.00
Weight	1	5	<b>2.24</b>	1.23	.86	-.14	.00
Biceps	1	5	1.97	.92	.57	-.42	.00
Testicles/Uterus	1	5	1.83	.95	1.25	1.58	.00
Hair	1	5	1.73	.97	1.42	1.76	.00
Voice	1	5	1.82	.96	1.18	1.13	.00
Feet	1	5	1.98	1.03	1.02	.68	.00
Figure	1	5	<b>2.06</b>	1.12	.98	.34	.00
Body hair	1	5	<b>2.09</b>	1.07	.91	.41	.00
Chest	1	5	1.93	.96	.98	.72	.00
Appearance	1	5	1.95	1.02	1.03	.55	.00
Stature	1	5	1.95	1.04	.99	.38	.00

Note: Scores in bold are body parts with the lowest levels of body-part satisfaction.

Table 5. Descriptive statistics of the clinical group scores addressing the overall means, subscales and item scores.

n = 403	Min	Max	Mean	SD	Skewness	Kurtosis	Shapiro -Wilk
Overall mean	1.00	5.00	3.56	.58	-.80	<b>2.26</b>	<b>.00</b>
Primary	1.00	5.00	<b>4.41</b>	.60	-.70	<b>3.25</b>	<b>.00</b>
Secondary	1.00	5.00	3.52	.73	-.64	.43	<b>.00</b>
Neutral	1.00	5.00	3.08	.67	-.31	.57	<b>.00</b>
Nose	1	5	2.68	1.10	.29	-.50	<b>.00</b>
Shoulders	1	5	3.07	1.10	-.02	-.61	<b>.00</b>
Hips	1	5	3.84	1.16	-.83	-.19	<b>.00</b>
Chin	1	5	2.82	1.09	.23	-.45	<b>.00</b>
Calves	1	5	2.87	1.06	.14	-.46	<b>.00</b>
Breasts	1	5	<b>4.74</b>	.68	-1.04	3.32	<b>.00</b>
Hands	1	5	2.99	1.13	-.07	-.67	<b>.00</b>
Adam's apple	1	5	3.91	1.08	-.82	.06	<b>.00</b>
Scrotum/Vagina	1	5	<b>4.62</b>	.81	-1.43	3.25	<b>.00</b>
Height	1	5	3.42	1.28	-.39	-.93	<b>.00</b>
Thighs	1	5	3.48	1.20	-.41	-.79	<b>.00</b>
Arms	1	5	2.94	1.07	.05	-.64	<b>.00</b>
Eyebrows	1	5	2.66	1.10	.41	-.41	<b>.00</b>
Penis / Clitoris	1	5	4.51	.89	-1.92	3.29	<b>.00</b>
Waist	1	5	3.59	1.16	-.50	-.59	<b>.00</b>
Muscles	1	5	3.45	1.11	-.47	-.39	<b>.00</b>
Buttock	1	5	3.27	1.21	-.20	-.83	<b>.00</b>
Facial hair	1	5	4.26	.99	-1.31	1.14	<b>.00</b>
Face	1	5	3.27	1.12	-.17	-.70	<b>.00</b>
Weight	1	5	3.26	1.29	-.15	-1.11	<b>.00</b>
Biceps	1	5	3.31	1.08	-.26	-.45	<b>.00</b>
Testicles /Uterus	1	5	<b>4.62</b>	.78	-1.30	3.27	<b>.00</b>
Hair	1	5	2.60	1.18	.36	-.72	<b>.00</b>
Voice	1	5	4.15	1.05	-1.19	.69	<b>.00</b>
Feet	1	5	3.15	1.10	-.13	-.55	<b>.00</b>
Figure	1	5	4.00	1.10	-1.00	.25	<b>.00</b>
Body hair	1	5	3.97	1.06	-.70	-.36	<b>.00</b>
Chest	1	5	<b>4.41</b>	.88	-1.52	1.88	<b>.00</b>
Appearance	1	5	3.78	1.05	-.53	-.49	<b>.00</b>
Stature	1	5	3.45	1.07	-.07	-.78	<b>.00</b>

Note: Scores in bold are body parts with the lowest levels of body-part satisfaction.

The differences observed between the clinical and control groups were then analysed to see if they are statistically significant. It was decided that in addition to variables meeting parametric assumptions, the large sample size and Likert scale producing interval data meant that assumptions of normality were met for use of parametric tests. Between subjects ANOVAs were performed on the data to see if there was a significant effect of group, natal gender and age group on overall mean scores, primary, secondary and neutral sexual characteristics. Interactions between the variables were also examined. Overall mean scores were looked at by group, natal gender and age groups, as well as the interactions between the variables. The dependent variable was the overall mean score and the independent variables were group (clinical or control), natal sex (natal male or natal female) and age group (12-13, 14-15, 16-18 years).

## **3.2. Differences between the clinical and control groups**

### **3.2.1. Overall Means**

There was a significant main effect of group,  $F(1, 664) = 579.80, p < .001, \omega^2 = .47$  on body-part satisfaction measured by the BIS, indicating which group the participants were in had a significant impact on their overall body body-part satisfaction. A medium effect size was shown (Cohen, 1988).

Estimated marginal means show which groups were more dissatisfied with their body. Data show the level of body-part satisfaction for body parts from 1 (“very satisfied”) through to 5 (“very dissatisfied”) on a Likert scale. The clinical group showed low levels of body-part satisfaction in their overall means ( $M = 3.41, SD = .04$ ) compared to the control group whose overall mean scores were in the satisfied range ( $M = 1.97, SD = .04$ ). Females were

shown to be slightly more dissatisfied with their body ( $M = 2.76$ ,  $SD = .043$ ) than males ( $M = 2.62$ ,  $SD = .04$ ) across both groups.

In the second instance, three separate ANOVAs were run to look at the means for primary, secondary and neutral characteristics respectively.

### 3.2.2. Primary Sexual Characteristics

Similarly to the overall means, there was a large significant main effect of group,  $F(1, 664) = 591.19$ ,  $p < .001$ ,  $\omega^2 = .68$  on body-part satisfaction, indicating which group participants were in had a significant impact on their satisfaction of their primary bodily characteristics.

Estimated marginal means show the clinical group scoring overall in the “dissatisfied” to “very dissatisfied” range ( $M = 4.30$ ,  $SD = .05$ ) for their primary sexual characteristics, whereas the control group were scoring overall in the “satisfied” to “very satisfied” range ( $M = 1.97$ ,  $SD = .04$ ). This indicates a large difference in scores between the groups on the primary sexual characteristics as the effect size also shows in the ANOVA.

### 3.2.3. Secondary Sexual Characteristics

There was a significant main effect of group,  $F(1, 664) = 591.19$ ,  $p < .001$ ,  $\omega^2 = .38$ , on body satisfaction. Estimated marginal means show the clinical group scoring overall in the “neutral” to “dissatisfied” range ( $M = 3.49$ ,  $SD = .05$ ) for the secondary sexual characteristics which overall indicates more body satisfaction than the primary sexual characteristics. The control group scored in the “satisfied” range ( $M = 2.06$ ,  $SD = .05$ ) which although still suggests

satisfaction with secondary bodily characteristics, it shows less satisfaction than with primary sexual characteristics. Although the difference between the clinical and control groups is still substantial, these results indicate a smaller gap in scores than the difference between the group means on the primary sexual characteristics.

#### 3.2.4. Neutral Sexual Characteristics

There was a significant main effect of group,  $F(1, 664) = 252.80, p < .001, \omega^2 = .27$ , on body-part satisfaction. Similarly for the primary and secondary characteristics, the effect of group was in the large range.

Estimated marginal means show the clinical group scoring in the 'neutral' to 'satisfied' range ( $M = 2.94, SD = .04$ ) which overall is less dissatisfied than for the primary and secondary sexual characteristics. The control group scored in the 'satisfied' to 'very satisfied' range ( $M = 1.92, SD = .04$ ) showing these scores to be very similar to their scores on primary sexual characteristics.

#### 3.2.5. Item scores

The majority of scores for the clinical group fall between the 3 (neutral) to 5 (very dissatisfied) range. The top five highest scores, indicating least body part satisfaction, have been highlighted. All but one ('chest', which is a secondary sexual characteristic) are primary sexual characteristics. In contrast to the control group all mean scores fall between the 2 (satisfied) and 1 (very satisfied) range.

### **3.3. Differences between males and females within and between the clinical and control groups**

In the control group, participants mean scores are all within the very satisfied (1) to satisfied (2) range, in comparison to the clinical group where participants mean scores on subscales are within the neutral (3) to dissatisfied (4) range.

For the control group (see Table 6) the females mean scores are all higher than the males mean scores, indicating less body-part satisfaction with body parts. Both males and females highest mean scores were for secondary sexual characteristics. Highest scores in males and females are also predominately with secondary sexual characteristics.

In the clinical group (see Table 7) both males and females are most dissatisfied with primary sexual characteristics, followed by secondary and then neutral sexual characteristics. All male and female high scores are with primary sexual characteristics. Male mean scores are higher on primary and neutral sexual characteristics, but females scores are higher on overall mean and secondary sexual characteristics.

Table 6. *Total score, subscales, items scores for control group males and females.*

	Male (n = 131)				Female (n = 131)			
	Min	Max	M	SD	Min	Max	M	SD
Overall mean	1.00	4.00	1.82	.69	1.00	4.00	2.06	.74
Primary	1.00	5.00	1.82	.74	1.00	5.00	2.05	.75
Secondary	1.00	4.00	1.84	.73	1.00	5.00	2.09	.83
Neutral	1.00	4.00	1.78	.68	1.00	4.00	2.02	.73
Nose	1	5	1.79	.90	1	5	2.21	1.02
Shoulders	1	4	1.69	.80	1	5	1.89	.85
Hips	1	5	1.82	.90	1	5	2.05	1.08
Chin	1	5	1.80	.90	1	5	1.92	.92
Calves	1	5	1.80	.93	1	5	2.01	1.02
Breasts	1	5	<b>2.09</b>	1.16	1	5	<b>2.22</b>	1.14
Hands	1	5	1.59	.76	1	5	1.97	.94
Adam's apple	1	5	1.83	.97	1	5	1.92	.95
Scrotum/Vagina	1	5	1.82	.91	1	5	1.84	.82
Height	1	5	<b>1.95</b>	1.09	1	5	2.14	1.09
Thighs	1	5	1.90	.95	1	5	<b>2.29</b>	1.19
Arms	1	5	1.78	.87	1	5	2.11	1.09
Eyebrows	1	5	1.76	.89	1	5	2.05	1.09
Penis/Clitoris	1	5	1.71	.93	1	5	1.93	.89
Waist	1	5	1.80	.92	1	5	2.02	1.10
Muscles	1	5	<b>1.91</b>	.98	1	5	2.18	1.02
Buttock	1	4	1.81	.86	1	4	2.01	.98
Facial hair	1	5	<b>1.92</b>	1.07	1	5	2.07	1.08
Face	1	5	1.84	.97	1	5	2.01	.98
Weight	1	5	<b>2.07</b>	1.05	1	5	<b>2.42</b>	1.37
Biceps	1	5	1.88	.92	1	5	2.06	.91
Testicles/Uterus	1	5	1.69	.85	1	5	1.96	1.02
Hair	1	5	1.66	.93	1	5	1.80	1.01
Voice	1	5	1.71	.87	1	5	1.92	1.05
Feet	1	5	1.83	.95	1	5	2.14	1.08
Figure	1	5	1.85	.92	1	5	<b>2.27</b>	1.26
Body hair	1	5	1.85	.91	1	5	<b>2.33</b>	1.17
Chest	1	5	1.82	.90	1	5	2.05	1.02
Appearance	1	5	1.78	.91	1	5	2.12	1.11
Stature	1	5	<b>1.91</b>	1.05	1	5	2.00	1.03

Note: Scores in bold are body parts with the lowest levels of body-part satisfaction.

Table 7. Total score, subscales, items scores for clinical group males and females

	Male (n = 163)				Female (n = 240)			
	Min	Max	M	SD	Min	Max	M	SD
Overall Mean	1.00	5.00	3.52	.64	1.00	5.00	3.59	.54
Primary	1.00	5.00	4.43	.67	2.00	5.00	4.40	.54
Secondary	1.00	5.00	3.29	.75	1.00	5.00	3.67	.67
Neutral	1.00	5.00	3.19	.72	1.00	5.00	3.01	.62
Nose	1	5	2.95	1.22	1	5	2.50	.98
Shoulders	1	5	3.34	1.18	1	5	2.89	1.00
Hips	1	5	3.32	1.21	1	5	3.19	.98
Chin	1	5	2.98	1.20	1	5	2.71	1.00
Calves	1	5	2.82	1.09	1	5	2.91	1.03
Breasts	1	5	<b>4.52</b>	.86	2	5	<b>4.88</b>	.47
Hands	1	5	3.07	1.16	1	5	2.94	1.11
Adam's apple	1	5	3.99	1.23	1	5	3.86	.97
Scrotum/Vagina	1	5	<b>4.52</b>	.95	1	5	<b>4.69</b>	.69
Height	1	5	3.00	1.27	1	5	3.71	1.21
Thighs	1	5	3.06	1.17	1	5	3.76	1.13
Arms	1	5	2.79	1.06	1	5	3.05	1.06
Eyebrows	1	5	2.97	1.22	1	5	2.45	.96
Penis/Clitoris	1	5	<b>4.61</b>	.87	1	5	<b>4.45</b>	.90
Waist	1	5	3.24	1.23	1	5	3.82	1.06
Muscles	1	5	3.16	1.17	1	5	3.64	1.03
Buttock	1	5	3.02	1.20	1	5	3.45	1.19
Facial hair	1	5	<b>4.47</b>	.97	1	5	4.12	.99
Face	1	5	3.63	1.20	1	5	3.21	1.06
Weight	1	5	3.12	1.33	1	5	3.35	1.26
Biceps	1	5	3.10	1.12	1	5	3.45	1.04
Testicles/Uterus	1	5	<b>4.63</b>	.84	1	5	<b>4.62</b>	.74
Hair	1	5	2.82	1.20	1	5	2.44	1.14
Voice	1	5	4.10	1.18	1	5	4.18	.96
Feet	1	5	3.47	1.16	1	5	2.94	1.00
Figure	1	5	3.63	1.21	1	5	4.25	.94
Body Hair	1	5	4.42	.96	1	5	3.65	1.00
Chest	1	5	4.20	.98	1	5	<b>4.55</b>	.76
Appearance	1	5	3.84	1.10	1	5	3.73	1.01
Stature	1	5	3.35	1.10	1	5	3.52	1.05

Note: Scores in bold are body parts with the lowest levels of body-part satisfaction.

### 3.3.1. Overall means

There was a significant main effect of natal sex,  $F(1, 664) = 5.82, p = .016, \omega^2 = .009$  on body-part satisfaction measured by the BIS, indicating which natal sex participants were, had a significant impact on their overall body-part satisfaction. Estimated marginal means showed females to be slightly more dissatisfied with their body ( $M = 2.76, SD = .043$ ) than males ( $M = 2.62, SD = .04$ ) across both groups. However there was no significant interaction effect between natal sex and group  $F(1, 664) = .55, p = .46, \omega^2 = .001$  indicating that males and females were not affected differently by group.

### 3.3.2. Primary sexual characteristics

In contrast to overall means, natal sex was not found to be significant  $F(1, 664) = .334, p = .07, \omega^2 = .005$ , indicating there were not large differences between male and female scores on primary bodily characteristics across the groups.

Estimated marginal means showed that, similarly to the overall means, females were shown to be slightly more dissatisfied than males ( $M = 3.19, SD = .045$  and  $M = 3.08, SD = .04$  respectively) although this was not shown to be significant. There were no significant findings for any of the interaction effects.

### 3.3.3. Secondary sexual characteristics

Interestingly, in contrast to primary sexual characteristics, there was a significant main effect of natal sex on body-part satisfaction,  $F(1, 663) = 12.43, p < .001, \omega^2 = .080$ . Estimated marginal means showed females shown to be more dissatisfied than males ( $M = 3.04, SD = .05$  and  $M = 2.57, SD = .04$  respectively) and this difference was shown to be significant. In

contrast to primary sexual characteristics, there was a significant interaction effect between group and natal sex,  $F(1, 664) = 8.38, p = .004, \omega^2 = .013$ , indicating that natal male and female sexes were affected differently by group

#### 3.3.4. Neutral sexual characteristics

A main effect of natal sex was not found to be significant,  $F(1, 664) = .004, p = .95, \omega^2 = .000$ . Estimated marginal means showed that, similarly to the overall, primary and secondary sexual characteristics, females were shown to be slightly more dissatisfied than males ( $M = 3.04, SD = .05$  and  $M = 2.58, SD = .04$  respectively) although this was not shown to be significant. Similarly to secondary sexual characteristics, there was a significant interaction effect between group and natal sex,  $F(1, 664) = 7.99, p = .005$ , however, these effect sizes were small.

