

Predictors and Outcomes of Labiaplasty

Gemma Sharp

BBSc (Hons), Grad Dip Psyc Sci

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Thesis Summary

Labiaplasty is the most popular form of female genital cosmetic surgery and involves the surgical reduction of the labia minora. It is performed primarily for aesthetic reasons and has become increasingly popular in Western countries. However, little is known about the factors that influence women's interest in labiaplasty, and research on its psychological outcomes is limited. Thus the first aim of the thesis was to investigate factors which influence women's attitudes toward labiaplasty. The second aim was to investigate the psychological outcomes of labiaplasty, particularly psychological well-being and sexual well-being. These aims were addressed in a series of studies utilising correlational, experimental, longitudinal, and qualitative research designs.

The thesis consists of five papers (four published and one accepted for publication). The first two studies involved general community samples of women. The first examined predictors of consideration of labiaplasty using a sociocultural framework. The results showed that three classes of predictor, namely, media exposure, peer influence, and intimate relationship quality, influenced labiaplasty consideration both directly and indirectly. As media exposure was the strongest predictor of labiaplasty consideration identified in Study 1, Study 2 examined the effectiveness of two online resources (photographs and video) aimed at educating women about the lack of female genital appearance diversity shown in the media. The results showed that the video resource significantly improved women's perceptions of genital appearance diversity as well as their awareness of digital editing of genital images in the media.

Study 3 examined the factors which influence women's decisions to undergo labiaplasty and Study 4 involved a longitudinal follow-up of these women after surgery to examine the psychological outcomes of labiaplasty. Study 3 showed that women seeking labiaplasty had been

exposed to a greater volume of media images of female genitals than women who were not interested in labiaplasty. In addition, although they did not differ in the quality of their intimate relationships, women seeking labiaplasty were less likely to be involved in an intimate relationship prior to surgery. The findings from Study 4 showed that these women experienced a significant reduction in their dissatisfaction with their genital appearance 6 months after labiaplasty, but there were no significant changes to their psychological well-being or intimate relationship quality.

Study 5 involved a retrospective qualitative examination of women's motivations, expectations and experiences undergoing labiaplasty. Five themes were identified: "media influence," "negative commentary," "physical vs appearance reasons," "satisfaction with surgery," and "sexual well-being". Media representations and negative comments from intimate partners contributed to women's concerns with their labial appearance. Most women were very satisfied with their surgical results and improvements in their sexual well-being, however, some still experienced emotional discomfort around sexual intercourse.

Overall, the findings of the studies extend our knowledge about the factors which influence women's decisions around labiaplasty and the effects on their psychological and sexual well-being after undergoing this procedure. Accordingly, the results contribute to our theoretical understanding of the psychological underpinnings of labiaplasty and provide practical implications for how women and health professionals might make more informed decisions around labiaplasty.

Declaration

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed.....

Gemma Sharp

BBSc (Hons), Grad Dip Psyc Sci

Date.....

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List of Publications

- Sharp, G., Tiggemann, M., & Matiske, J. (2014). The role of media and peer influences in Australian women's attitudes towards cosmetic surgery. *Body Image, 11*, 482-487. doi:10.1016/j.bodyim.2014.07.009
- Sharp, G., Tiggemann, M., & Matiske, J. (2015). Predictors of consideration of labiaplasty: An extension of the Tripartite Influence Model of Beauty Ideals. *Psychology of Women Quarterly, 39*, 182-193. doi:10.1177/0361684314549949
- Sharp, G., & Tiggemann, M. (2016). Educating women about normal female genital appearance variation. *Body Image, 16*, 70-78. doi:10.1016/j.bodyim.2015.11.006
- Sharp, G., Tiggemann, M., & Matiske, J. (2016). Factors that influence the decision to undergo labiaplasty: Media, relationships, and psychological well-being. *Aesthetic Surgery Journal, 36*, 469-478. doi:10.1093/asj/sjv270
- Sharp, G., Matiske, J., & Vale, K. I. (2016). Motivations, expectations, and experiences of labiaplasty: A qualitative study. *Aesthetic Surgery Journal*. doi:10.1093/asj/sjw014
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List of Conference Proceedings

- Sharp, G., & Tiggemann, M. (2014, July). *Predictors of consideration of labiaplasty: An extension of the sociocultural model of influence*. In D. Veale (Chair), Genital body image and surgery in men and women. Symposium conducted at the Appearance Matters 6 Conference, Bristol, UK.
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- Sharp, G. & Tiggemann, M. (2015, September). *Educating women about normal female genital appearance: The effectiveness of two brief interventions*. Poster presented at the World STI & HIV Congress, Brisbane, Australia.
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CHAPTER 1: General Introduction

Chapter Overview

This general introductory chapter provides a brief background to the labiaplasty field of research, setting the context both theoretically and historically. First, it includes a description of labiaplasty and the sociocultural framework. Second, the research to date regarding the psychological predictors and outcomes of labiaplasty is reviewed. Finally, the chapter concludes with the main aims and outline of the thesis.