### 3.3.5. Comparison of natal sexes within the groups

Table 8. *Comparison of natal sexes within the groups.*

<b>Group</b>	Natal sexual characteristic	Mean Rank	Mann-Whitney	Z	Exact Sig. (2-tailed)
<b><u>Clinical</u></b>					
<b>Primary</b>	Males	217.25	17075.00	-2.17	<b>.030</b>
	Females	191.65			
<b>Secondary</b>	Males	138.64	9232.50	-9.00	<b>.000</b>
	Females	245.03			
<b>Neutral</b>	Males	222.66	16192.50	-2.93	<b>.003</b>
	Females	187.96			
<b>Overall means</b>	Males	194.53	18343.00	-1.06	.289
	Females	207.07			
<b><u>Control</u></b>					
<b>Primary</b>	Males	119.04	6948.50	-2.67	<b>.007</b>
	Females	143.96			
<b>Secondary</b>	Males	112.99	6156.00	-3.95	<b>.000</b>
	Females	150.01			
<b>Neutral</b>	Males	118.89	6928.50	-2.70	<b>.007</b>
	Females	144.11			
<b>Overall means</b>	Males	119.10	6855.50	-2.65	<b>.008</b>
	Females	143.90			

Note: Significant scores are highlighted in bold.

Due to the initial exploration of participants mean scores showing themselves to be significantly non-normal, a non-parametric test was conducted to look at

the within group differences. This was carried out as a smaller number of participants were included in the analysis so the data was more sensitive to error. A Mann-Whitney U test was conducted to analyse significant differences in body-part satisfaction between males and females within the two groups. Results are presented in Table 8.

The results indicate significant differences between the sexes for primary, secondary and neutral characteristics within both groups. For the clinical group, body-part satisfaction scores were significantly lower in natal males for primary and neutral sexual characteristics indicating them to be more distressed than natal females, whereas natal females scored significantly higher for secondary sexual characteristics. In the control group females had significantly higher scores than males across all sexual characteristics, although overall these were still within the satisfied range`.

Mann-Whitney tests were conducted to see if participants in the clinical group scored more in line with their perceived or natal genders. Significant differences were found between; natal males in the clinical group ( $M = 2.92$ ) and natal females in the control group ( $M = 1.44$ ),  $U = 1564.50$ ,  $z = -12.58$ ,  $p < .001$ ,  $r = -.73$ , with natal males in the clinical group being more distressed overall. The same pattern was found between natal females ( $M = 2.92$ ) in the clinical group and natal males in the control group ( $M = 1.35$ ),  $U = 969.50$ ,  $z = -14.945$ ,  $p < .001$ ,  $r = -.78$  with natal females in the clinical group showing themselves to be more distressed. However, overall mean scores showed the control group to be scoring in the satisfied range. These findings were expected due to the vast differences in scores found between the clinical and control groups; with high scores indicating low satisfaction with body parts

found in the clinical group, and in contrast, scores signifying satisfaction with body parts in the control group.

### **3.4. Differences between the age groups of the clinical and control groups**

For the control group (see Table 9), all mean scores were within the very satisfied and satisfied ranges. Mean scores increased within all subscales as participants ages increase, indicating decreasing satisfaction with body parts with age. However, these increases were gradual and small (see Figure 1). Most high mean scores are within secondary sexual characteristics, with breasts being the only primary sexual characteristic. Weight was the highest mean score across all three age categories and was the only body item to be a high score in all three categories.

For the clinical group (see Table 10), mean scores also increased across age categories, however, a larger increase in scores can be seen between 12-13 years and 14-15 years with a smaller increase between 14-15 years and 16-17 years (see Figure 2). All highest mean scores for all age categories were for primary sexual characteristics and these same body parts were consistently the highest scores across all age categories.

Table 9. Total score, subscales and item scores for age groups within the control group.

	12-13 years (n = 126)				14-15 years (n = 61)				16-18 years (n = 75)			
	Min	Max	M	SD	Min	Max	M	SD	Min	Max	M	SD
Overall mean	1.00	5.00	1.83	.68	1.00	5.00	1.96	.81	1.00	5.00	2.09	.70
Primary	1.00	5.00	1.81	.70	1.00	5.00	1.98	.86	1.00	5.00	2.11	.70
Secondary	1.00	5.00	1.85	.72	1.00	5.00	1.98	.87	1.00	5.00	2.14	.79
Neutral	1.00	5.00	1.82	.69	1.00	5.00	1.94	.79	1.00	5.00	2.01	.68
Nose	1	5	<b>2.02</b>	.99	1	5	2.05	1.04	1	5	1.95	.94
Shoulders	1	5	1.67	.77	1	4	1.90	.92	1	4	1.88	.83
Hips	1	5	1.85	.95	1	5	2.00	1.12	1	5	2.01	.96
Chin	1	5	1.78	.90	1	5	1.92	.95	1	5	1.95	.89
Calves	1	5	1.82	.98	1	5	1.92	1.00	1	4	2.04	.96
Breasts	1	5	<b>2.06</b>	1.18	1	5	<b>2.28</b>	1.22	1	5	2.23	1.04
Hands	1	5	1.65	.87	1	4	1.84	.91	1	5	1.95	.82
Adam's apple	1	5	1.71	.95	1	5	1.95	.99	1	5	2.08	.92
Scrotum/Vagina	1	4	1.65	.76	1	5	1.90	.94	1	5	2.07	.92
Height	1	5	1.92	1.01	1	5	<b>2.18</b>	1.19	1	5	2.15	1.13
Thighs	1	5	<b>2.02</b>	1.10	1	5	2.03	1.18	1	5	<b>2.27</b>	1.00
Arms	1	5	1.75	.90	1	5	2.00	1.06	1	5	2.21	1.04
Eyebrows	1	5	1.83	.98	1	5	1.85	1.06	1	5	2.08	.99
Penis/Clitoris	1	5	1.78	.91	1	5	1.80	1.03	1	5	1.91	.84
Waist	1	5	1.76	.96	1	5	1.98	1.08	1	5	2.09	1.02
Muscles	1	5	1.91	.98	1	5	<b>2.08</b>	1.06	1	5	<b>2.24</b>	.98
Buttock	1	5	1.75	.86	1	5	2.00	1.04	1	4	2.11	.90
Facial hair	1	5	1.79	.95	1	5	2.07	1.20	1	5	2.28	1.11
Face	1	5	1.87	1.02	1	5	1.85	1.04	1	5	2.07	.84
Weight	1	5	<b>2.14</b>	1.24	1	5	<b>2.31</b>	1.29	1	5	<b>2.36</b>	1.17
Biceps	1	5	1.79	.88	1	5	<b>2.11</b>	1.03	1	4	2.16	.85
Testicles/Uterus	1	5	1.70	.93	1	5	1.84	1.05	1	5	2.04	.87
Hair	1	5	1.68	.94	1	5	1.67	1.10	1	5	1.87	.92
Voice	1	5	1.72	.97	1	5	1.85	1.09	1	5	1.95	.83
Feet	1	5	1.98	1.16	1	5	1.95	1.04	1	5	2.03	.90
Figure	1	5	<b>2.01</b>	1.19	1	5	2.00	1.11	1	5	2.20	1.01
Body hair	1	5	1.98	1.07	1	5	2.05	1.07	1	5	<b>2.32</b>	1.05
Chest	1	5	1.85	1.02	1	4	1.93	1.01	1	4	2.07	.81
Appearance	1	5	1.90	1.08	1	5	1.82	1.04	1	5	2.13	.90
Stature	1	5	1.82	1.07	1	5	1.89	1.03	1	5	<b>2.24</b>	.94

Table 10. Total score, subscales and item scores for age groups within the clinical group

	12-13 years (n = 32)				14-15 years (n = 118)				16-18 years (n = 253)			
	Min	Max	M	SD	Min	Max	M	SD	Min	Max	M	SD
Overall mean	1.00	5.00	3.01	.89	1.00	5.00	3.56	.50	1.00	5.00	3.64	.53
Primary	1.00	5.00	3.98	1.16	2.00	5.00	4.42	.51	1.00	5.00	4.46	.51
Secondary	1.00	5.00	2.86	.96	1.00	5.00	3.54	.65	1.00	5.00	3.59	.68
Neutral	1.00	5.00	2.57	.85	1.00	5.00	3.02	.63	1.00	5.00	3.17	.63
Nose	1	4	1.91	.963	1	5	2.58	1.08	1	5	2.83	1.08
Shoulders	1	5	2.47	1.21	1	5	3.10	1.06	1	5	3.14	1.09
Hips	1	5	2.87	1.47	1	5	3.99	1.05	1	5	3.89	1.11
Chin	1	5	2.38	1.31	1	5	2.68	1.06	1	5	2.94	1.06
Calves	1	5	2.47	1.19	1	5	2.90	1.11	1	5	2.91	1.01
Breasts	1	5	<b>4.37</b>	1.23	2	5	<b>4.80</b>	.54	1	5	<b>4.75</b>	.62
Hands	1	5	2.44	1.24	1	5	2.96	1.10	1	5	3.08	1.12
Adam's apple	1	5	3.66	1.47	1	5	3.85	1.09	1	5	3.97	1.02
Scrotum/Vagina	1	5	<b>4.31</b>	1.35	3	5	<b>4.68</b>	.63	1	5	<b>4.63</b>	.79
Height	1	5	2.75	1.36	1	5	3.38	1.29	1	5	3.53	1.24
Thighs	1	5	2.97	1.33	1	5	3.43	1.20	1	5	3.56	1.17
Arms	1	5	2.34	1.09	1	5	2.97	1.07	1	5	3.01	1.04
Eyebrows	1	5	2.28	1.30	1	5	2.55	1.00	1	5	2.75	1.12
Penis/Clitoris	1	5	<b>4.09</b>	1.53	3	5	<b>4.54</b>	.74	1	5	<b>4.55</b>	.84
Waist	1	5	3.00	1.45	1	5	3.53	1.18	1	5	3.68	1.10
Muscles	1	5	2.94	1.50	1	5	3.50	1.06	1	5	3.49	1.07
Buttock	1	5	2.66	1.40	1	5	3.36	1.17	1	5	3.31	1.18
Facial hair	1	5	<b>3.72</b>	1.55	1	5	<b>4.18</b>	1.01	1	5	<b>4.37</b>	.87
Face	1	5	2.50	1.34	1	5	3.25	1.16	1	5	3.38	1.03
Weight	1	5	2.72	1.44	1	5	3.26	1.27	1	5	3.33	1.27
Biceps	1	5	2.81	1.42	1	5	3.38	1.08	1	5	3.34	1.02
Testicles/Uterus	1	5	<b>4.22</b>	1.43	3	5	<b>4.64</b>	.67	1	5	<b>4.66</b>	.70
Hair	1	5	2.16	1.19	1	5	2.56	1.22	1	5	2.67	1.15
Voice	1	5	3.31	1.49	1	5	4.14	1.07	1	5	4.26	.93
Feet	1	5	2.88	1.38	1	5	3.05	1.07	1	5	3.24	1.07
Figure	1	5	3.16	1.46	1	5	4.10	1.05	1	5	4.06	1.02
Body hair	1	5	3.31	1.46	1	5	3.92	1.02	1	5	4.07	.99
Appearance	1	5	3.25	1.29	1	5	3.68	1.07	1	5	3.89	.98
Stature	1	5	2.72	1.35	1	5	3.44	1.04	1	5	3.55	1.02

Note: Scores in bold are body parts with the lowest levels of body-part satisfaction.

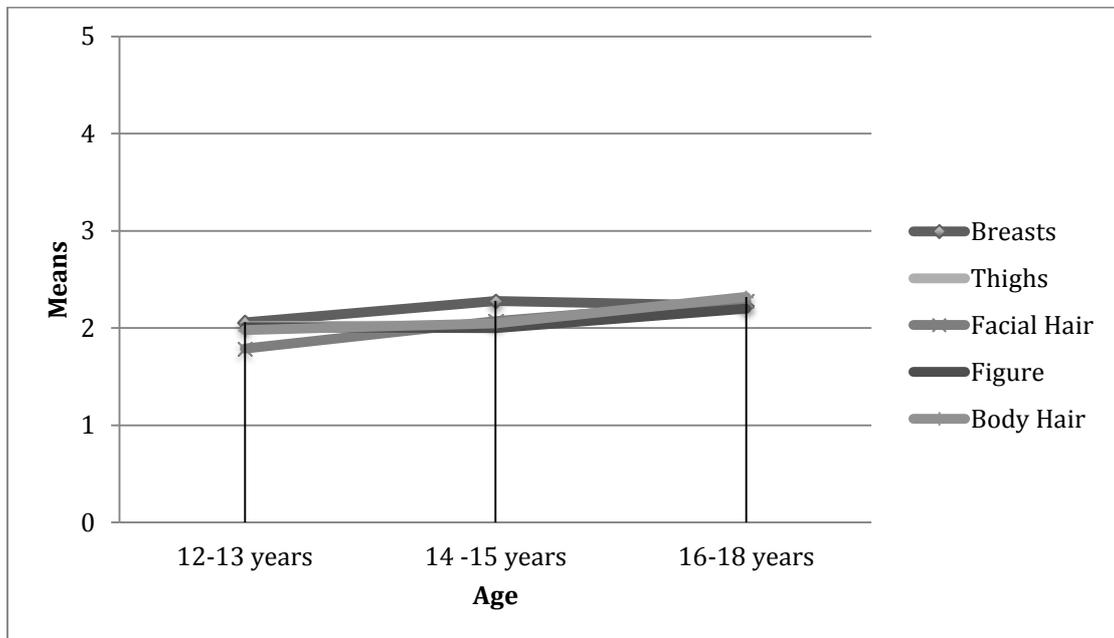


Figure 1. Age group means for the top five highest scores on individual body parts for the control group.

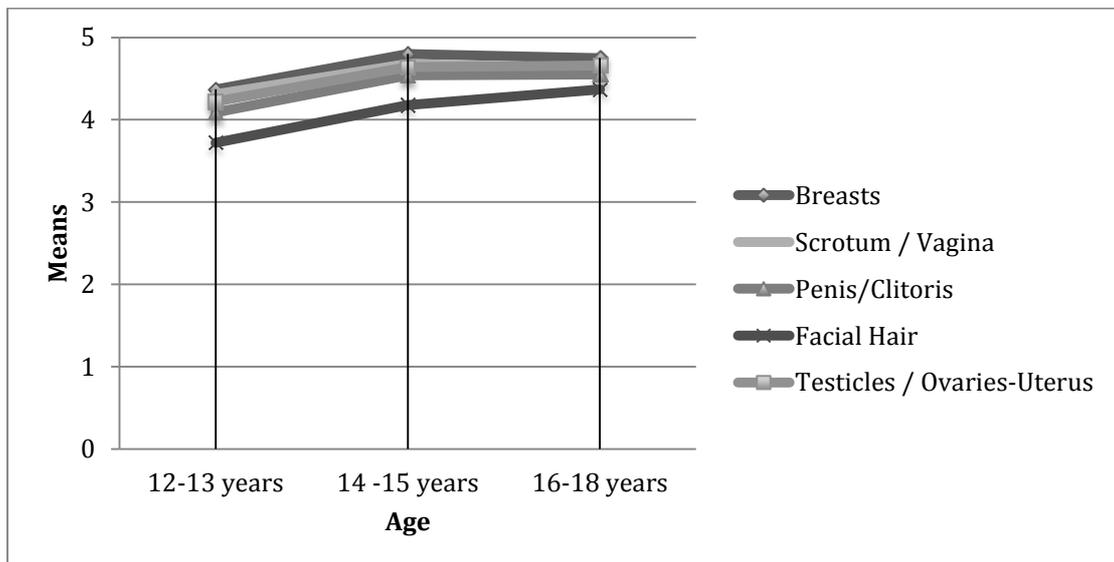


Figure 2. Age group means for the top five highest scores on individual body parts for the clinical group.

### 3.4.1. Overall means

There was a large significant main effect of age group,  $F(2, 663) = 16.81, p < .001, \omega^2 = .049$  on body-part satisfaction measured by the BIS. Indicating the age group participants were in had a significant impact on their overall body-part satisfaction. Planned contrasts across both groups revealed that the difference between the age groups 12-13 years and 13-14 years was significant,  $t(256) = 16.81, p = .001$ , but the difference between age group 13-

14 years and 16-18 years was not significant,  $t(256) = 16.81, p = .12$ .