Background to Labiaplasty

Labiaplasty is the most commonly performed type of female genital cosmetic surgery (FGCS) (Crouch, Deans, Michala, Liao, & Creighton, 2011). It involves the surgical reduction of the vaginal lips known as the labia minora (Mirzabeigi, Jandali, Mettel, & Alter, 2011). Labial surgery was first documented in 1976, but it was not until the 2000s that the surgery gained popularity (Liao & Creighton, 2011). According to Medicare statistics in Australia, the demand for labiaplasty has increased more than three-fold from 2000 to 2014, that is, from 444 to 1,427 procedures (Australian Government Department of Human Services), and similar trends have been documented in other Western countries like the USA (American Society for Aesthetic Plastic Surgery, 2015) and UK (Crouch et al., 2011). Nevertheless, these figures are likely to be an underestimate as they do not include the private sector, and not all practitioners (e.g., gynaecologists) are required to report their surgical statistics (McPencow & Guess, 2012).

There is no evidence to suggest that labial size, structure or disease state has radically changed over the last 10 to 15 years (Liao & Creighton, 2011). Thus, it appears that the increase in labiaplasty demand does not have a physiological basis, but a psychological one. In particular, dissatisfaction with genital appearance has been implicated as a crucial factor in the decision to

undertake labiaplasty (e.g., Liao & Creighton, 2011). Women who have undergone labiaplasty commonly report that their genital appearance prior to surgery was “odd” or “abnormal” (Bramwell, Morland, & Garden, 2007). The aesthetic ideal that labiaplasty patients reportedly seek is small or invisible labia minora which do not protrude beyond the labia majora, resulting in a genital surface which is a smooth curve (Bramwell, 2002; Liao & Creighton, 2011). Together with the now mainstream practice of pubic hair removal (e.g., Braun & Tiefer, 2010), this genital appearance resembles a prepubescent or sexually immature female and has been colloquially named the “Barbie look” (Alinsod, 2006; Iglesia, Yurteri-Kaplan, & Alinsod, 2013). However, a study of the genital dimensions of normal premenopausal adult women reported that women vary greatly in the length, width, colour, and rugosity of their labial appearance (Lloyd, Crouch, Minto, Liao, & Creighton, 2005). Moreover, a degree of asymmetry in the labia minora is the norm, potentially to protect the vaginal introitus (Felicio, 2007). Therefore, women who subscribe to the smooth curve ideal are likely to be dissatisfied with the appearance of their labia minora and may possibly desire surgical intervention.

Despite the increasing number of labiaplasty procedures being performed in Western countries, research investigating the reasons underlying this trend is still somewhat limited. Owing to the rise in popularity, concerns have been expressed by a number of professionals regarding the necessity and safety of labiaplasty and FGCS in general (Committee on Adolescent Health Care American College of Obstetricians and Gynecologists, 2016; Committee on Gynecologic Practice American College of Obstetricians and Gynecologists, 2007). As this is still a relatively new field of cosmetic surgery, investigations of the longer term safety and outcomes of FGCS are yet to be reported (Barbara, Facchin, Meschia, & Vercellini, 2015; Goodman, 2009). The research to date suggests that surgical risks of labiaplasty include

infection, scarring, adhesions, altered sensation, and dyspareunia (Committee on Gynecologic Practice American College of Obstetricians and Gynecologists, 2007; Liao & Creighton, 2011; Lista, Mistry, Singh, & Ahmad, 2015). However, over recent years, a growing number of studies have found that the complication rates for labiaplasty are generally very low (for a review see Oranges, Sisti, & Sisti, 2015) and a very recent study suggested that, contrary to popular concern, women did not experience diminished sensitivity in their labia minora after surgery (Placik & Arkins, 2015). These results have prompted suggestions that labiaplasty is a generally safe procedure (Lista et al., 2015) when “meticulously and thoughtfully performed” (Alter, 2015, p. 2). In addition, with regards to the concerns expressed around the necessity of labiaplasty, these could equally be applied to any form of cosmetic surgery. As researchers (e.g., Edgerton & Knorr, 1971; Lista et al., 2015; Sarwer, Wadden, Pertschuk, & Whitaker, 1998) state, the essence of aesthetic surgery is to operate on patients with a normal appearance with the aim of improving their appearance.

While there appears to have been a focus on improving surgical technique and establishing the safety of labiaplasty, scientific research investigating the factors influencing women’s genital dissatisfaction and desire for labiaplasty is still limited. However, it is likely that some of the reasons underlying women’s interest in other types of cosmetic surgery may also apply to their consideration of labiaplasty. Indeed, a relatively large body of research has examined the factors influencing body dissatisfaction and interest in cosmetic surgery more generally, which may provide insights into the reasons why women choose to undergo labiaplasty.

Cosmetic Surgery and the Sociocultural Model

A number of studies have investigated the factors that influence interest in cosmetic surgery. Sarwer, Wadden, Pertschuk, and Whitaker (1998) developed a model which postulated that individuals who are both highly dissatisfied with their bodily appearance and highly invested in their appearance are most likely to desire cosmetic surgery. Body dissatisfaction refers to an individual's negative evaluation of their body shape, muscularity/tone, weight or size (Grogan, 2008), and appearance investment is the extent to which a person's attention, thoughts, and actions focus on their looks and define their self-worth (Cash, Melnyk, & Hrabosky, 2004; Slevic & Tiggemann, 2010). Consistent with Sarwer et al.'s (1998) model, a number of studies have found that body dissatisfaction (e.g., Bolton et al., 2003; Didie & Sarwer, 2003; Sarwer et al., 2003; Sarwer, Wadden, & Whitaker, 2002; von Soest, Kvaalem, Skolleborg, & Roald, 2011) and appearance investment (Sarwer et al., 2003) are elevated in preoperative cosmetic surgery patients. Similarly, in non-surgical samples, these characteristics have been associated with positive attitudes toward cosmetic surgery (e.g., Delinsky, 2005; Henderson-King & Henderson-King, 2005; Sarwer et al., 2005; Slevic & Tiggemann, 2010).

Nevertheless, body image concerns do not develop in isolation, but are a function of broader sociocultural influences (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). A model which has been applied to understand factors influencing cosmetic surgery attitudes is the sociocultural model (Menzel et al., 2011; Nerini, Matera, & Stefanile, 2014). It was originally developed to explain body image concerns and disordered eating (Thompson et al., 1999). However, the general model can be applied to explain other appearance-related phenomena such as skin tone dissatisfaction and tanning behaviours (Cafri, Thompson, Jacobsen, & Hillhouse, 2009; Tiggemann, 2012). The sociocultural model postulates that there are three primary

sociocultural influences: media, peers and parents, and hence is sometimes referred to as the Tripartite Influence Model (Thompson et al., 1999). The three sociocultural influences exert their effect on body image and eating disturbance both directly and indirectly via two main mediators: internalisation of beauty ideals and appearance comparison (Keery, van den Berg, & Thompson, 2004; Thompson et al., 1999). Internalisation is defined as “the extent to which an individual cognitively “buys into” socially defined ideals of attractiveness” (Thompson & Stice, 2001, p. 181). Appearance comparison refers to social comparisons with others who are superior on a relevant appearance dimension (Dittmar & Howard, 2004).

While it has been previously reported that individuals with high appearance dissatisfaction have a more positive view of cosmetic surgery (Calogero, Pina, Park, & Rahemtulla, 2010; Slevic & Tiggemann, 2010), Menzel et al. (2011) were the first to apply a version of the entire sociocultural model, rather than individual model components, to understand attitudes toward cosmetic surgery. In support of their proposed sociocultural model, Menzel et al. found that perceived pressures to undergo cosmetic surgery (from media, peers, partners and family members) were both directly and indirectly related to positive attitudes towards cosmetic surgery. Perceived pressures worked indirectly by increasing internalisation of beauty ideals and decreasing body satisfaction. Nerini et al. (2014) similarly investigated women’s attitudes toward cosmetic surgery using a sociocultural model and also found that internalisation mediated the relationship between pressures from the media and friends and consideration of cosmetic surgery. These results suggest that the sociocultural model is a useful framework for studying the development of body image concerns and interest in cosmetic surgery. Thus, the research within the present thesis aimed to examine whether sociocultural

factors and this framework could be extended to explain the development of genital appearance concerns and an interest in/decision to undergo labiaplasty.

Psychological Motivations for Labiaplasty

As discussed above, despite the increasing popularity of labiaplasty, only a relatively small number of studies to date have investigated women's attitudes toward their genitals and interest in labiaplasty. In one of the rare investigations in a non-surgical sample of women, Koning, Zeijlmans, Bouman, and van der Lei (2009) found that of 482 women, 95% of participants had heard of labiaplasty and most (78%) had gained their knowledge via a media source (e.g., television and internet). Approximately half of the participants (61%) disagreed with a statement that labial reduction surgery is a normal procedure that should be considered, but 7% of participants had considered the surgery, and 0.42% had undergone surgery. In addition, 14% of participants reported that the appearance of their genitalia was "abnormal". Therefore, it appeared that a sizeable number of these women were dissatisfied with their genitalia and some had considered surgical intervention.

In another sample of general community women, Yurteri-Kaplan et al. (2012) compared the vulvar perceptions and interest in vulvar cosmetic surgery of 207 younger (18-44 years) and 147 older (45-72 years) women. A high percentage of women in both groups (91%, 93%) believed their vulva looked normal, although a slightly lower percentage (81%, 82%) of participants was satisfied with the appearance of their vulva. Both groups referred to anatomy books and their physician as their main sources of information regarding vulva appearance. However, the younger age group was significantly more likely to use pornography (6%, 1%) and their friends (12%, 4%) as sources of information. Conversely, 15% of older women compared to 8% of younger women would consider vulvar surgery. Yurteri-Kaplan et al. attributed this

difference in surgery interest between age groups as the result of older women wanting to restore their pre-child bearing genital appearance. The findings from these two studies (Koning et al., 2009; Yurteri-Kaplan et al., 2012) suggest that a sizeable minority of women in the general community are not satisfied with their labial appearance and have considered labiaplasty. Furthermore, the results suggest that sociocultural factors such as media and peers may play a role, but whether these factors influenced women's genital appearance dissatisfaction and consideration of labiaplasty was not specifically addressed.