Specifically the oldest age group 16-18 years were the most dissatisfied ( $M = 2.87, SD = .04$ ), followed by the age group 14-15 years ( $M = 2.77, SD = 0.50$ ) and then the youngest age groups was the least dissatisfied ( $M = 2.44, SD = 0.62$ ). There was a significant interaction effect between group and age,  $F(1, 653) = 3.56, p = .03, \omega^2 = .011$

#### 3.4.2. Primary sexual characteristics

There was a small to medium significant effect of age groups,  $F(2, 663) = 12.43, p < .001, \omega^2 = .037$ , on body-part satisfaction. For age groups, the same pattern as for the overall means was also shown, with planned contrasts across both groups revealing that the difference between the age groups 12-13 years and 13-14 years was significant,  $t(278) = 12.43, p = .001$ , but the difference between age group 13-14 years and 16-18 years was not significant,  $t(278) = 16.81, p = .20$ . Specifically the oldest age group 16-18 years were the most dissatisfied ( $M = 3.29, SD = .04$ ) followed by the age group 14-15 years ( $M = 3.20, SD = 0.52$ ) and then the youngest age groups was the least dissatisfied ( $M = 2.91, SD = 0.65$ ).

There were no significant findings for any of the interaction effects.

#### 3.4.3. Secondary sexual characteristics

There was a significant main effect of age groups,  $F(2, 663) = 12.43, p < .001, \omega^2 = .044$  on body-part satisfaction. For age groups, the same pattern as the overall means and primary sexual characteristics was also shown, with planned contrasts across both groups revealing that the difference between the age groups 12-13 years and 13-14 years was significant,  $t(357) = 15.14,$

$p < .001$ , but the difference between age group 13-14 years and 16-18 years was not significant,  $t(357) = 15.14$ ,  $p = .07$ . Specifically the oldest age group 16-18 years were the most dissatisfied ( $M = 2.97$ ,  $SD = .05$ ), followed by the age group 14-15 years ( $M = 2.86$ ,  $SD = 0.49$ ), and then the youngest age groups were the least dissatisfied ( $M = 2.49$ ,  $SD = .07$ ). For both groups participant scores across the age groups were more satisfied on secondary sexual characteristics than for primary sexual characteristics. There was also a significant interaction between group and age group,  $F(2, 663) = 3.48$ ,  $p = .03$ ,  $\omega^2 = .011$ , indicating that the clinical and control groups were affected differently by age.

#### 3.4.4. Neutral sexual characteristics

There was a significant main effect of age groups,  $F(2, 663) = 12.99$ ,  $p < .001$ ,  $\omega^2 = .038$ , on body-part satisfaction. For age groups the same pattern as for overall means, primary and secondary sexual characteristics was shown with planned contrasts across both groups revealing that the difference between the age groups 12-13 years and 13-14 years was significant,  $t(665) = 12.99$ ,  $p < .001$ , but the difference between age group 13-14 years and 16-18 years was not significant,  $t(665) = 12.99$ ,  $p = .09$ . Specifically the oldest age group 16-18 years were the most dissatisfied ( $M = 2.60$ ,  $SD = .04$ ), followed by the age group 14-15 years ( $M = 2.50$ ,  $SD = 0.54$ ), and then the youngest age groups was the least dissatisfied ( $M = 2.19$ ,  $SD = .06$ ). Participants' scores across age groups were more satisfied with secondary and neutral sexual characteristics than with primary sexual characteristics. Similarly to secondary sexual characteristics, there was a significant interaction effect between group and age group  $F(2, 663) = 3.83$ ,  $p = .022$ ,  $\omega^2 = .012$ . However, both these effect sizes were small.

### 3.4.5. Interaction between sex and age

The ten highest scores are displayed in Table 11 to present body parts males and females were most dissatisfied with across the three age categories. For overall means there was a significant interaction between natal gender and age group,  $F(1, 664) = 3.02, p = .05, \omega^2 = .009$ . However when the interaction effects were carried out for the subscales, there was no significant interaction effect between natal gender and age for primary,  $F(1, 664) = 1.75, p = .17, \omega^2 = .005$ , secondary  $F(2, 663) = 1.50, p = .64, \omega^2 = .008$ , or neutral sexual characteristics  $F(2, 663) = 2.79, p = .06, \omega^2 = .008$ .

Table 11. The ten highest mean scores for individual body parts for group, natal gender and age group.

Body Part	Means (SD)					
	Male			Female		
	12-13	14-15	16-18	12-13	14-15	16-18
<b>Breasts</b>						
<i>Clinical</i>	4.17 (1.42)	4.60 (.791)	4.55 (.753)	4.64 (.929)	3.91 (.293)	4.89(.478)
<i>Control</i>	1.92 (1.17)	2.28 (1.25)	2.22 (1.05)	2.19 (1.18)	2.28 (1.22)	2.24 (1.05)
<b>Adams apple</b>						
<i>Clinical</i>	2.61 (1.65)	3.84 (1.21)	4.12 (1.14)	3.71 (1.26)	3.85 (1.03)	3.87 (.926)
<i>Control</i>	1.61 (.875)	2.06 (1.07)	2.00 (1.00)	1.81 (1.02)	1.83 (.889)	2.16 (.855)
<b>Scrotum / Vagina</b>						
<i>Clinical</i>	4.17 (1.54)	4.63 (.691)	4.53 (.920)	4.50 (1.09)	4.71 (.610)	4.70 (6.83)
<i>Control</i>	1.60 (.735)	1.94 (1.04)	2.08 (1.01)	1.70 (.790)	1.86 (.833)	2.05 (.837)
<b>Thighs</b>						
<i>Clinical</i>	2.61 (1.19)	2.86 (1.22)	3.22 (1.13)	3.43 (1.39)	3.76 (1.07)	3.79 (1.15)
<i>Control</i>	1.62 (.854)	2.19 (1.06)	2.11 (.906)	2.41 (1.19)	1.86 (1.30)	2.42(1.08)
<b>Penis/Clitoris</b>						
<i>Clinical</i>	4.17 (1.54)	4.63 (.691)	4.68 (.773)	4.00 (1.56)	4.49 (.778)	4.46 (.878)
<i>Control</i>	1.58 (.821)	1.66 (1.03)	1.97 (.986)	1.97 (.959)	1.97 (1.01)	1.84 (.679)
<b>Facial Hair</b>						
<i>Clinical</i>	3.72 (1.63)	4.40 (.929)	4.63 (.755)	3.71 (1.49)	4.05 (1.05)	4.19 (.897)
<i>Control</i>	1.63 (.854)	2.09 (1.25)	2.27 (1.14)	1.95 (1.03)	2.03 (1.18)	2.29 (.955)
<b>Testicle/Ovaries-Uterus</b>						
<i>Clinical</i>	4.11 (1.53)	4.63 (.655)	4.72 (.709)	4.36 (1.33)	4.64 (.690)	4.63 (.699)
<i>Control</i>	1.53 (.762)	1.78 (1.07)	1.89 (.774)	1.86 (1.05)	1.90 (1.04)	2.18 (.955)
<b>Voice</b>						
<i>Clinical</i>	3.39 (1.57)	4.09 (1.17)	4.24 (1.07)	3.21 (1.42)	4.16 (1.01)	4.28 (.836)
<i>Control</i>	1.52 (.805)	1.94 (1.07)	1.84 (.727)	1.92 (1.08)	1.76 (1.12)	2.05 (.928)
<b>Figure</b>						
<i>Clinical</i>	2.78 (1.47)	3.70 (1.22)	3.75 (1.11)	3.64 (1.33)	4.33 (.875)	4.27 (.916)
<i>Control</i>	1.66 (8.67)	2.00 (1.04)	2.05 (.880)	2.34 (1.37)	2.00 (1.19)	2.34 (1.12)
<b>Body Hair</b>						
<i>Clinical</i>	3.17 (1.54)	3.60 (1.22)	4.64 (.701)	3.50 (1.40)	3.63 (1.01)	3.68 (.976)
<i>Control</i>	1.66 (.848)	1.97 (1.03)	1.08 (.862)	2.28 (1.18)	2.14 (1.12)	2.55 (1.17)

### 3.5. Change

Initially descriptive statistics were carried out to look at the percentage of participants scoring 3 and above, (indicating a desire to change their body parts), for between and within the groups, for natal sexes and age group. The percentages of those wanting to change their body parts are shown in Table 9, for group and natal gender. The highest five scores in each, for group and natal gender, are highlighted in order to observe body parts participants indicated they most wanted to change. Chi-square tests were conducted in order to see if the differences between the groups were statistically significant. This analysis was used as ordinal data, yes/no categories, were being compared.

For these highest scores in the clinical group, percentages of those wanting to change body parts were all over 90%. For natal males the highest scores indicated were all for primary sexual characteristics. For natal females these were predominately for primary sexual characteristics, apart from voice, which is seen as a secondary sexual characteristic for natal females. However voice comes under primary sexual characteristics for males, which perhaps reveals why the females in the clinical group, who are unhappy with their natal gender sexual characteristics, would want to change this body part.

In the control group the highest percentage of those wanting to change a body part was for natal females where 59.6% indicated they wanted to change their weight, however overall, most scores in the control group fell below 30% (43

out of a total of 60). For natal males, their highest scores were a mixture of primary (penis), secondary (muscles, weight, hair) and neutral (height) sexual characteristics. The natal female's highest scores were also a mixture of primary (breasts) and secondary (weight, hair, figure and appearance) sexual characteristics. Overall the natal female's scores were higher than the natal males. Natal females in the control sample also scored higher percentages in wanting to change their noses and hair than natal females in the clinical group.

As seen in Table 9, overall, Chi-square tests showed significant differences in those participants wanting to change their body parts between the two groups overall scores, and between the groups for the natal males and natal females. Non-significant scores of note were for 'height' and 'weight'. Chi Squares indicated that natal males in the clinical and control groups answered similarly in wanting to change their height. Clinical and control natal females both had high scores in wanting to change their weight.

Note: in Table 12, the five highest percentages, and non-significant scores, have been highlighted in bold.

Table 12. Percentages wanting to change body parts; for group and natal sex. Chi-square ( $X^2$ ) for natal genders and groups.

Body Parts	Yes to change body part % (n)				$X^2$		B/w groups
	Clinical		Control		Gender and group		
	Male	Female	Male	Female	Male	Female	
<b>Nose</b>	57.0 (107)	18.8 (128)	10.3 (29)	24.0 (50)	.000	<b>.118</b>	.003
<b>Shoulders</b>	56.9 (130)	50.3 (153)	8.3 (24)	21.4 (28)	.000	.003	.000
<b>Hips</b>	67.0 (115)	84.3 (210)	3.1 (32)	20.5 (39)	.000	.000	.000
<b>Chin</b>	54.1 (109)	28.4 (134)	10.7 (28)	15.6 (32)	.000	.003	.000
<b>Calves</b>	41.8 (98)	37.5 (152)	10.0 (30)	22.9 (35)	.000	.037	.002
<b>Breasts</b>	<b>95.9 (146)</b>	<b>99.1 (233)</b>	10.0 (40)	<b>42.0 (50)</b>	.000	.000	.000
<b>Hands</b>	50.0 (104)	39.7 (156)	13.3 (15)	16.1 (31)	.006	.006	.000
<b>Adam's apple</b>	90.2 (133)	80.5 (205)	25.0 (32)	11.8 (34)	.000	.000	.000
<b>Scrotum/ Vagina</b>	92.4 (144)	<b>93.3 (224)</b>	13.3 (30)	9.7 (31)	.000	.000	.000
<b>Height</b>	45.7 (105)	73.9 (180)	<b>35.3 (34)</b>	39.0 (41)	<b>.91</b>	.000	.000
<b>Thighs</b>	54.5 (112)	68.6 (188)	17.6 (34)	41.7 (48)	.000	.000	.000
<b>Arms</b>	44.2 (95)	52.3 (149)	17.2 (29)	27.0 (37)	.005	.003	.000
<b>Eyebrows</b>	58.7 (104)	22.2 (108)	8.3 (24)	41.7 (36)	.000	.014	<b>.064</b>
<b>Penis/ Clitoris</b>	<b>92.8 (145)</b>	90.6 (212)	<b>30.4 (23)</b>	23.3 (30)	.000	.000	.000
<b>Waist</b>	66.4 (116)	71.6 (190)	10.3 (29)	27.6 (29)	.000	.000	.009
<b>Muscles</b>	55.4 (112)	73.3 (191)	<b>26.3 (38)</b>	18.0 (50)	.000	.000	.000
<b>Buttock</b>	61.7 (107)	55.6 (169)	8.8 (34)	25.0 (36)	.000	.000	.000
<b>Facial Hair</b>	<b>95.8 (143)</b>	89.2 (204)	22.9 (35)	25.0 (40)	.000	.000	.000
<b>Face</b>	72.0 (118)	60.1 (168)	20.7 (29)	35.5 (31)	.000	.007	.000
<b>Weight</b>	63.6 (107)	62.1 (169)	<b>31.0 (42)</b>	<b>59.6 (47)</b>	.000	<b>.127</b>	.004
<b>Biceps</b>	50.0 (106)	68.0 (175)	23.5 (34)	20.5 (44)	.026	.000	.000
<b>Testicles/ Uterus</b>	<b>95.2 (146)</b>	<b>93.8 (225)</b>	13.6 (22)	17.9 (28)	.000	.000	.000
<b>Hair</b>	63.3 (98)	30.2 (116)	<b>33.3 (21)</b>	<b>59.3 (27)</b>	.009	.004	<b>.443</b>
<b>Voice</b>	91.4 (140)	<b>94.3 (211)</b>	16.0 (25)	32.3 (31)	.000	.000	.000
<b>Feet</b>	61.0 (123)	42.3 (149)	20.7 (29)	37.5 (40)	.000	.005	.002
<b>Figure</b>	84.0 (125)	89.1 (211)	17.6 (34)	<b>46.7 (45)</b>	.000	.000	.000
<b>Body Hair</b>	<b>95.2 (147)</b>	74.5 (192)	15.6 (32)	40.8 (49)	.000	.000	.000
<b>Chest</b>	84.2 (139)	<b>95.0 (218)</b>	25.0 (32)	30.3 (33)	.000	.000	.000
<b>Appearance</b>	89.5 (133)	83.2 (185)	21.4 (28)	<b>44.4 (36)</b>	.000	.000	.000
<b>Stature</b>	59.3 (118)	61.3 (173)	17.8 (36)	33.3 (33)	.000	.000	.000

Mean scores for both groups across age groups for those participants wanting to change their body parts (Table 13) illustrate a similar picture to that of the pattern found for satisfaction with body parts across age groups. This being; a desire to change body parts increases with age with the biggest difference in scores being between the 12-13 year and 14-15 year groups, with a levelling out of scores between the 14-15 years and 16-18 years. This trend is illustrated in Figure 3. When split into groups, the pattern is echoed by the clinical group, shown in Figure 4. However, for the control group (Figure 5) a different pattern is shown where scores are highest in the younger age group (12-13 years) and then decrease as the young persons becomes older.