Jones and Nurka (2015) extended on these findings by explicitly examining the influence of pornography on women's interest in labiaplasty in the general community. Their focus on pornography was based on the suggestion by a number of theorists (e.g., Braun & Tiefer, 2010; Green, 2005) that increased availability and acceptance of pornography consumption, together with the trend for women to remove all their pubic hair, is driving women's interest in labiaplasty. In depth studies of *Playboy* centrefolds over recent decades have found that there has been an increased focus on the model's genitalia (as opposed to breasts) and the size/visibility of the labia minora has decreased (Placik & Arkins, 2014; Schick, Rima, & Calabrese, 2011). These models may have been chosen on the basis of their small labia minora or the images may have undergone digital editing as this is common practice in Western countries (Davis, 2002; Green, 2005; McDougall, 2013). With few other representations of female genitals readily available, women who compare their genitals to unrealistic images in pornography, particularly soft-core pornography like *Playboy*, may think they are "abnormal" and become dissatisfied with their own genitals. However, contrary to expectation, Jones and Nurka found in their study of 1,083 women that pornography consumption did not predict genital dissatisfaction, but did weakly predict openness to labiaplasty. As a result, it was proposed (but not tested) that the influence of

pornography on genital dissatisfaction may be indirect through peers, in particular male romantic partners. That is, romantic partners may make negative comments/tease their female partners about their genital appearance after viewing pornography which may lead to genital dissatisfaction (Jones & Nurka, 2015).

Further insights into the reasons why women are motivated to undergo labiaplasty can be gleaned from studies of women who present at clinics. In one of the limited number of prospective studies in the field, Crouch et al. (2011) interviewed 33 women who were seeking labiaplasty. The women's reasons for surgery were classified into "psychological" (i.e., dissatisfaction with genital appearance (78%), anxiety/embarrassment (9%), and relationship difficulties (9%)) and "physical" (i.e., pain/discomfort (57%), difficulties with intercourse (21%), difficulties with cycling or sports (15%), and problems with tight underwear/clothing (15%)). The majority of women did not specify how their genital appearance dissatisfaction developed, but of those who did, physical discomfort, negative comments from others (i.e., romantic partners and friends), and television programmes about labiaplasty were mentioned. Crouch et al. also asked the patients what sources they had used to access images of female genitalia. The most common source was online advertisements for labiaplasty, followed by medical illustrations and pornography, which, as discussed above, contain predominantly idealised genital images (Liao, Taghinejadi, & Creighton, 2012; Placik & Arkins, 2014; Schick et al., 2011).

To our knowledge, there has only been one prospective examination of the motivations and psychological characteristics of women seeking labiaplasty compared to women not interested in this procedure (Veale, Eshkevari, et al., 2014a; Veale, Eshkevari, et al., 2014b). Similar to Crouch et al.'s (2011) findings, aesthetic concerns (71%) were the most common

motivator for surgery, followed by physical/functional (63%) and sexual reasons (38%). In terms of comparisons between women seeking and not seeking labiaplasty, there were relatively few differences on standardised measures of general psychopathology. However, as one might expect, the labiaplasty group were significantly more dissatisfied with the appearance of their genitals than the comparison women (Veale, Eshkevari, et al., 2014a). Furthermore, a significantly higher percentage of women seeking labiaplasty (39%) had experienced teasing in regards to their genital appearance, predominantly from ex-boyfriends, compared with only 5% of the comparison group (Veale, Eshkevari, et al., 2014b). In addition, the labiaplasty group reported lower overall sexual satisfaction and lower quality of life in terms of their body image (Veale, Eshkevari, et al., 2014a). Although the two groups did not differ on general mental health (anxiety and depression in particular), 18% of women seeking labiaplasty fulfilled the diagnostic criteria for body dysmorphic disorder (BDD) which was significantly higher than for the comparison group (Veale, Eshkevari, et al., 2014a). BDD is the most common psychiatric disorder among cosmetic surgery patients (Crerand, Franklin, & Sarwer, 2006) and involves a preoccupation with a slight or imagined flaw in physical appearance (American Psychiatric Association, 2013). Research indicates that individuals with BDD experience no change or a worsening of their symptoms after undergoing cosmetic treatment (e.g., Phillips, Grant, Siniscalchi, & Albertini, 2001) and so BDD is considered to be a contraindication to cosmetic treatment (Sarwer & Spitzer, 2012).

Some retrospective studies of women who have undergone labiaplasty have also investigated women's motivations for surgery (e.g., Alter, 2008; Bramwell et al., 2007; Miklos & Moore, 2008; Rouzier, Louis-Sylvestre, Paniel, & Haddad, 2000). Consistent with the prospective studies discussed above, although women report a mixture of motivations for

labiaplasty, aesthetic concerns are the most common motivator. Genital appearance dissatisfaction is a relatively new psychological concept, but has been linked with higher genital image self-consciousness during physical intimacy and lower sexual esteem (Schick, Calabrese, Rima, & Zucker, 2010). Indeed, these retrospective studies suggest that feeling self-consciousness in sexual relationships (Bramwell et al., 2007) and pressure from sexual partners (Goodman et al., 2010; Miklos & Moore, 2008) may motivate some women to have a labiaplasty.

Overall, although research into labiaplasty is still limited, the findings to date suggest that dissatisfaction with genital appearance and contemplation of surgery are influenced by sociocultural factors. More specifically, that exposure to media (such as pornography, labiaplasty advertisements and television programmes), the influence of peers (comments from romantic partners in particular), as well as romantic relationship quality and pubic hair removal may be important factors. Thus, the research within the present thesis aimed to expand upon these findings with an investigation of potential predictors of labiaplasty within a sociocultural framework.

Psychological Outcomes of Labiaplasty

Pruzinsky and Edgerton (1990) suggested that cosmetic surgery is body image surgery, that is, by surgically modifying one's body and becoming more satisfied with one's physical appearance, psychological benefits such as improved self-esteem will follow (Honigman, Phillips, & Castle, 2004; Sarwer et al., 1998). In regards to labiaplasty specifically, it is probably unsurprising that it is often claimed in advertisements that surgical alteration of the labia minora, will result in improvements to women's psychological and sexual well-being (Liao et al., 2012). However, very few studies have examined whether women who undergo labiaplasty experience

these psychological outcomes. The studies thus far indicate that women are generally very satisfied with their surgical outcomes. For example, a large multi-centre outcome study found that of 177 women who underwent labiaplasty and/or clitoral hood reduction, 97% were satisfied with the overall results (Goodman et al., 2010). In addition, a study of 98 women who underwent labiaplasty, 89% were satisfied with the aesthetic results, 93% with the functional results and 96% with the overall results (Rouzier et al., 2000). A small number of studies have also found that women reported improvements in their self-esteem, psychological distress, and enjoyment of sex after undergoing labiaplasty (Alter, 2008; Goodman et al., 2010; Gress, 2013; Ostrzenski, 2014; Triana & Robledo, 2012). However, some methodological issues limit the conclusions that can be drawn from these studies. These include retrospective study designs, the use of short non-validated outcome measures, and no appropriate control groups.

To our knowledge, only three studies (Goodman, Faschler, Miklos, Moore, & Brotto, 2011; Goodman et al., 2016; Veale, Naismith, et al., 2014) have addressed broader psychological outcomes of labiaplasty using a prospective design and validated outcome measures. The first was a pilot study involving 33 women undergoing FGCS (including labiaplasty) who were assessed at 1 and 6-9 months post-surgery (Goodman et al., 2011). A larger follow-up study (Goodman et al., 2016) was recently published, and involved 120 FGCS patients and 50 control women not seeking FGCS who were examined at 6, 12 and 24 months post-surgery. In the pilot study (Goodman et al., 2011), although there was an initial improvement in sexual arousal and overall sexual satisfaction, these returned to baseline levels at 6-9 months post-surgery. In addition, there were no significant changes to women's psychological functioning (i.e., symptoms of anxiety, depression, hostility, somatisation, obsession/compulsion, interpersonal sensitivity, phobic anxiety, paranoid ideation, and psychoticism) at 1 month or 6-9 months post-

surgery. However, the percentage of women who met probable BDD criteria decreased from 61.1% prior to surgery to 11.1% at 1 month and 8.1% at 6-9 months post-surgery.

Similarly, in the larger follow-up study (Goodman et al., 2016), women who underwent FGCS were classified in the “mildly-moderately dysmorphic” BDD range prior to surgery which significantly improved after surgery, and the FGCS group were not significantly different from control women by 1-2 years post-surgery. In addition, both genital self-image and sexual satisfaction significantly increased for the FGCS patients and even surpassed the control group at 2 years post-surgery. As Goodman et al. (2016) suggest, improvements in sexual satisfaction may be related to general improvements in self-image in that if a woman feels she looks more attractive, she may be able to have a more satisfying sexual experience. However, it must be noted that a limitation of these studies (Goodman et al., 2011; Goodman et al., 2016) was the combination of the results from all patients, irrespective of the surgical procedure(s) performed. One may expect a different surgical experience for a woman who has had an internal vaginal/perineal procedure compared to labiaplasty. Therefore, although labiaplasty was the most common procedure performed within the FGCS patient samples (85.8% in Goodman et al. (2016)), changes in psychological and sexual well-being after surgery for labiaplasty patients, in particular, could not be determined. Another limitation of these studies was the manner in which BDD symptoms were assessed. The measure used (i.e., Yale-Brown Obsessive Compulsive Scale modified for Body Dysmorphic Disorder (Phillips et al., 1997)) is usually employed as an observer-administered report. However, it was used as a self-report measure in these studies, and, as such, the findings for BDD should be interpreted with some caution.

Veale, Naismith, et al.’s (2014) prospective study included only women undergoing labiaplasty ($n = 49$) who were compared with a group not seeking labiaplasty ($n = 39$). Both

groups completed measures of genital appearance satisfaction, BDD, anxiety and depression symptoms, body image quality of life, and sexual functioning at three time points: before surgery, 3 months after, and 11-42 months after surgery. At 3 months, there was a small but significant reduction in the labiaplasty group's anxiety levels and a medium significant increase in their overall sexual function. However, like the earlier pilot study (Goodman et al., 2011) but in contrast to the larger study (Goodman et al., 2016), these returned to baseline levels in the long term. Nevertheless, the women were significantly more satisfied with their genital appearance after labiaplasty with large effect size and this was maintained in the long-term. For BDD, similar to the other two prospective investigations (Goodman et al., 2011; Goodman et al., 2016), there was a reduction in the percentage of women who met diagnostic criteria before surgery (18%) to 3 months post-surgery (2%). However, in this study, a more valid method of assessment for BDD symptoms was used, namely a structured clinical interview (First, 1995). It must be noted though, that the BDD symptoms may have remained, and the preoccupation shifted from the genital region to another body part, which was not investigated in this study (Veale, Naismith, et al., 2014).