Table 13. *Percentage and chi-square of those wanting to change individual body parts across age groups.*

Body Parts	Age Groups			$\chi^2$
	12-13	14-15	16-18	
Nose	25.0 (52)	28.4 (81)	35.4 (181)	2.59 (.273)
Shoulders	31.3 (32)	46.9 (98)	50.2 (205)	4.02 (.134)
Hips	36.2 (47)	71.4 (119)	69.6 (230)	21.94 (.001)
Chin	28.9 (38)	26.5 (83)	39.0 (182)	4.91 (.086)
Calves	35.7 (42)	34.8 (89)	34.2 (119)	1.45 (.963)
Breasts	60.3 (62)	<b>85.5 (138)</b>	<b>89.6 (268)</b>	<b>33.34 (.000)</b>
Hands	33.3 (30)	41.6 (89)	39.6 (187)	.63 (.727)
Adam's apple	58.1 (43)	74.2 (120)	75.9 (241)	<b>5.97 (.039)</b>
Scrotum/ Vagina	59.6 (47)	79.5 (127)	<b>85.9 (255)</b>	<b>21.45 (.000)</b>
Height	58.3 (48)	58.5 (106)	57.8 (206)	.017 (.992)
Thighs	50.0 (54)	55.7 (106)	58.6 (222)	1.34 (.511)
Arms	24.3 (37)	48.8 ( 86)	44.9 (287)	<b>6.68 (.035)</b>
Eyebrows	39.5 (38)	35.7 (70)	37.8 (164)	.165 (.921)
Penis/ Clitoris	<b>66.0 (50)</b>	<b>83.7 (123)</b>	<b>86.9 (237)</b>	<b>12.07 (.001)</b>
Waist	54.1 (37)	64.5 (107)	61.4 (220)	<b>.78 (.044)</b>
Muscles	44.7 (47)	60.0 (115)	57.2 (229)	3.29 (.193)
Buttock	54.2 (48)	<b>81.2 (117)</b>	84.0 (257)	3.25 (.196)
Facial Hair	36.6 (41)	52.4 (105)	53.0 (200)	<b>25.61 (.000)</b>
Face	48.8 (43)	60.2 (98)	60.0 (205)	2.08 (.353)
Weight	51.8 (56)	57.9 (107)	60.9 (202)	1.52 (.466)
Biceps	38.1 (42)	58.1 (105)	52.8 (212)	5.54 (.236)
Testicles/ Ovaries-Uterus	<b>65.9 (44)</b>	<b>85.1 (121)</b>	<b>88.3 (256)</b>	<b>14.76 (.001)</b>
Hair	52.8 (36)	47.8 (67)	43.4 (159)	1.18 (.554)
Voice	<b>67.4 (43)</b>	<b>80.7 (119)</b>	<b>88.2 (245)</b>	<b>14.99 (.005)</b>
Feet	48.0 (50)	42.9 (91)	48.0 (200)	.709 (.702)
Figure	59.3 (54)	<b>80.7 (119)</b>	82.3 (242)	<b>11.63 (.003)</b>
Body Hair	50.0 (52)	74.4 (121)	77.7 (247)	<b>16.99 (.001)</b>
Chest	<b>63.8 (47)</b>	78.9 (128)	85.4 (247)	<b>18.90 (.001)</b>
Appearance	<b>63.8 (47)</b>	73.8 (103)	81.5 (232)	<b>7.85 (.020)</b>
Stature	55.3 (38)	56.1 (98)	54.0 (224)	.12 (.939)
Overall mean	(158)	(179)	(328)	<b>343.21 (.000)</b>

Note: The highest five scores in each age group have been highlighted in bold, as well as the significant scores.

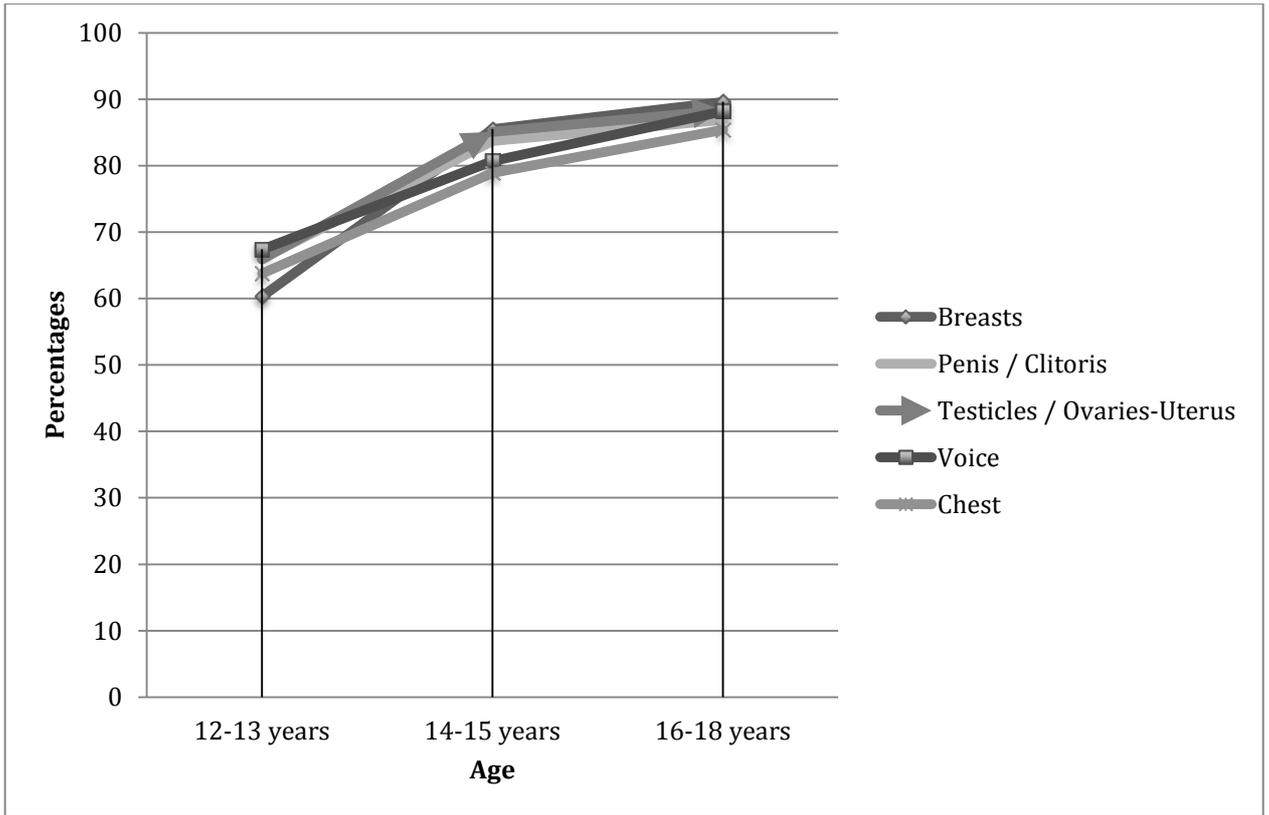


Figure 3. The five highest significant scores for participants in both groups wanting to change body parts across age groups.

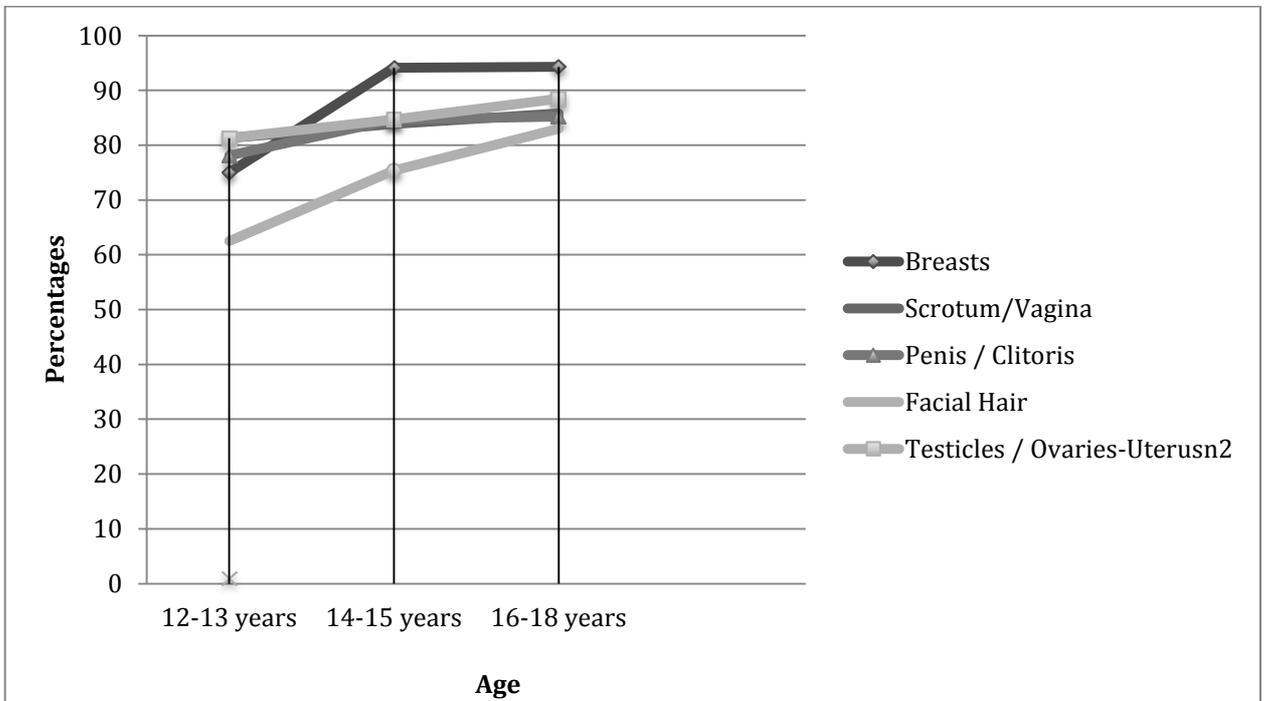
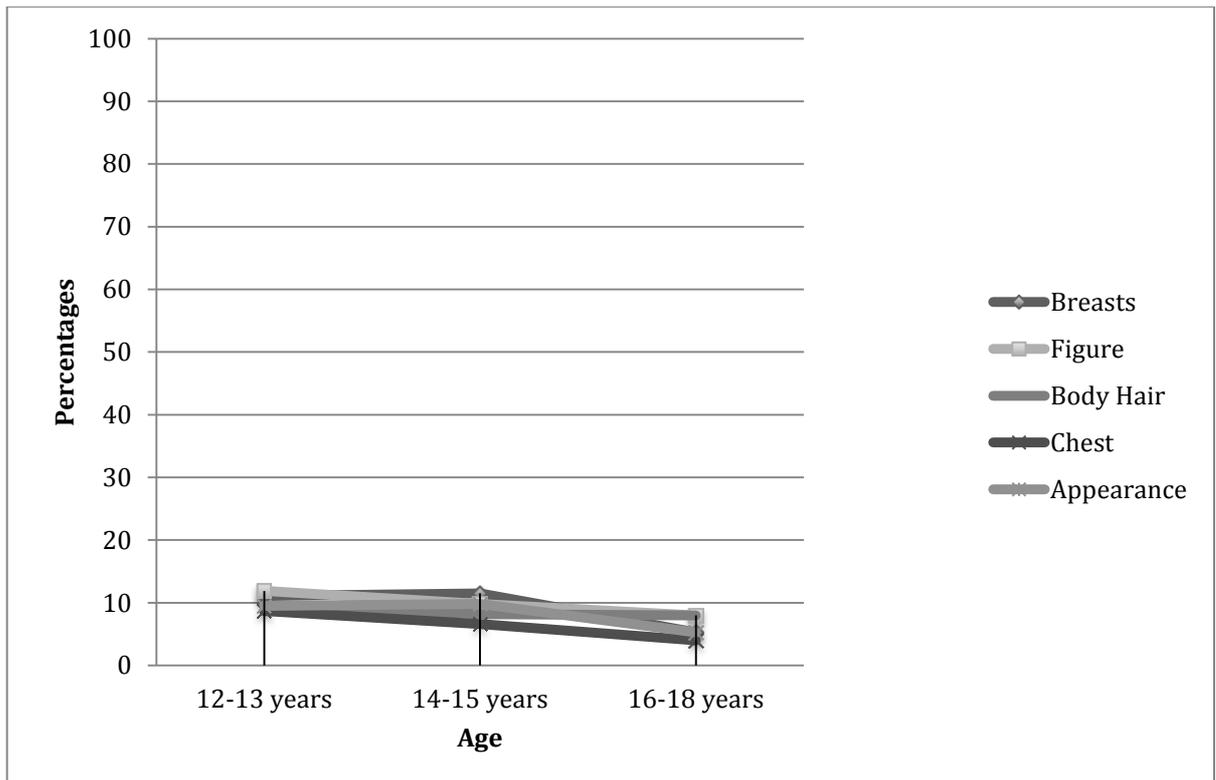


Figure 4. The five highest significant scores for participants in the clinical group wanting to change body parts across age groups.



*Figure 5.* The five highest significant scores for participants in the control group wanting to change body parts across age groups.

## 4. DISCUSSION

### 4.1. Introduction

This section will discuss the current study's findings in relation to the research questions, and the literature base. Limitations of the study are also explored. Implications of the results for clinical practice and suggestions for future research directions are investigated.

### 4.2. Review of Findings

4.2.1. Young people who present to the GIDS will have significantly higher scores overall on the BIS, and on primary and secondary sexual characteristics than those who have not presented.

Persons with GD will have significantly higher scores than the control sample in terms of wanting to change their body parts, through surgical or medical treatment.

Results indicated that young persons with GD were significantly more dissatisfied with their bodies than the control group, with the clinical sample scoring significantly higher overall on the BIS, as well as on primary, secondary and neutral sexual characteristics. These findings are consistent with previous research that has found persons with GD to report high levels of body dissatisfaction, and within adult populations research has found those with GD to be more dissatisfied with their bodies than those without GD (Algar

et al., 2010; Kuiper et al., 1988; Smith et al., 2005; Theron, 1983; Vocks et al., 2009).

Overall, the control group showed themselves to be satisfied with their body parts. This finding was surprising given the high levels of body dissatisfaction found in research looking at body unhappiness in the general population (e.g. Dion et al., 2014). A possible explanation for this finding is the difficulty of using the BIS in non-GD populations. The BIS was designed as a measuring tool to be used within transgender populations (Lindgren et al., 1975). The items on the scale specifically relate to an individual's gender defining sexual characteristics, including genitalia. It could be hypothesised that other measuring tools, which attempt to map onto the body ideals shown in the media, for example figure rating scales (Gardner & Brown, 2010), could identify higher levels of body dissatisfaction in the general population than the BIS. Thompson (2004) warns against the faulty selection and use of measurement tools used to measure body image. In Thompson's article "The (mis)measurement of Body Image" (2004) he uses research examples to show how an evaluation of general or global appearance (e.g. body esteem measures or figure rating scales) can be unaffected by site specific measures (e.g. breasts, hips). Therefore, participants could show themselves to be satisfied with individual body parts, but a global scale of body dissatisfaction could display different outcomes. In addition, Thompson (2004) cautions against using scales that do not have established reliability and validity in the population similar to the one used in the study. Consequently, in relation to the current study, it is possible that the BIS was not appropriate for use in

young persons who are not experiencing GD. However, the current study was constrained in using the BIS as its primary aim was an investigation of the BIS, comparing those with GD with a control sample, in order to explore the range of scores.

Another possible explanation for the finding of distinct differences in scores between the clinical and control group, is the contribution of the system around the participants when completing the BIS. One aspect that was not addressed by this study is considering how those persons with GD present to GI services, which is in stark contrast to the context of the control group filling out the BIS in a school setting. Studies have shown that persons attending GI services often lie to their therapists in order to meet guidelines for transitioning (Denny & Roberts, 1997; Walworth, 1997). Another recent study conducted looking at transgender persons experience of GI services, found that just over half of the respondents felt unable to talk about uncertainty regarding their gender for fear that they would be refused treatment, interventions would be delayed or they would not be believed (Ellis, Bailey, & McNeil, 2014). This issue was found to be more acute if they did not define themselves as either 'male' or 'female', and therefore did not assert themselves to a binary system and conventional notions of what it means to be (or live as) male or female. Others have also raised similar concerns (e.g. Pitts et al., 2009; Taylor, 2013) in relation to broader health care settings. Given that clinicians in GI services are gatekeepers to GD treatment (i.e. hormones), it could be hypothesised that persons with GD feel a pressure to increase their distress when attending services in order to access further treatment.

In contrast, participants in the control group completed their questionnaires in a school setting surrounded by their peers. The social context of schools has been seen to affect the administration of questionnaires, and the quality of data collected (Strange et al., 2003). Strange, and colleagues, discuss the impact of organisational, practical and interactional influences on the dissemination of questionnaires in schools, for example, space available in classrooms and the teacher's enthusiasm for the research. Their research highlights that the interaction between the setting of the classroom, the young people, and the topic (intimate body parts in the case of the present research), are all likely to have led the students to respond to the questionnaire in particular ways. Specifically, unlike the clinical group, the control group had no contact with the researchers, which may have amplified pupils' anxieties about the confidentiality of their responses. To try to increase confidentiality and minimise the influence of students' responses from those around them, the current study stressed the importance of the young people completing the questionnaire on their own. However, teachers informally reported to the researcher that students found this challenging, often laughing with one another or asking each other for the clarification of the meaning of particular words. Strange et al, (2003) notes that if students were to fall in line with the invitation to keep their responses private, pupils may feel that this indicates to their peers that they are concealing something. It could therefore be hypothesised that the control group would attempt to minimise their distress in order to save face when surrounded by their peers. These differences in the social context in which the two groups filled out the BIS might have contributed to the differences in scores found between the two

groups in the present study; the clinical group increasing their distress for desired outcomes and conversely, the control group minimising their distress to avoid social embarrassment. However, it must be noted that the present study found significant differences between the groups with large effect sizes indicating that the social context of administration of the BIS is unlikely to be the only explanation for this finding.