Collectively, these studies suggest that labiaplasty has a positive effect on women's satisfaction with their genital appearance and psychological distress in this domain, as has been found for cosmetic surgery on other body parts (e.g., Sarwer et al., 2008; von Soest, Kvaalem, Skolleborg, & Roald, 2011). However, the findings for whether the improvements in genital appearance satisfaction translated to improvements in more general sexual and psychological functioning were mixed with some studies reporting only initial benefits and others reporting sustained benefits. The current thesis aimed to expand and extend upon the findings to date by using a prospective controlled study design to assess other facets of psychological well-being

such as self-esteem, as well as a more general investigation of the quality of women's sexual relationships after labiaplasty.

Along with the limited number of prospective studies, there is also a lack of in depth perspectives of women's experiences undergoing labiaplasty using qualitative methods. As Shauver and Chung (2010) state, qualitative methodology is suitable for exploring complex topics like satisfaction or dissatisfaction with surgery as patients are allowed to openly express their thoughts and feelings, which can sometimes be missed with quantitative measures. To our knowledge, there has only been one qualitative exploration of women's experiences undergoing labiaplasty (Bramwell et al., 2007). In this study, Bramwell et al. (2007) interview six women who had undergone a labiaplasty procedure. Three themes were described: "normality and defect", "sex lives", and "process of accessing surgery", which provided some insights into why some women may not be as satisfied with their surgical results. For example, one woman stated that she still thought her labia minora were "ugly" even after surgery, so she still felt self-conscious during sex. Another woman expected that labiaplasty would make her appear more attractive to her husband and thus improve her marriage. However, she stated that her husband was still "not interested" and the marriage was now "over". One woman also potentially indicated the need for further surgery as she did not feel her labia were sufficiently symmetrical. Although only a small select sample, the findings by Bramwell et al. suggest that some women may not be as satisfied with labiaplasty when given the opportunity to expand on their responses. Thus, one of the studies in this thesis aimed to expand on these findings by exploring women's motivations, expectations, and pre- and post-surgery experiences using a qualitative approach.

Aims of the Present Thesis

Despite the growing popularity of labiaplasty, the research in the area still lags behind, and this was particularly the case at the outset of this thesis. There had been no systematic investigations of specific factors leading to the consideration/decision to undergo labiaplasty. In addition, there had been no prospective *controlled* studies investigating psychological outcomes. Moreover, there had only been one small qualitative investigation of women's motivations for and experiences undergoing labiaplasty.

The current thesis had two main aims. The first was to investigate the factors which influence women's consideration of and decisions to undergo labiaplasty. This aim was addressed by examining the influence of both sociocultural and psychological factors in women who were (1) considering labiaplasty (Study 1), (2) actively seeking to undergo labiaplasty (Study 3), and (3) women who had undergone this procedure (Study 5). We additionally sought to examine whether educating women in the general community about the diversity in normal female genital appearance and the unrealistic nature of some media depictions influenced their attitudes towards their own genitals and their interest in labiaplasty (Study 2).

The second main aim was to assess whether having a labiaplasty improved women's intimate relationships and psychological well-being. This aim was addressed by a prospective controlled study of women who underwent labiaplasty with a 6 month follow-up (Study 4) and also a retrospective qualitative examination of women who had undergone labiaplasty (Study 5).

Thesis Outline

This thesis consists of six further chapters including five empirical studies. The first two studies were conducted with general community samples of adult women. Chapter 2 presents the results of Study 1 which examined a range of potential predictors of labiaplasty consideration

using a sociocultural framework. Chapter 3 presents the results of Study 2, an experimental investigation of the effectiveness of two online resources aimed at educating women about normal genital appearance diversity and reducing genital appearance dissatisfaction. Chapter 4 presents Study 3 which compared sociocultural influences and psychological characteristics of women seeking to undergo labiaplasty with women who were not seeking to undergo labiaplasty. Chapter 5 presents Study 4 which was a 6 month longitudinal follow-up of a subset of the women from Study 3 that examined how undergoing labiaplasty influenced women's intimate relationship quality and psychological well-being. Chapter 6 presents Study 5 which involved a retrospective qualitative analysis of women's motivations for undergoing labiaplasty and the effects on their psychological and sexual well-being after surgery. Finally, Chapter 7 presents an integrated overall discussion of findings from the studies within the thesis.

All chapters have been formatted as manuscripts for publication. Four have been published (Chapters 2, 3, 4, and 6), and one has been accepted for publication (Chapter 5). Each manuscript has been written in accordance with the particular journal's formatting requirements and so this varies slightly between chapters. Furthermore, there is some repetition in the Introduction and Discussion section for the chapters owing to similar background information.