The current study also found that the pattern of responses on the BIS were different between the two groups. Those persons with GD displayed lowest levels of body-part satisfaction with primary sexual characteristics, followed by secondary and then neutral sexual characteristics. This finding was expected as previous studies have shown GD populations to be more dissatisfied with gender defining sexual characteristics (Kuiper & Cohen-Kettenis, 1988; Smith et al., 2005; Theron, 1983). These findings were different to the control sample where participants were least satisfied with secondary sexual characteristics and then very similarly satisfied with neutral and primary sexual characteristics. Secondary sexual characteristics, measured by the BIS, are body parts which could be seen as mapping onto the most highly sighted aspect of body dissatisfaction in the general population, body fatness (Orbach, 2009), where being thin and/or muscular has meaning in our Western culture associated with success, popularity, beauty and self-discipline (Wolf, 2013). In contrast, being fat is associated with being lazy, ugly, weak and lacking in willpower (Puhl & Heuer, 2009).

Body figure scales are the most common assessment tools for measuring individuals' perceived body fatness. They consist of a series of pictures of

standard bodies ranging from thin (underweight) to heavy (obese) (Stunkard, Sørensen, & Schulsinger, 1983), and individuals are asked to select the image that most represents their current and ideal body size. The discrepancy between these two ratings represents a measure of body dissatisfaction with regard to the thin ideal. Therefore, it could be hypothesised that if the present study utilised body-rating scales (that focus on secondary sexual characteristics which the control group rated as being least satisfied with), then higher rates of body dissatisfaction would have been identified than were found using the BIS.

As predicted, in the clinical group those young persons scoring three and above in terms of body-part satisfaction showed elevated percentages in wanting to change that body part via surgical procedure in comparison to the control group. High scores in wanting to change body parts in the clinical group were all for primary sexual characteristics. These scores were much lower for the control group. In contrast to the clinical group, the highest scores in wanting to change body parts for the control group were displayed across a range of primary, secondary and neutral sexual characteristics. For the control group, the highest percentage in wanting to change a body item was for 'weight' in the female group. This was also the most similar score across both clinical and control groups.

Adolescent girls' preoccupation with weight in the general population has been found by other studies (Tiggemann, Gardiner & Slater, 2000). However, in Tiggemann et al's (2000) focus groups with adolescent girls they found that despite clearly expressing a wish to be slimmer, the girls also indicated this

did not necessarily mean dissatisfaction with their bodies. These conclusions might help to explain the current study's findings that although females in the control group said they would change their weight, mean scores showed that they still predominately scored within the satisfied range, indicating there was not a simple relationship between a desire to change their weight and body dissatisfaction. Tiggemann et al, suggested that the girls' meta-awareness and sophisticated comprehension of the media and additional demands, may function to diminish these forces which might otherwise overpower (2000).

The females in the control group scored higher than the females in the clinical group on the items; nose (neutral), eyebrows (neutral) and hair (secondary), whereas males in the control group did not score higher on any items than the males in the clinical group. This finding is due to females in the control group showing decreased body-part satisfaction than males in the control group. For females in the control group, the particularly high scores, indicating an elevated desire to change that body item, were for 'eyebrows' and 'hair' perhaps reflecting the ease to which these items can be changed, in comparison to other items such as 'vagina'. For males, the most similar score across both groups was for 'height' (neutral) which was also their highest score in wanting to change that item, followed by hair (secondary), weight (neutral), penis (primary) and muscles (secondary). 'Height' has been shown to be salient in contributing to men's body dissatisfaction in other studies (e.g. Ridgeway & Tylka, 2005; Tiggemann, Martins & Churchett, 2008). For males in the control group, high scores for body parts they wanted to change could be regarded as aspects of the body relating to masculinity. Indeed, previous

research has shown young males to define the ideal body as lean and muscular and reported that their weight, muscularity and height affected their dissatisfaction with their appearance (Ridgeway et al., 2005). Our research contributes to previous research findings that height, muscularity and leanness are important to men's body dissatisfaction (e.g., Cafri & Thompson, 2004; Ridgeway et al., 2005; Tiggemann et al., 2008).

For the clinical group natal males and natal females both scored highly on most items indicating low body-part satisfaction for both gender identifications. In contrast, in the control group, female scores were higher than males on 26 out of 30 items.

When looking at scores across the age groups, the clinical group mirrors the pattern of dissatisfaction shown for individual body items on the BIS, that is, a desire to change body parts increases with age. Similarly, results for wanting to change body parts showed a significant escalation of scores between 12-13 and 14-15 years, and then a leveling off of scores between 14-15 and 16-18 years. Conversely, the control group exhibited a different pattern; a steady decline in wanting to change body parts as age increases, from 12-13 years to 16-18 years. This difference in pattern of scores between the groups can perhaps be explained by research conducted within GD samples showing that body dissatisfaction only increases, or at least stays stable, until transition has been completed, when many studies have then shown marked decreases in body dissatisfaction (Fleming et al., 1982; Kuiper & Cohen-Kettenis, 1998; Smith et al., 2005; Kraemer et al., 2008; Wolfradt et al, 2001). That is, when

the realignment of the individual's sexed body characteristics with his or her gender identity, is satisfactorily achieved. However, these findings are not consistent.

In a Swiss study no relationship between the number of stages of transgender development undergone and body image dissatisfaction was found (Vocks et al., 2009). The process of transition is usually long, difficult, and sometimes never fully realised (Prosser, 1998). The mere fact of gender transition (i.e., living full-time in the desired gender role) does not necessarily “cure” GD (Lawrence, 2014). A recent study looking at the long-term follow up of transgender persons who have fully transitioned has still shown higher mortality rates than non-transgendered controls (Dhejne et al., 2011). This brings into question what successful transition and a positive body image are within transgender samples. Roen (2011), amongst others, warns against normative understandings underpinning such success. Transgenderism is much more about gender – about the feeling of being or wanting to be a man or woman, than it is about anatomical sex (Sullivan, 2008), and discourses regarding “... ‘positive’ results.... function to pathologise difference..... and universalises and decontextulises “wrongness”...” (Jordan, 2004, p. 112). In a society which is intolerant of ambiguity, understandably persons with GD are often seeking stability and certainty from the process of transition, and so part of the work done in GD services is promoting the idea of bearing and living with conflict and uncertainty before, during and after transition (Wren, 2014). Research has shown that adjustment to a trans identity is maximized when trans youths have gained greater exposure to a range of possibilities and had

freedom to explore and identify ways that they feel best fits their personal experiences (Brill & Peppers, 2008). The current study's finding that persons with GD desire to change body parts continues to increase as they get older, shows the importance of the work within GD services to unpick and investigate the multiple ways of living in ones identified gender.

Interestingly, within the control sample, although body dissatisfaction increased slightly with age (yet still within the satisfied range), their desire to change that body part via surgical intervention decreased. This finding could be seen as a contradiction to many published studies that have shown adolescents' body dissatisfaction to intensify through adolescence (e.g. Calzo et al., 2012; Slane et al., 2014) and young persons increased interest in pursuing cosmetic surgery (e.g. Larson & Gosain, 2012; Jordan & Corcoran, 2013). An explanation of this finding is as participants mature in age they become more able to live with aspects of their body that they see as unsatisfactory.

The age ranges observed in this study, 12-18 years, have been held to be critical periods in identity formation (Erikson, 1968). How body image relates to identity formation has rarely been investigated. However, in a large sample of Swedish adolescents, Wängqvist and Frisé (2013) found that young persons interpersonal relationships, such as family, friendships, romantic attachments and gender roles, as well as their ability to explore complex ideas such as occupation, religion, politics and values, were associated with more positive evaluations about their appearance. The authors argue that these

findings suggest that when identity “commitments” are ascertained, a more balanced sense of personal identity develops, thus the influence of adverse social body image aspects, such as body ideal internalisation, declines (Wängqvist et al., 2013). These facets of identity formation were not looked at by the current study, however it might be hypothesised that the groups would differ in this respect as the control group were taken from one inner city secondary school, and in contrast, the clinical group were from anywhere in the UK. It has been shown that families who utilise mental health services come from more affluent backgrounds (Pevalin, 2007; Steele, Dewa & Lee, 2007) and would arguably have more stable interpersonal relationships and explorations of their value systems. Therefore, these demographic differences between the groups may have impacted on the results found.

Another possible explanation for the finding in the current study that the increasing ages in the controls was associated with a reduced wish to change body parts, is that although research has shown cosmetic surgery to become more acceptable with adolescent populations (McGrath & Mukerji, 2000), it is still a costly and considerable undertaking. The results of the present study found the control group to be on the whole satisfied with their body parts, and so such an extreme intervention may not be a preferred option.

#### 4.2.2. Consideration of modifying factors effect on the results

##### 4.2.2.1. Sex

###### Across both groups

Results demonstrated that for overall scores on the BIS, females were significantly more dissatisfied than males across both groups. When results were broken down into primary, secondary and neutral sexual characteristics, females were more dissatisfied than males across all categories, however, these findings were only found to be significant for secondary sexual characteristics. This outcome is consistent with previous research that girls are more dissatisfied with their bodies than boys (Hargreaves & Tiggemann, 2004), with studies observing that girls are more susceptible to peer and media influences that promote the thin ideal (Smolak, 2004). However, it is important to note that more females than males took part in the study and therefore this discrepancy could have contributed to these findings.

###### Within the groups

A different pattern emerges when observing within group differences. Within the clinical group, natal males were more dissatisfied than natal females on primary and neutral sexual characteristics, whereas natal females scored significantly higher for secondary sexual characteristics. In contrast, for the control group, females scored significantly higher, indicating greater dissatisfaction than males across all sexual characteristics, although these were still in the satisfied range.

The variability in body-part satisfaction scores between the sexes within the clinical group mirrors the variability in findings of previous research. Some studies have found natal males to be more dissatisfied with their bodies than natal females, and authors have suggested that this is because female attributes within males are less socially accepted than natal male features within females (Pauly et al., 1976; Kraemer et al., 2008; Wilson, Griffin & Wren, 2002). In addition, natal males identifying as females could be absorbing the considerable societal pressures on females to conform to a particular body type; i.e. thin with large breasts. However, other studies within GD populations have not found these results, with natal females show to be more dissatisfied than natal males across all sexual characteristics (Algars et al., 2010; de Vries, Steensma, Doreleijers & Cohen-Kettenis, 2011). The current study's mixed findings could be a result of the clinical group displaying a more complex pattern of identification than the control group, as the clinical group are confronted with the developmental task of integrating feminine and masculine traits and behaviour. Therefore, both the males and females in the clinical group are at risk of taking on predominating societal ideals about the body.

The low level of body-part satisfaction in the clinical group meant that it was not possible to compare their scores with their perceived or natal genders in the control group.

#### 4.2.2.2. Age

Results found that for both groups adolescents became more dissatisfied with their bodies as their ages increased. For the clinical group mean scores rose

significantly higher between the age groups 12-13 and 14-15 years with a levelling out of scores between 14-15 years and 16-18 years. For the control group this trend was less pronounced with a more gradual incline in scores over the age groups. These results were as predicted and in line with previous research that shows adolescence as a key transitional stage in the development of body image (e.g. Markey, 2010; Petroski et al., 2012; Rosenberg, 1965). This phase is when the body begins to change through pubertal development and has been shown in this study and others, to be a critical period in the development of body image dissatisfaction within the general population (Carroll et al., 1999) and GD populations (Lee, 2001; Holt et al., 2014; Morgan & Stevens, 2008; Vocks et al., 2009). Given that GD populations perceive this physical development as foreign and/or disturbing, it is understandable why levels of body dissatisfaction would be more marked and extreme across this period in the clinical group, in comparison to the control group.

A limitation of the present study is that it did not account for differences in male and female pubertal development. It is well documented that females start puberty earlier than males (Cesario & Hughes, 2007), and therefore could present as being more dissatisfied with their bodies at an earlier age than males. The differences in scores between males and females were especially pronounced in the control group, where females showed themselves to be more dissatisfied with their bodies than males across all categories of sexual characteristics. The mean age for young persons taking part in the study for the control group ( $M = 14.30$ ) was one year younger than

the clinical group ( $M = 15.19$ ). Therefore, it could be hypothesised that females in the control group were more likely to respond as dissatisfied in comparison to the males as their bodies are more likely to have begun to change.

#### 4.2.5. Overview of findings

The present study sought to compare two populations, a clinical group and a control group, in order to examine how persons with GD scored on the BIS in comparison to a control group. As discussed, the expected results were that the clinical group showed themselves to be much more distressed with their bodies than the control group, principally with primary sexual characteristics, although also with their secondary and neutral sexual characteristics. In addition, as age increased their reported body-part satisfaction decreased, as well as an increased wish to change disliked body parts via surgical procedures. The unexpected result for the clinical group was the more complex pattern of reporting for the natal sexes; natal males reporting as significantly more dissatisfied than natal females for primary and neutral sexual characteristics, whereas natal females were significantly more dissatisfied for secondary sexual characteristics.

For the control group, the expected result was that females were more dissatisfied with their bodies than males across all sexual characteristics. The unexpected results for the control group was the pattern of reporting, where overall they showed themselves to be satisfied with their body parts and a desire to change their body parts decreasing with age.

### **4.3. Critical Review**

Although the current study has offered important information regarding the difference in body-part satisfaction between those with GD and those without, limitations of the study should also be noted (Cook & Campbell, 1979; Kazdin, 2003).

#### **4.3.1. Epistemology and Methodology**

The quantitative methodology used in this research was chosen because of the type of data explored and the questions asked of the data. An epistemological stance of critical realism was employed as although experimental objectivity was aimed for in the analysis, I acknowledge that the phenomenon of body image dissatisfaction is framed by assumptions of its meaning and its measurement, as well as being influenced by many contextual layers. Whilst I wanted to explore in this study the range of scores on the BIS within clinical and control samples, it is important to acknowledge the limitations of this way of constructing body dissatisfaction.

In working with trans youths, psychologists face dilemmas concerning the consequences of producing psychological categories (Danziger, 1997) and therefore of potentially pathologising difference (Lev, 2005). Clinical psychology has been criticised for using normalising interventions (Roen, 2011), and these interventions have been condemned by trans academics and activists (Roen, 2001, 2004; Stone, 1991; Sullivan, 2008). By using assessment scales to identify who is transgender and who is not we are entering a normative and medical 'wrong-body' discourse concerned with the

regulation of (im)proper bodies (Roen, 2001; Sullivan, 2008). In addition, it is understood that what contributes to the distress of the young person that experiences GD are normative understandings of what it is to be 'male' or 'female', including broader societal and cultural forces that operate on people's body image (Newman, 2002). By using tools to measure and quantify distress about the body the clinician is separating the distress experienced by the young person from these contextual influences and aligning with ideas that the transgender person's body image is "abnormal". Indeed, feminist theorists have claimed that transgenderism and trans research reifies gender norms rather than challenging them (e.g. Raymond & Neville, 1994). However, research into the experience of persons who suffer considerably with feelings of GD is also of the utmost importance. Critiques of the assessment of young gender variant people need also take into account the reported trans experiences of finding one's current embodiment unliveable (e.g. Feinberg, 1999), and so the need for future research to improve interventions.

The current study continued to observe gender differences between the two samples, the clinical and control group, despite its aim to explore the experience of those who visibly question the idea of sex/gender congruency. I am reminded that no standard scientific definition exists for differentiating the sexes (Fausto-Sterling, 2000; Hanson, 2000) and that scientific data, in particular intersexuality, points to a continuum of sexual differentiation (Devor, 1989). By dividing up the analysis into distinctions between genders, male/female, this could be seen as invoking assumptions of biological and

“natural” sex/gender congruency, which oversimplifies gender complexity and variability (Barker, Richards & Bowes-Catton, 2012; Knaak, 2004). This thinking posed an obstacle to the current research. In addition, the clinical sample was taken from a GI service and therefore is not representative of all the young trans persons who exist outside this service, who perhaps are getting on with life not needing interventions, be that psychological or medical (Richards, Barker Lenihan & Iantaffi, 2014).

The BIS attempts to look at the biological bodily differences between the sexes and so there are two versions of the BIS; one for natal males and one for natal females, which are slightly different based on the differences in primary sexual characteristics between the sexes. Therefore, inline with the assumption of difference within the scale, the analysis in the study required the distinction between male and female to be made. In addition, binary gender roles are entrenched as an organising principle in people’s everyday lives, and as a result, this study sought to investigate this reality. These matters are difficult but Knaak (2004) reminds us that they are not unique to the problem of gender, and that “...the challenge of designing measures that reflect people’s experiences without losing theoretical rigor is central to all research.” (p. 313).

An additional critique of the BIS is that it maintains that the ‘neutral’ sexual characteristics are in fact neutral as they are not associated with hormones and pubertal development. However, there are no universally agreed definitions of the categories of primary, secondary and neutral sexual

characteristics, and arguably, many of these so-called neutral body parts (such as shoulders, face and feet) do hold gender differences. Therefore, the labelling of body parts as 'neutral' by Lindgren and Pauly (1975) is a social construction (Fausto-Sterling, 2000) and the distinction between these sexual characteristics could be viewed as a false dichotomy.