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CHAPTER 2: Study 1 - Predictors of Labiaplasty Consideration

Predictors of Consideration of Labiaplasty: An Extension of the Tripartite Influence Model of Beauty Ideals

Gemma Sharp, Marika Tiggemann, and Julie Mattiske

School of Psychology, Flinders University, South Australia

Corresponding author: Gemma Sharp, School of Psychology, Flinders University, GPO Box 2100, Adelaide 5001, South Australia, Australia. Email: gemma.sharp@flinders.edu.au

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Abstract

Our study investigated predictors of consideration of labiaplasty (the surgical reduction of the labia) using a sociocultural framework. A sample of 351 heterosexual adult Australian women aged 18 to 69 years completed measures of media exposure, peer influence, relationship quality, internalisation of the genital ideal, genital appearance comparison, genital appearance dissatisfaction, and consideration of labiaplasty. Almost all predictor variables were significantly correlated with consideration of labiaplasty. A structural equation model based on the Tripartite Influence Model focused on beauty ideals showed a good level of fit to the data: the effects of media exposure and peer influence on genital appearance dissatisfaction and consideration of labiaplasty were mediated by internalisation of the genital ideal and genital appearance comparison. We concluded that media exposure, peer influence, and relationship quality influenced consideration of labiaplasty both directly and indirectly. The results contribute to a greater understanding of the sociocultural motivations behind labiaplasty and also demonstrate an important extension of the Tripartite Influence Model beyond the explanation of disordered eating behaviours to the consideration of a specific form of cosmetic surgery. The development of media literacy programmes may be beneficial in addressing genital appearance concerns in young girls.

Keywords: body image, labiaplasty, mass media, interpersonal influences, relationship quality, female genitalia, cosmetic surgery

There has been a dramatic increase in the demand for cosmetic surgery in the last decade (American Society for Aesthetic Plastic Surgery [ASAPS], 2012). In fact, there has been a full 250% increase in the number of procedures performed in the United States since 1997, and 90% of these were performed on women. In 2012, the five most commonly requested procedures by women were breast augmentation, liposuction, abdominoplasty, eyelid surgery, and rhinoplasty. However, another type of procedure has gained rapid popularity in Western countries and this is labiaplasty. Labiaplasty involves the surgical alteration of the labia, usually the reduction of the size of the labia minora (Goodman, 2009) - a procedure that carries some physical risk, such as infection, bleeding, separation of the surgical wound, and scarring (Liao & Creighton, 2011). In the United States, the number of labiaplasties performed increased from 2,142 in 2011 to 3,521 in 2012, which represented a 64% increase (ASAPS, 2012). Similarly, in the UK, there was a five-fold increase in the number of labiaplasties (from 397 to 1,726) performed in the decade 2001 to 2011 (Crouch, Deans, Michala, Liao, & Creighton, 2011). Despite the increased popularity of labiaplasty, relatively little is known about the specific factors which influence women's decisions around labiaplasty.

To our knowledge, there have been only two studies in non-surgical settings which have examined women's attitudes towards their labia and to labiaplasty. In Koning, Zeijlmans, Bouman, and van der Lei's (2009) sample of 482 predominantly Dutch medical students, almost all participants (95%) had heard of labiaplasty, and most (78%) had gained their knowledge via a media source (e.g., television, internet). In addition, 14% of women thought that the appearance of their labia minora was "abnormal" and 7% had considered labial reduction surgery. Yurteri-Kaplan et al. (2012) compared the vulvar perceptions and interest in vulvar cosmetic surgery of 207 younger (18-44 years) and 147 older (45-72 years) women in the United States. A high

percentage of women in both age groups (91%, 93%) believed their vulva looked normal, although a slightly lower percentage (81%, 82%) of participants was satisfied with the appearance of their vulva. Furthermore, 15% of older women compared to 8% of younger women would consider vulvar surgery. These studies suggest that a sizeable minority of women are dissatisfied with the appearance of their genitals and would consider labiaplasty. However, the factors which influenced women's genital appearance dissatisfaction and surgery consideration were not specifically addressed in these studies.

Retrospective studies of labiaplasty patients conducted by surgeons at their own clinics have found that women report a variety of reasons as to why they underwent this surgery. For example, Rouzier, Louis-Sylvestre, Paniel, and Haddad's (2000) study of 163 labiaplasty patients found that aesthetic dissatisfaction was a motivator for surgery in 87% of patients, discomfort in clothing in 64%, discomfort when taking part in sports in 26%, and painful sexual intercourse in 43%. A large scale study of women who had undergone female genital plastic surgery procedures at 10 separate private centres in the United States reported that of the 177 women who had labiaplasty and/or clitoral hood reduction, 76% cited functional reasons (e.g., discomfort, dyspareunia), 53% wanted to "look better," 33% wanted to enhance their self-esteem, and 31% wanted to feel more "normal" (Goodman et al., 2010). Miklos and Moore (2008) categorised their sample of 131 labiaplasty patients' motivations for surgery as purely aesthetic (37%), purely functional (32%), and a combination of aesthetic and functional (31%). These studies and others suggest that although the alleviation of physical discomfort is an important issue for some labiaplasty patients, dissatisfaction with labial appearance is also a major motivator.