Roman and Apple (1990) suggest research should be judged on the educative and emancipatory impact it has for participants. In the current study, I was unable to explore the young persons experience of the BIS as a comments box was rejected by ethical approval on the grounds that the same opportunity could not be given to the clinical group due to their data being collected retrospectively. However, teachers did informally report to me that many of the children in the control group stated finding the questionnaire "embarrassing", and were often unsure what some of the words meant on the BIS, such as "clitoris" and "scrotum". It can be hypothesised that the two groups used in the study would have had different experiences of the questionnaire. It is likely that young persons with GD would have considered their sexual characteristics and bodily parts with increased gravity in comparison to the control group, due to the distress and incongruence felt by these body parts. Therefore, the clinical group may have considered their answers on the BIS in more depth than the control group. As discussed (above), the classroom setting for the control group could have impacted on their ability to give honest answers regarding intimate body parts. In addition, theorists have emphasised the 'constructedness' of body image; that body image is multiple, flexible and takes place contextually in a social world

(Schilder, 2013). In the present study, these relational aspects of body image might have disproportionately affected the control group as they were surrounded by their peers when completing the BIS. In contrast, we would presume the majority of the clinical group filled out the questionnaires in the privacy of their own homes, presumably alone. The failure of the current study to include the participant's experience of the questionnaire means that the context of the young persons participation could not be taken into account in the analysis of the data. Furthermore, the relatively positive body image scores of the young persons in the control group could potentially suggest sampling bias, as young persons with poor body image may have refrained from participating in the study. This bias has been noted by other studies using self-completion questionnaires in large samples (Usmiani & Daniluk, 1997).

By conducting a quantitative research project, only one understanding of the participants could be presented, and therefore other more complex accounts of the lives of the young people who took part were not engaged with, a task which feminist writers in particular have stressed upon researchers in this area (e.g. Iantaffi, 2009). It has been argued, that claiming the authority to speak for another person limits the capacity for them to articulate their own stories (Heckert, 2011). In line with the plea from Richards et al., (2014) that researchers take careful consideration as to who the research is benefitting, I thought carefully about the aims of the research and identified an important gap in the literature before pursuing the project.

#### 4.3.2. Data Collection

The various procedures involved in developing and collecting data for the current study made this research particularly challenging. I feel it is important to reflect on these processes in order to consider what makes this type of research difficult and how to improve practice in the future.

Throughout the research process I was reliant on other people to move the study forward; to check and approve ethics for the study, to liaise and attend meetings about the research protocol, and to disseminate and collect the questionnaires. Delays with the study, including unforeseen staffing changes at the school, raised many challenges and led to delays in data collection. I would advocate that although this type of research (self-completion questionnaires) is often deemed less time consuming than qualitative studies where interviews are carried out, it brings with it particular hurdles for the researcher which may be why this research is not carried out more often.

In order to manage the difficulties that can arise, persistence, support from colleagues and resources (i.e. time) are required, which are often not afforded to clinicians working in a busy NHS service (Hutton, Robinson & Holliday, 2013; Rushton, Golding & Cohen, 2013). Clinical psychologists are positioned as being scientists capable of being researchers as well as practitioners (Overholser, 2010). Conducting research is seen as a key role for clinical psychologists as demonstrated by professional guidelines, job descriptions and training (Richardson, 2014). In addition, within the challenging current climate of the NHS, carrying out research is often the unique selling point of

the clinical psychologist above other trained therapists (Kinderman, 2013; NHS Careers, 2013). These essential components to being a clinical psychologist mean that the barriers to carrying out research must be overcome. One solution posed is having closer collaboration between clinicians and researchers (Shapiro, 2002). Indeed, it is my experience that communication between the researcher and co-researchers (i.e. teachers) brought about the biggest challenges. Having regular meetings and clear lines of communication are crucial for this kind of essential research to be carried out successfully.

#### 4.3.3. Terms

Another limitation of the current study is that we cannot be sure that all young persons in the clinical group did experience GD as their data was used as part of the assessment process before diagnosis was established. However, from colleagues' observations at the GIDS a significant proportion of persons referred do in fact experience GD. In addition, the process of referral, which is by a healthcare professional, means that persons referred will be experiencing some level of distress with regards to their gender. It was still possible to discuss young persons entering the GIDS service in terms of being a clinical group as they were accessing a clinical service. Furthermore, a major limitation of previous research on transgender persons is the tendency for researchers to conceptualise trans solely as a diagnostic category and to overlook those who might not reach a diagnosis. Therefore, the present study can be seen as a more inclusive look at persons with GD.

A related point is the failure of the current study to differentiate between different types of persons whose gender identities depart from traditional gender norms. The term transgender is commonly used to represent a diverse group of persons who intersect or transcend culturally defined categories of gender (Bockting, 2009). This group includes transsexuals, cross-dressers or transvestites, transgenderists, bigender persons and other identities such as gender queer and non-binary persons. Definitions of these groupings differ and continue to evolve over time. Transsexual persons are frequently the focus of study more than other transgender groups given that they often pursue clinical intervention (Rosser, Oakes, Bockting & Miner, 2007). This suggests that the huge variability of identification within the term transgender does not get explored, and therefore there is a risk of oversimplifying the experiences of individuals within this diverse group. Similarly, this viewpoint could also be expanded to the control group, where a multitude of sexualities and identities will exist within this sample. However, in the present research they were treated as if they were a homogenous group ignoring individual variability. A true control group has been defined as a group that "...should not differ (from the experimental group)...except through the action of the independent variable that is to be tested" (Dehue, 2005, p. 830). This brings into question whether the term 'control group' is wholly appropriate for this research.

#### **4.4. Implications**

#### 4.4.1. Directions for future research

The current study has explored the range of scores on the BIS, between those who present to a GI service and those who have not. This investigation was carried out in order to see how the general population's scores are different to those presenting to the GID service. However, the control group was taken from one urban secondary school so we assume they had a greater similarity of ethnic background and educational status than the clinical group.

Research has shown ethnicity and educational status impact on body dissatisfaction (Abell & Richards, 1996; Akan & Grilo, 1995; O'Dea & Caputi, 2001.) In addition, the sexual orientation of the participants was not requested by the current study. Sexuality has been shown to affect the body image of young people who have GD (Drummond et al., 2008; Steensma et al., 2013) and in samples of the general population (Conner, Johnson & Grogan, 2004; Morrison, Morrison & Sager, 2004). Body image dissatisfaction has been found to be particularly poor within homosexual populations (Atkins, 1998; Williamson et al., 1998; Siever, 1994). Research has suggested that internalised homophobia may contribute to these findings (Williamson, 1999). Estimates show that around 23% of transgendered persons identify as homosexual (Grant et al., 2011). However, Clarke et al, (2012) remind researchers to avoid treating 'homosexuals' as a homogenous category, creating a binary homosexual/heterosexual model of sexuality. Instead, scholars should acknowledge the diversity and fluidity of sexual orientation within queer communities (Hegarty, 1997). This suggests that future research

should record participants identified sexuality. However, sensitivity as to how that information is recorded is of utmost importance. Further research could therefore replicate the current study in more diverse ranges of young persons; within different ethnicities, socio-demographic populations and include additional variables including a broad range of sexual orientations.

The present study found the control group's mean scores to be within the satisfied range. In order to see how young persons' scores on the BIS differ from those who are known to be dissatisfied with their bodies, future studies could compare persons with GD with other clinical samples, for example, those with eating disorders. Results from these studies would contribute to our understanding of whether the BIS is able to identify a pattern of body-part satisfaction that is related specifically to GD, and how that pattern differs from other clinical groups who are known to be very dissatisfied with their bodies.

As discussed above, research has found mixed outcomes in body image dissatisfaction for persons with GD going through medical transition (Dhejne et al., 2011; Fleming et al., 1982; Kuiper et al., 1998; Smith et al., 2005; Kraemer et al., 2008; Wolfradt et al., 2001; Vocks et al., 2009). In order to see whether transition improves body image, the BIS could be administered within a longitudinal study; pre, during and post physical intervention, compared to a control sample. It would then be possible to see, a) whether physical transition improves body image in samples of GD persons, and, b) how body image compares between GD clinical and control samples over the phase of adolescence within the same group of participants. This research

would be particularly important in the current climate as clinicians are eager to discover the success of the introduction of early intervention hormones in young persons with GD (Roen, 2011).

Quantitative research has been criticised for overlooking the subjectivities and perspectives of trans people (Clarke et al., 2012). For example, the BIS was originally developed to evaluate the effectiveness of physical interventions and develop tools for gate-keeping access to treatment. As a result, trans activists have spoken out about their resentment at existing research on trans (Anne, 2009). In order to include the views of trans persons in quantitative research, future studies could consider collaborating with trans researchers or welcoming trans organisations to counsel on suitable inquiries for research and their design.

The current study's findings should be understood within a cultural context, as attitudes towards gender variations differ between cultures (Newman, 2002). Social stigma has been shown to affect levels of psychopathology (Vocks et al., 2009), and in countries where there is less prescribed gender roles, distress in gender variant populations has shown to be less (Nanda, 2000; Williams, 1992). Therefore the current study should be replicated in other cultures, such as the Nordic countries, where there has been found to be a comparatively high degree of gender equality and individuals are subjected to less social stigma regarding gender identity conflict (Algars et al., 2010).

#### 4.4.2. Clinical Implications

Harper (1999) questions who gets to decide the usefulness of research. The present study sought to contribute to the literature by addressing some of the methodological and theoretical issues of previous research in this area, such as by including a large sample of young people under the age of 18, and using a control sample to compare the experience of those with GD with those presumed without. In the section below, I seek to highlight ways of working clinically with young people with GD that draw on the results found by this study.

The results of the present study provide strong indications that young persons with GD experience significantly more body-part dissatisfaction than the general population, specifically on the BIS. Furthermore, persons with GD report on the BIS a diverse pattern of presentation in comparison to the general population, where highest distress is with primary sexual characteristics, followed by secondary and then neutral. These findings suggest the BIS is appropriate for use with young persons with GD.

Furthermore, for young persons with GD, body-part satisfaction as revealed by the BIS is distinct in its presentation in comparison to young persons in the general population.

In addition, early adolescence associated with the onset of puberty has been shown to be a particularly critical phase in the development of body-part satisfaction within GD populations. Services should anticipate increased distress of persons with GD around this period. Certainly, pre-pubertal

children who present with GD features, and their families, should be supported by services to help manage distress that is likely to increase at the time of puberty.

Results from the current study also found very high percentages of those wanting to change their body parts in the clinical group, in particular their primary sexual characteristics. Authors have discussed elsewhere the pressures felt by clinicians in GD services from young persons making demands to change their body parts via surgical interventions (Wren, 2014). However, body dissatisfaction does not necessarily increase in post-operative samples (Dhejne et al., 2011; Vocks et al., 2009). Clinicians should work with young people to expand the possibilities for healthy, viable lives (Roen, 2011; Wren, 2014), by exploring other possible courses of action, as well as medical interventions. The BIS can be used to inform discussions with the young people and their families, as well as clinical interventions. It is also significant for clinicians to be aware of how and where the young people are asked questions about their bodies, noting the importance of privacy to promote dignity and respect.

In terms of the well-being of gender variant youth, expanding the possibilities mentioned above means increasing sociocultural limits of gender intelligibility (Butler, 1993.) Indeed, theorists have emphasized that our bodies are inextricably intertwined with both our selves and the worlds in which our bodies are situated (Merleau-Ponty, 1968). If the replication of this study in different cultures found persons with GD to be less distressed about their

bodies, then this would indicate future clinical work to be at the meta level, and for psychologists to engage in work that helps to reduce stigma towards transgendered persons in society.

#### **4.5. Reflections of the researcher**

I kept a reflective diary to help me consider my own experiences of the research process and how this impacted on my engagement with the study.

When I started the research I initially felt constrained by the quantitative nature of the study and the BIS itself, which I thought might limit the exploration of the complexity of body image. Consequently, I was anxious to extend the research in a bid to find out about the young persons' experience. This resulted in applying for ethical approval for a comments box to be inserted at the end of the questionnaire. Working clinically at the Tavistock reinforced my special interest in this aspect of my research where I was specifically tasked with building therapeutic relationships and co-constructing meanings with the young people in the study. Quantitative research, with its primary task of investigating the methods and techniques for measuring and analysing human attributes, felt at odds with my accustomed clinical role. However, as I came to explore and understand more about the aims of the project I recognised the truly vital value of the quantitative research: by exploring the range of scores for the measures we use in clinical practice crucially means we are using scales to the best of their ability ultimately to help the young people we seek to support.

Conducting research within a school setting was particularly challenging. Schools are busy places engaged in their own operations. The intervention of a research project is not, understandably, a priority. The fact that I had to distribute the questionnaires and collect the data before the summer holidays meant that the work involved in developing the project, seeking ethical approval and school co-operation, coincided with the demands of the clinical doctorate exams and course-work hand-ins. Juggling these competing demands prevented me from being able to personally administer the circulation of the questionnaires in the school. It was a stressful undertaking relying on class teachers to handle satisfactorily the administration. It reminded me of Bion's idea of *container-contained* (1962), i.e. being uncontained by others caused me to feel uncontained myself. I reflected again on the process of carrying out research of this nature and the importance of the supervisory role in providing the container. Throughout the process of the research I felt comprehensively supported, encouraged and held in mind by my supervisor. This enabled me to navigate all the challenges and facilitated reflection on my experience of conducting research.

My own adolescent years were difficult and I struggled painfully with my own body image. I reflected on what impact my personal history had on embarking on the research project and the process brought up difficult feelings and memories of these distinctly turbulent years. I also noticed that these experiences meant I was particularly disturbed by reports from the school that the young people found the BIS "embarrassing" to fill out. I considered how as a schoolgirl I would have reacted to questions about my body, especially

during years of hyper self-consciousness and in the company of my peers. I became aware of the impact my research project may have had on the young persons in the school. Personal reflection and discussion with my supervisor about these issues reinforced my conviction about the supreme importance of the research aim to help clinicians understand young people experiencing often extreme body distress.

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## 6. APPENDICIES

### APPENDIX A: Body Image Scales

#### Body Image Scale (Male)

Circle the number which best expresses your feelings about the item mentioned as it applies to you. **If you have circled 3\*, 4\*, or 5\*, then answer Yes or No** whether you have considered and might want a change if it was possible through medical or surgical treatment.

	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Change?
1. Nose	1	2	3*	4*	5*	Yes / No
2. Shoulders	1	2	3*	4*	5*	Yes / No
3. Hips	1	2	3*	4*	5*	Yes / No
4. Chin	1	2	3*	4*	5*	Yes / No
5. Calves	1	2	3*	4*	5*	Yes / No
6. Breasts	1	2	3*	4*	5*	Yes / No
7. Hands	1	2	3*	4*	5*	Yes / No
8. Adam's apple	1	2	3*	4*	5*	Yes / No
9. Scrotum	1	2	3*	4*	5*	Yes / No
10. Height	1	2	3*	4*	5*	Yes / No
11. Thighs	1	2	3*	4*	5*	Yes / No
12. Arms	1	2	3*	4*	5*	Yes / No
13. Eyebrows	1	2	3*	4*	5*	Yes / No
14. Penis	1	2	3*	4*	5*	Yes / No
15. Waist	1	2	3*	4*	5*	Yes / No
16. Muscles	1	2	3*	4*	5*	Yes / No
17. Buttock	1	2	3*	4*	5*	Yes / No
18. Facial hair	1	2	3*	4*	5*	Yes / No
19. Face	1	2	3*	4*	5*	Yes / No
20. Weight	1	2	3*	4*	5*	Yes / No
21. Biceps	1	2	3*	4*	5*	Yes / No
22. Testicles	1	2	3*	4*	5*	Yes / No
23. Hair	1	2	3*	4*	5*	Yes / No
24. Voice	1	2	3*	4*	5*	Yes / No
25. Feet	1	2	3*	4*	5*	Yes / No

26. Figure	1	2	3*	4*	5*	Yes / No
27. Body hair	1	2	3*	4*	5*	Yes / No
28. Chest	1	2	3*	4*	5*	Yes / No
29. Appearance	1	2	3*	4*	5*	Yes / No
30. Stature	1	2	3*	4*	5*	Yes / No

\* Answer whether you would like to change that part of your body

What is your month of birth? ..... Year of birth? ..... Age?.....

Are you seeing a health care professional? Yes / No

If so why?.....

### Body Image Scale (Female)

Circle the number which best expresses your feelings about the item mentioned as it applies to you. **If you have circled 3\*, 4\*, or 5\*, then answer Yes or No** whether you have considered and might want a change if it was possible through medical or surgical treatment.

Change?	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	
1. Nose	1	2	3*	4*	5*	Yes / No
2. Shoulders	1	2	3*	4*	5*	Yes / No
3. Hips	1	2	3*	4*	5*	Yes / No
4. Chin	1	2	3*	4*	5*	Yes / No
5. Calves	1	2	3*	4*	5*	Yes / No
6. Breasts	1	2	3*	4*	5*	Yes / No
7. Hands	1	2	3*	4*	5*	Yes / No
8. Adam's apple	1	2	3*	4*	5*	Yes / No
9. Vagina	1	2	3*	4*	5*	Yes / No
10. Height	1	2	3*	4*	5*	Yes / No
11. Thighs	1	2	3*	4*	5*	Yes / No
12. Arms	1	2	3*	4*	5*	Yes / No
13. Eyebrows	1	2	3*	4*	5*	Yes / No
14. Clitoris	1	2	3*	4*	5*	Yes / No
15. Waist	1	2	3*	4*	5*	Yes / No
16. Muscles	1	2	3*	4*	5*	Yes / No
17. Buttock	1	2	3*	4*	5*	Yes / No
18. Facial hair	1	2	3*	4*	5*	Yes / No
19. Face	1	2	3*	4*	5*	Yes / No
20. Weight	1	2	3*	4*	5*	Yes / No
21. Biceps	1	2	3*	4*	5*	Yes / No
22. Ovaries - Uterus	1	2	3*	4*	5*	Yes / No
23. Hair	1	2	3*	4*	5*	Yes / No
24. Voice	1	2	3*	4*	5*	Yes / No
25. Feet	1	2	3*	4*	5*	Yes / No
26. Figure	1	2	3*	4*	5*	Yes / No
27. Body hair	1	2	3*	4*	5*	Yes / No
28. Chest	1	2	3*	4*	5*	Yes / No
29. Appearance	1	2	3*	4*	5*	Yes / No
30. Stature	1	2	3*	4*	5*	Yes / No

**\* Answer whether you would like to change that part of your body**

What is your month of birth? ..... Year of birth? ..... Age?.....

Are you seeing a health care professional? Yes / No

If so why?.....

## **APPENDIX B: Application For Research Ethics Approval**

**UNIVERSITY OF EAST LONDON**

**School of Psychology**

**APPLICATION FOR RESEARCH ETHICS APPROVAL**

**FOR RESEARCH INVOLVING HUMAN PARTICIPANTS**

### **1. Initial details**

#### **1.1. Title of Professional Doctorate programme:**

Doctorate in Clinical Psychology

#### **1.2. Registered title of thesis:**

An investigation of the norms for the Body Image Scale in young people: a comparison of Gender Dysphoria and non-clinical samples

### **2. About the research**

#### **2.1. Aim of the research:**

The research questions are as follows:

- 1) Do persons with Gender Dysphoria (GD) differ from the non-clinical population in terms of body image satisfaction?
- 2) If they do differ, in what ways do they differ? Are the two populations similar or different on primary, secondary and neutral characteristics and overall scores?
- 3) Does the GD sample score more in line with their perceived or natal gender in the non-clinical sample?
- 4) Does age within and between GD and non-clinical samples relate to body image satisfaction?

The hypotheses are as follows:

- 1) Those young people who present to the GIDS will have significantly higher scores overall on the Body Image Scale (BIS) than those who do not.
- 2) The young people who present to the GIDS will have significantly higher scores on primary and secondary sexual characteristics.
- 3) Natal and perceived females will report higher distress as evidenced by higher scores on the BIS than males overall and in both groups.
- 4) Increased age in both groups will be associated with higher distress evidenced by higher scores on the BIS.

Additional research question related to descriptives may also be looked at once the data is collected (for example, difference in the item 'stature' between the two groups).

## **1.2. Likely duration of the data collection/fieldwork from starting to finishing date:**

It is proposed that data collection will commence in April 2014 and finish in May 2015.

**Methods.** (Please give full details under each of the relevant headings)

### **2.3. Design of the research:**

An investigation into the difference between two groups and in relation to the different items. This is a between subjects design.

It is envisaged that the length of time to complete the questionnaire will be approximately 15-20 minutes.

#### **Body Image Scale**

See Appendix A for scales.

The scale consists of 30 body features which the person is asked to rate on a 5 point scale. Each of the 30 items falls into one of three basic groups based on its relative importance as a gender-defining body feature: primary sexual characteristics, secondary sexual characteristics and neutral body characteristics. A higher score indicates more dissatisfaction. A score above 3 will indicate the participants to answer yes/no to wanting to change that body part.

The BIS has been used in previous research and has shown good reliability (for example see Kuiper & Cohen-Kettenis, 1988; Lindgren & Pauly, 1975; Smith et al; 2005). However it was designed for use by gender specialist services where there is already suspicion of distress about gender identity. Therefore, this research serves to compare a clinical and non-clinical sample to see what the similarities or differences are.

### **2.4. Data Sources or Participants:**

- How many participants? We have access to all the referrals that have entered the Gender Identity Disorder Service (GIDS) clinic which will be approximately 500 in total. Therefore for the non-clinical sample we need a sample size that is at least equal to the GIDs sample.
- What are their genders? Approximately equal numbers of both males

and females will be sought. However, samples will be a reflection of the referrals that come through the GIDS (for the clinical sample) and are present in the school (for the non-clinical sample).

- Are there any age restrictions? This study focuses on 'young persons' and therefore will seek to recruit participants between the ages of 12-18.
- What do your participants have to be? For the GD sample they have to be attending the Gender Identity Development Service. For the non-clinical sample they have to be attending the school identified for the study.
- Anything else? N/A
- Will the sample include ethnic diversity? The participants will not be included or excluded on the basis of their ethnicity. Their ethnicity will not be recorded.
- Where will the questionnaires be completed? The GD sample will complete their questionnaires at the Gender Identity Development Service at the Tavistock Clinic, London. (see below in 2.6 (4) for more information regarding sourcing of this data.) The non-clinical sample will complete theirs at the identified school - a mainstream urban secondary school.

### **Briefly state how you will be recruiting**

The Gender Dysphoria Sample: The Body Image Scale is completed as part of the standard assessment pack at the Tavistock gender identity clinic. All completed questionnaires will be used as part of the study.

Non-clinical sample: A school has agreed to take part in the study. Teachers will be briefed on the purpose and completion of the questionnaire. Students will be asked to fill out the Body Image Scale during a Personal, Social, Health

and Economic Education (PSHE) lesson by their teachers in the context of a discussion on body image. In addition the questionnaire will ask them for their natal sex and birth date and age, as well as asking whether they are seeing health care professional currently, and if so why? This is to distinguish them from the clinical sample. The questionnaire will take about 15-20 minutes to complete. They will be asked to fill it out in private and return it into a sealed envelope at the front of the classroom.

### **2.5. Measures, Materials or Equipment:**

The Body Image Scale is outlined in section 4:1; in order to complete it participants will be required to utilise a pen. SPSS will be required to analyse the data in the BIS. Once the data is collected it will be checked to see whether it is normally distributed and descriptive statistics will be explored. ANOVAS will be conducted comparing overall scores between the two groups, the sexes and age categories. In addition these comparisons will be computed independently with primary, secondary and neutral characteristics. Post hoc-tests will then be computed. Chi-square analyses will be used on the yes/no categories (whether participants want to change body parts) to investigate differences between the two groups, sexes and age categories.

If you are using copyrighted/pre-validated questionnaires, tests or other stimuli that you have not written or made yourself, are these questionnaires and tests suitable for the age group of your participants?

Yes. The BIS is a questionnaire that has been used as part of the standard assessment batch in the GIDS service for this age group. The questionnaire has also been used for the same age group in other gender identity research (for example see de Vries, 2010; Smith et al, 2001; Wallien & Cohen-Kettenis, 2008).

### **2.6. Outline of procedure, giving sufficient detail about what is involved in the research:**

- 1) The study will need to be approved by the UEL ethics committee.
- 2) Parents are to be notified in the school bulletin (which is emailed and

sent via post to parents) at least a week before the questionnaires are administered. This will detail that all children will be asked to fill out a questionnaire on how satisfied young people are with their bodies as part of a research project undertaken for a doctorate thesis. The nature and terms of the questionnaire will be explained in that it is a 30 item questionnaire asking children to rate on a scale how satisfied they are with all body parts including sexual bodily characteristics. It will also state that they do not have to participate in this research and are able to opt out their child from filling out this questionnaire if they so wish. They will be informed that they can do this by: emailing back to the bulletin, sending in a note to school, instructing their child not to complete the form or they could inform the school directly via the telephone. The school will be asked to look out for telephone and email responses. The bulletin will also direct parents to my email addresses or to the SENCO if they have any further queries. The SENCO will be able to provide parents/guardians with further contact details for appropriate support organisations such as Child line, Samaritans and Gendered Intelligence (see Appendix G). See Appendix E for letter from the school detailing that they have seen the BIS and are confident about administering the questionnaire in this fashion.

- 3) Heads of year teachers at the school will be notified of the study and given a short presentation by myself on how to administer the questionnaire. A debriefing sheet (see Appendix F) will be provided on how to administer the questionnaire and necessary debriefing to go through with participants after completion of the questionnaire. A PSHE lesson in April (before students go off for exam study leave) will be identified in order to introduce the subject of body image in society.
- 4) An invitation letter (see Appendix B) will be handed out to participants in their morning Tutor Time allowing adequate time for it to be read and for questions. After which, during their PSHE lesson, The Body Image Scale will be given to students to fill out. Teachers will read the instructions carefully, and allow time for any questions. They will be asked to fill the questionnaire out in private. They will also be asked to provide brief demographic data such as their age, month and year or

birth. Questionnaires are anonymous. After completion they will be asked to post it in confidential sealable envelopes at the front of the classroom.

- 5) Sealed envelopes containing each school years' questionnaires will be securely stored in a locked cabinet in the SENCO office. All questionnaires will be collected from the school at the end of the week due to each year filling their questionnaires out at different times and days during that week.
- 6) The Body Image Scale is part of the measures used for the assessment of clients entering the Gender Identity service (Tavistock and Portman NHS trust). It is part of the clinical need for the clinical population that enter this service and has already been sourced. I plan on sourcing this data through the research psychologist at the clinic who has access to all of the data. Data from the Body Image Scale is held separately and I will only be accessing this data. This data is held anonymously by the clinic in a confidential server. No individual patient details are held, only data from the questionnaire. I contacted NHS ethics (see appendix C for email correspondence) who told me that because the data has already been sourced and is anonymous I do not need NHS ethics to use this data. I confirmed this also with my academic tutor at UEL (see appendix D for email confirmation).
- 7) Data derived from the study will be securely stored on a NHS password-protected computer.

### **3. Ethical considerations**

**Please describe briefly how each of the ethical considerations below will be addressed.**

#### **3.1. Obtaining fully informed consent:**

All participants will be provided with a sheet comprising brief information about the questionnaire (See Appendix B). They will be encouraged to ask questions and reminded they can refuse to take part. By completing the questionnaire they will be giving their consent to take part in the study.

### **3.2. Engaging in deception, if relevant:**

None

### **3.3. Right of withdrawal:**

Participants will be advised of their right to withdraw from the research study at any time without disadvantage to them and without being obliged to give any reason. This will be made clear in the participant invitation letter. If a participant decides to withdraw from the study, any data they have previously provided will be destroyed and not used in the final analysis.

### **3.4. Anonymity & confidentiality:** (Please answer the following questions)

Will the data be gathered anonymously:

The non-clinical sample will be gathered anonymously.

The Gender Dysphoria sample is based on data that has already been collected (retrospectively) as part of the GIDS assessment requirements and therefore is already in existence. No identifiable information will be collected thus ensuring confidentiality. Therefore NHS ethics will not be necessary. This decision has been verified by a member of the NHS ethics committee (see Appendix C).

If NO, what steps will be taken to ensure confidentiality and protect the identity of participants?

In the Gender Dysphoria sample participants will only be collected with an

identification numbers assigned and these ID numbers will be held on a password-protected document. ID numbers will then be entered into any record databases and statistical programmes used to analyse the data.

Participants' completed questionnaires will be stored in locked filing cabinets in accordance with the Data Protection Act, 1998.

**3.5. Protection of participants:**

Participants will be reminded of the right to withdraw from the study if appropriate.

**3.6. Will medical after-care be necessary?** NO

**3.7. Protection of the researcher:**

No risks to the researcher have been identified at the present time.

**3.8. Debriefing:**

In the non-clinical sample: In order for teachers to administer the questionnaire they will be provided with a debriefing 'question and answer (Q&A) sheet' which details how to introduce the questionnaire and remind participants of their right not to take part in the study if they so wish (see Appendix F). Following questionnaire administration, teachers will be directed to the Q&A sheet in order to go through the debriefing section with participants (see Appendix F). Participants will be given time to ask any questions about the questionnaires and will be reminded about how their data will be used.

**3.9. Will participants be paid?** No.

**3.10. Other:**

N/A

N.B: If you have serious concerns about the safety of a participant, or others, during the course of your research see your supervisor before breaching confidentiality.

#### **4. Other permissions and clearances**

4.1. Is ethical clearance required from any other ethics committee? No.

If YES, please give the name and address of the organisation:

Has such ethical clearance been obtained yet? N/A.

If NO, why not?

4.2. Will your research involve working with children or vulnerable adults?\* Yes.

If YES, please tick here to confirm that you obtained a CRB certificate through UEL, or had one verified by UEL, when you registered on your Professional Doctorate programme.

- ‘Vulnerable’ adult groups include people aged 18 and over with psychiatric illnesses, people who receive domestic care, elderly people (particularly those in nursing homes), people in palliative care, people living in institutions and sheltered accommodation, for example. Vulnerable people are understood to be persons who are not necessarily able to freely consent to participating in your research, or who may find it difficult to withhold consent. If in doubt about the extent of the vulnerability of your intended participant group, speak to your supervisor.
- 

#### **5. Signatures**

ELECTRONICALLY TYPED NAMES WILL BE ACCEPTED AS SIGNATURES BUT ONLY IF THE APPLICATION IS EMAILED TO THE HELPDESK BY YOUR SUPERVISOR

**5.1. Declaration by student:**

*I confirm that I have discussed the ethics and feasibility of this research proposal with my supervisor(s).*

*I undertake to abide by accepted ethical principles and appropriate code of conduct in carrying out this proposed research. Personal data will be treated in the strictest confidence and participants will be fully informed about the nature of the research, what will happen to their data, and any possible risks to them.*

*Participants will be informed that they are in no way obliged to volunteer, should not feel coerced, and that they may withdraw from the study without disadvantage to themselves and without being obliged to give any reason.*

Student's name: INDIA WEBB

Student's signature: INDIA WEBB

Student's number: u1236179

Date: 21.03.2014

**5.2. Declaration by supervisor:**

*I confirm that, in my opinion, the proposed study constitutes a suitable test of the research question and is both feasible and ethical.*

Supervisor's name: Dr Trishna Patel

Supervisor's signature: Trishna Patel

Date: 21/03/14

**PLEASE CONTINUE THE APPLICATION ON THIS SAME DOCUMENT**

References

de Vries, A. L. (2010). Gender dysphoria in adolescents: Mental health and treatment evaluation.

Kuiper, B., & Cohen-Kettenis, P. (1988). Sex reassignment surgery: a study of 141 Dutch transsexuals. *Archives of Sexual Behavior*, 17(5), 439-457.

Lindgren, T., & Pauly, I. (1975). A body image scale for evaluating transsexuals. *Archives of Sexual Behavior*, 4(6), 639-656.

Smith, Y. L., van Goozen, S. H., & Cohen-Kettenis, P. T. (2001). Adolescents with gender identity disorder who were accepted or rejected for sex reassignment surgery: a prospective follow-up study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 40(4), 472-481.

Smith, Y., Van Goozen, S, Kuiper, A., & Cohen-Kettenis, P. T. (2005). Sex reassignment: Outcomes and predictors of treatment for adolescent and adult transsexuals. *Psychological Medicine*, 35(1), 89-99.

Wallien, M. S., & Cohen-Kettenis, P. T. (2008). Psychosexual outcome of gender-dysphoric children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47(12), 1413-1423.

## **APPENDIX C: Research Registration**



India Webb  
2 Haliburton Road  
Twickenham  
London  
TW1 1PF

9 May 2014

**Student Number:** 1236179

Dear India,

**Registration as a Candidate for the University's Research Degree**

I am pleased to inform you that the Research Degrees Subcommittee on behalf of the University Quality and Standards Committee, has registered you for the degree of Professional Doctorate.

**Title of Professional Doctorate:** Professional Doctorate in Clinical Psychology

**Director of Studies:** Trishna Patel

**Supervisor/s:** Sarah Davidson

**Registered Thesis Title:** An investigation of the norms of Body Image Scale in young people: a comparison of persons with features of Gender Dysphoria and non-clinical examples

**Expected completion:** According to your actual date of registration, which is **1 October 2013**, the registration period is as follows:

**Minimum 18 months maximum 48 months (4 years), according to a full time mode of study.**

Your thesis is therefore due to be submitted between:

**1 April 2015 - 1 October 2017**

I wish you all the best with your intended research degree programme. Please contact me if you have any further queries regarding to this matter.

Yours sincerely,

Dr James J Walsh  
School Research Degrees Leader  
Direct line: 020 8223 4471  
Email: j.j.walsh@uel.ac.uk

Cc: Trishna Patel, Sarah Davidson

## **APPENDIX D: Confirmation of Ethical Approval Granted by UEL**

### **ETHICAL PRACTICE CHECKLIST**

**SUPERVISOR:** Trishna Patel

**ASSESSOR:** M Finn

**STUDENT:** India Webb

**DATE (sent to assessor):** 25/03/14

**Proposed research topic:** An investigation of the norms for the Body Image Scale in young people: a comparison of Gender Dysphoria and non-clinical samples

**Course:** Professional Doctorate Clinical Psychology

- |  |     |
|--|-----|
| 1. Will free and informed consent of participants be obtained?   | YES |
| 2. If there is any deception is it justified?  | N/A |
| 3. Will information obtained remain confidential?  | YES |
| 4. Will participants be made aware of their right to withdraw at any time?   | YES |
| 5. Will participants be adequately debriefed?  | YES |
| 6. If this study involves observation does it respect participants' privacy?   | N/A |
| 7. If the proposal involves participants whose free and informed consent may be in question (e.g. for reasons of age, mental or emotional incapacity), are they treated ethically? | YES |
| 8. Is procedure that might cause distress to participants ethical?   | YES |
| 9. If there are inducements to take part in the project is this ethical?   | N/A |
| 10. If there are any other ethical issues involved, are they a problem?  | NO  |

**APPROVED**

Assessor initials: MF

Date: 25/03/14

**RESEARCHER RISK ASSESSMENT CHECKLIST**

**SUPERVISOR:** Trishna Patel

**ASSESSOR:** M Finn

**STUDENT:** India Webb

**DATE (sent to assessor):** 25/03/14

**Proposed research topic:** An investigation of the norms for the Body Image Scale in young people: a comparison of Gender Dysphoria and non-clinical samples

**Course:** Professional Doctorate Clinical Psychology

Would the proposed project expose the researcher to any of the following kinds of hazard?

- |    |  |    |
|----|--|----|
| 1  | Emotional                              | NO |
| 2. | Physical                               | NO |
| 3. | Other<br>(e.g. health & safety issues) | NO |

If you've answered YES to any of the above please estimate the chance of the researcher being harmed as: HIGH / MED / LOW

**APPROVED**

Assessor initials: MF Date: 25/03/14

**APPENDIX E: Email correspondence showing confirmation from NHS ethics and academic tutor at UEL of exemption from requiring NHS ethics**

## **1) Email Correspondence from applicant to NHS committee:**

Hi India

Sorry the delay in getting back to you. This piece of research will not require NHS Ethics REC review as the researcher has stated that the data will be provided to them in a totally anonymous format and the research will not take place using NHS premises or involving participants recruited because of their past or present use of NHS and Adult Social Care services. Please refer the researcher to GAfREC (September 2011) from Section 2.3.2 to Section 2.9 and the HRA Decision tool (<http://www.nres.nhs.uk/applications/is-your-project-research/>) for further clarification.

Also check this website out to see if you need REC approval:

<http://www.nres.nhs.uk/applications/approval-requirements/ethical-review-requirements/>

Many thanks

Best wishes

Leigh

Leigh Pollard - Regional Manager - Jarrow Health Research Authority  
National Research Ethics Service (NRES) Direct Line 0191 428 3318 Mobile:  
07917551790 Office address Research Ethics Committee - Jarrow Centre,  
Room 002, TEDCO Business Centre, Rolling Mill Road Jarrow, Tyne & Wear,  
NE32 3DT

Email: mail to: [leighpollard@nhs.net](mailto:leighpollard@nhs.net) Web: [www.nres.nhs.uk](http://www.nres.nhs.uk), [www.hra.nhs.uk](http://www.hra.nhs.uk)

If your email is regarding a formal request for information under the Freedom of Information Act, please resend to [HRA.FOI@nhs.net](mailto:HRA.FOI@nhs.net) to ensure it is dealt with promptly.

-----Original Message-----

From: India WEBB [<mailto:u1236179@uel.ac.uk>]

Sent: 14 October 2013 13:31

To: Dunbar Kerry (HEALTH RESEARCH AUTHORITY)

Subject: Ethics

To Whom It May Concern,

I am a trainee clinical psychologist at University of East London. I have chosen to do my thesis on body image in Gender Identity Disorder which will be done in association with the Tavistock clinic. All theses have to go through our university ethics committee however I wanted to check if I needed NHS ethics. I will be using the body image scale which is collected as part of the standard battery of measures for assessment at the Tavi. I will then be collecting norms for this scale by giving it to children in a school. The Lambeth

Academy school has agreed to take part and have said that I do not need to have additional ethical approval.

My colleague Elin Skagerberg, a research psychologist at the Tavi, has been in contact with NOCLOR (North London Research Consortium) and they have said that since the data will be anonymous and there will be no patient contact from the research team that I do not need NHS ethical approval. However, the advised me to contact NHS ethics just to be sure.

If you need any additional information please don't hesitate to ask. I look forward to hearing your response,

Best Wishes,

India Webb

\*\*\*\*\*  
\*\*\*\*\*

This message may contain confidential information. If you are not the intended recipient please inform the sender that you have received the message in error before deleting it. Please do not disclose, copy or distribute information in this e-mail or take any action in reliance on its contents: to do so is strictly prohibited and may be unlawful.

Thank you for your co-operation.

NHSmal is the secure email and directory service available for all NHS staff in England and Scotland  
NHSmal is approved for exchanging patient data and other sensitive

**2) Email correspondence from academic tutor at UEL to trainee confirming NHS ethics approval was not needed for data collection**

David Harper

**To:**  
India WEBB

05 February 2014 11:02

You forwarded this message on 05/02/2014 15:22.

Hi India,

OK, it seems to me that you've addressed all the queries satisfactorily so it's a 'go' from me!

Cheers,

Dave

*India WEBB*

*In response to the message from David Harper, 03/02/2014*

**To:**

David Harper

*Sent Items*

04 February 2014 21:41

Hi Dave,

Thank you very much for your email reply.

I have checked with the Tavi and they do not say anywhere that the data will be used for research purposes, however, when I contacted NHS ethics they said I didn't need to go through ethics as the data is part of routine data collection. Do you think this is enough? And yes, the data is definitely collected and given to me in anonymised form.

thanks again for your help,

India

David Harper

**To:**

India WEBB

03 February 2014 14:28

You replied on 04/02/2014 21:41.

Hi India,

The info below provides more justification and should be mentioned in the thesis. I can't recall whether you referred to the decision-making tool in the proposal but, if not, this can be a simple way of communicating to others the decision. Given this extra info it sounds to me like a NHS ethics application isn't necessary but a couple of queries first. Firstly, there are ethical issues where data is collected from patients for one reason and then used for another -- were service users informed at the time the battery was administered that the data might be used in future research? This may be less of an issue now that NHS data is being used in research wholesale but it was an ethical concern in the past. Also, you'll need to ensure that the data is given to you in anonymised form (ie with code numbers, not service user names) as that is the basis for NHS ethics saying you don't need permission.

Cheers,

Dave

*India WEBB*

**To:**

David Harper

*Sent Items*

03 February 2014 13:39

Dear Dave,

I hope you are well.

I wondered if I could ask your advice about my thesis ethics.

You and Maria marked my thesis proposal (which you may remember....or not!) - it was looking at the norms for the Body Image Scale in two samples (one from the Gender Identity Service). In the feedback you said that you thought I would need NHS ethics. However, Sarah thought I would not need NHS ethics because I will be using retrospective data collecting scores from the the body image scale which is collected as part of the standard battery of measures for assessment at the Tavi. I will then be collecting norms for this scale by giving it to children in a school. The Lambeth Academy school has agreed to take part and have said that I do not need to have additional ethical approval. Elin Skagerberg, a research psychologist at the Tavi, has been in contact with NOCLOR (North London Research Consortium) and they have said that since the data will be anonymous and there will be no patient contact from the research team that I do not need NHS ethical approval. However, they advised me to contact NHS ethics just to be sure. So before writing my proposal I contacted NHS ethics and got the following response (I should have included this in my proposal so you could have seen it)....

"Sorry the delay in getting back to you. I think that this piece of research will

not require NHS Ethics REC review as the researcher has stated that the data will be provided to them in a totally anonymous format and the research will not take place using NHS premises or involving participants recruited because of their past or present use of NHS and Adult Social Care services. Please refer the researcher to GAfREC (September 2011) from Section 2.3.2 to Section 2.9 and the HRA Decision tool (<http://www.nres.nhs.uk/applications/is-your-project-research/>) for further clarification.

Also check this website out to see if you need REC approval:

<http://www.nres.nhs.uk/applications/approval-requirements/ethical-review-requirements/> "

I have shared this response with Sarah and Elin (from the Tavistock clinic) and they both have confirmed that I do not need NHS ethics. But before I go ahead and do not apply for it I just wanted to check with you! I realise the worst thing would be for me to do my project and then in my Viva find out that I should have got it!

Please could you advise me as to what you think? Of course if I do not apply for it I will include this written confirmation from NHS ethics as part of my proposal.

Thank you Dave!

India

## **APPENDIX F: Email correspondence indicating permission for recruitment from SENCO at the school**

Mary Dodd [Mary.Dodd@lambeth-academy.org]

Actions

**To:**  
India WEBB

17 March 2014 14:01

Dear India,

This is just to confirm that we have seen and discussed the body image scale and are happy for you to administer this within our school as part of your thesis. We are happy with the sexual body parts discussed and are satisfied that parents wouldn't object to the questionnaires.

Best wishes

Mary Dodd  
| (acting SENCo)

## **APPENDIX G: Participant Invitation Letter**

### **PARTICIPANT INVITATION LETTER**

### **Who am I?**

My name is xxxxxx. I am a Clinical Psychology Trainee studying at the University of East London.

### **What is the research about?**

My study aims to examine body image in young people.

### **What is required of you if you decide to take part?**

If you agree to take part, you will be asked to complete a questionnaire called the Body Image Scale. This aim is to look at young people's satisfaction with their bodies. It will ask you about lots of your different body parts and on a scale, how satisfied you are with them.

It will take approximately 10 minutes to complete. If you complete the questionnaire then this means you give your consent to taking part in the study. 'Consent' means you give your permission for me to use your data in the study. However you are allowed to withdraw from the study at any time.

### **What if I decide I don't want to take part?**

If you don't want to take part then you don't have to. By not taking part this will have no impact on your schooling or grades.

### **What will happen to the information I provide?**

All the information you provide on the questionnaire will be anonymous, meaning it will not have your name on it or any other information that

will identify you. The information will be kept private and securely in a locked cabinet.

### **What will happen to the results of the research study?**

The results collected from this research will go into a doctoral thesis at the University of East London. The thesis may be published in an academic journal in the future, however no identifiable data about you will be included in any report or publication.

### **What happens afterwards?**

If you have any questions about this questionnaire you can contact me on my email address and I will be available to discuss any concerns or questions you have. The SENCO at your school, XXXX will also be available for you to talk to. If you decide to take part in the research but want to talk to someone about it afterwards please contact the SENCO.

### **Who can I contact if I have any questions now?**

If you have any further questions, you can contact:

xxxxxxx (Trainee Clinical Psychologist at the University of East London)

Dr xxxxx (Clinical Psychologist/tutor at the University of East London)

**Thank you**

**APPENDIX H: Instruction Sheet for Teachers**

## TEACHERS DEBRIEFING SHEET (Q&A SHEET)

### Q&A for Teachers administering the Body Image Scale to students

#### **Who is doing this research?**

My name is India Webb and I am a trainee Clinical Psychologist at University of East London.

#### **What is this research for?**

This research is for my doctoral thesis.

#### **Why am I doing this research?**

The study's aim is to look at young people's satisfaction with their bodies.

#### **What is the Body Image Scale?**

The scale has 30 body features which the person is asked to rate on a 5 point scale.

#### **How do I introduce the questionnaire to the students?**

1) "This is a questionnaire looking at young people's satisfaction with their bodies. It will take about 15 minutes to complete and you don't have to participate if you don't want to. It is completely anonymous (so you won't be asked for any identifiable information such as your name).

2) First there is an invitation sheet that I will hand out and will read aloud. You will be given time to ask any questions you may have. The questionnaire will then be administered during your PSHE lessons.

**Note:** If a child says they do not want to fill out the questionnaire, please excuse them from taking part.

#### **How do I administer the questionnaire?**

1) If you have decided to take part then please fill the questionnaire out in private with no talking to your neighbours. If have any questions about the questionnaire, how to fill it out, or what the words mean, put up your hand and I will come over to answer your question so it is kept private (Teachers please see list at the end of this sheet for examples of words to explain body parts).

2) Give Female questionnaires to girls and Male to boys.

3) Teacher to read out instructions – **please stick to what's written on the questionnaire.** Emphasise that if circle number with a \* (3/4/5) then need to answer whether they would change that body part – yes/no.

Note: 'Neutral' refers to: not caring either way.

Note: 'Health professional' refers to: if they are seeing someone because they are not happy with something in their life.

4) Once participants have completed the questionnaire, ask them to put it in the confidential envelope at the front of the class.

5) Read de-briefing below

#### **Debriefing**

- Many Thanks for completing the questionnaires.

- The questionnaire is used to find out from people how they feel about their bodies which is especially important when people report feeling unhappy with either all or parts of their bodies. The people who wanted you to complete them (the researchers) are keen to find out what a group of school children, like yourselves, feel about your bodies because they want to compare this information with the information collected from children who are very, very unhappy about their bodies and in particular with their gender.

- Does anyone have any comments now?

- If you want to talk to someone about any of the questions or any thoughts or feelings you had about the questions, or completing the questions, you can contact the SENCO XXXXX.

- If you want to contact the researchers, you can do so by emailing them at: [u1236179@uel.ac.uk](mailto:u1236179@uel.ac.uk).
- If you want to talk to someone now (find out who could be available and let them know the details – SENCO XXXX should be available at all times during this project).
- If you have questions, thoughts, comments or feelings that you want to share after today, you can contact the researcher and/or SENCO who will be able to provide you with more support information.
- Once again, thank you very much for taking part.

**What do I do if students don't understand the questions?**

You can explain what the words mean to students if they don't understand them. (See list below on page 2 for some explanations of words for your reference.)

**Is it likely a student will get upset whilst doing the questionnaire?**

From our experience when working with people who are very unhappy with their bodies people do not get upset when carrying out the questionnaire.

**What do I do if a student does get upset?**

If a child becomes distressed then please use your own discretion. Please make sure they are ok. If they have further concerns then direct them to the SENCO XXXX who will provide them with further support details should they need it.

**And any other questions I might have....**

Please feel free to contact me on: [u1236179@uel.ac.uk](mailto:u1236179@uel.ac.uk), at any time.

THANK YOU VERY MUCH FOR HELPING ME TO CARRY OUT THIS RESEARCH

Explanation of body parts children may not understand:

Figure – shape of your body

Scrotum – Ball sack (skin containing balls)

Vagina – Bit between females legs that you can see

Ovaries – Inside female body that makes children

Stature - build

Testicles - balls

Citrous – Part of female private part that is main source of pleasure ('bean' (slang))

Bicep – upper arm muscle

Appearance – overall look

## **APPENDIX I: List of Appropriate Support Organisations to Direct Parents To (Given to SENCO)**

### **ORGANISATIONS FOR PARENTS**

#### **CHILD LINE**

- Child line is always open, call 0800 1111 anytime
- Webpage: <http://www.childline.org.uk/>

#### **SAMARITANS**

- Samaritans is always open, call 08457 909090 anytime
- You can email them on [jo@samaritans.org](mailto:jo@samaritans.org)
- Webpage: [www.samaritans.org/](http://www.samaritans.org/)

#### **GENDERED INTELLIGENCE**

- Web page: [genderedintelligence.co.uk](http://genderedintelligence.co.uk)
- You can email them from this webpage

#### **RESEARCHER CONTACT DETAILS**

- Name: India Webb
- Contact details: [u1236179@uel.ac.uk](mailto:u1236179@uel.ac.uk)