Research suggests that women vary widely in the appearance of their labia in terms of

length, width, colour, and texture (Lloyd, Crouch, Minto, Liao, & Creighton, 2005). However, women who have undergone labiaplasty uniformly report that their genital appearance was “odd” or “abnormal” prior to surgery, including women who were aware of the natural variation in “normal” genital appearance (Bramwell, Morland, & Garden, 2007). The aesthetic ideal which labiaplasty patients reportedly seek is a flat vulva with no protrusion beyond the labia majora (Liao & Creighton, 2007). This look has been nicknamed the “Barbie look” (Alinsod, 2007) and is part of the colloquially termed “designer vagina” phenomenon (Braun, 2005). The Barbie doll look, in conjunction with the now mainstream practice of pubic hair removal (Braun & Tiefer, 2010; Braun, Tricklebank, & Clarke, 2013), resembles a prepubescent girl (Liao & Creighton, 2007), which adult women will rarely fulfill. Although the removal of pubic hair can be achieved relatively easily, the removal of this hair actually exposes the vulvar region and allows women to readily examine the appearance of their labia minora (Braun & Tiefer, 2010). Women who subscribe to the Barbie ideal are likely to be dissatisfied with the appearance of their labia and may desire surgical intervention.

More generally, the endorsement of unrealistic body ideals can lead to a number of negative psychological repercussions. These include low self-esteem (Oney, Cole, & Sellers, 2011), negative affect (Ridolfi, Myers, Crowther, & Cielsa, 2011), and feelings of guilt (Ridolfi et al., 2011; Salk & Engeln-Maddox, 2011). Objectification theory (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996) posits that such an extreme focus on appearance can stem from the experience of sexual objectification (i.e., being viewed as a sexual object which exists solely for the pleasure of others), a commonplace experience for many women in Western societies. One insidious psychological consequence of sexual objectification is self-objectification, the process of adopting a third-person perspective on the self, whereby one places greater value on

appearance than on how the body feels or functions (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). Recently, Calogero, Pina, and Sutton (2014) have proposed that self-objectification stemming from sexual objectification might encourage some women to support even further objectification of their bodies by choosing to undergo cosmetic surgery. Indeed, in a sample of college women, the degree to which women adopted this observer's perspective was positively correlated with more favourable attitudes towards cosmetic surgery (Calogero, Pina, Park, & Rahemtulla, 2010). In addition, Calogero et al. (2014) demonstrated that priming a state of self-objectification in college women increased interest in cosmetic surgery.

Thus it is clear that the Barbie ideal and increased popularity of labiaplasty have not developed in isolation, but in a broader sociocultural context that encourages the objectification of women's bodies. Therefore, sociocultural models may provide an appropriate framework for studying the predictors of these phenomena. Although one particular model, the Tripartite Influence Model (Keery, van den Berg, & Thompson, 2004; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), was originally developed to explain body image concerns and disordered eating, it has been applied to other phenomena, such as tanning behaviour (Cafri, Thompson, Jacobsen, & Hillhouse, 2009). More recently, it has been applied to attitudes toward cosmetic surgery in general (Menzel et al., 2011). The original model postulates that beauty ideals are reinforced and transmitted by three primary sociocultural influences, namely peers, parents and the media (Thompson et al., 1999). These sociocultural influences have both direct and indirect effects on body dissatisfaction and eating disturbance. The indirect pathways involve two mediators: internalisation of appearance ideals and appearance comparison (Keery, van den Berg, et al., 2004; Thompson et al., 1999). With the present study, we aimed to extend the use of this model to investigate genital appearance dissatisfaction and the consideration of labiaplasty. We

examined three classes of sociocultural influences: media (television, internet, advertisements, pornography), peers (female friends, romantic partners) and relationship quality (relationship satisfaction, sexual confidence). In addition, the behaviour of pubic hair removal, as a form of cosmetically motivated body manipulation, was included as a predictor.

The mass media are a powerful sociocultural influence and have certainly increased public awareness of cosmetic surgery. In particular, in the last decade or so, cosmetic surgery has become the focus of a number of reality television programmes, such as *The Swan* and *Extreme Makeover*. Studies in women have shown that viewing of these programmes is related to more positive attitudes towards and consideration of cosmetic surgery in general (Slevec & Tiggemann, 2010; Sperry, Thompson, Sarwer, & Cash, 2009). In the case of labiaplasty, both surgical and non-surgical samples of women have reported that their knowledge of labiaplasty was obtained from media sources, such as television programmes, the internet, and labiaplasty advertisements (e.g., Crouch et al., 2011; Koning et al., 2009; Liao, Taghinejadi, & Creighton, 2012).

There are relatively few images of female genitalia shown on mainstream media, with the possible exception of specialist programmes like *Embarrassing Bodies*. However, a ready source of these images can be found in pornography. Pornography (in magazines, videos or on the internet) is becoming increasingly acceptable for women to consume, whether involved in a relationship or not (Olmstead, Negash, Pasley, & Fincham, 2013), and pornography use by the male partners of women has recently been linked to women's experiences of sexual objectification (Tylka & Kroon Van Diest, 2014). For images of female genitals to be considered "safe" for public viewing in Australia, such as in soft-core pornography, any protruding labia are digitally removed, leaving only a "clean slit" or "single crease" (McDougall, 2013). Thus, the full diversity of female genital appearance is rarely seen. In the current study, it was predicted

that greater exposure to a range of media sources (pornography, internet, television, and advertising), would increase genital appearance dissatisfaction and consideration of labiaplasty.

As is the case for the media, peers can have a strong influence on body image through conversations about appearance and appearance-based criticisms (Jones, Vigfusdottir, & Lee, 2004). In the case of genital appearance, a romantic partner may be one of the very few people from whom a woman will potentially receive comment on the appearance of her labia. If these comments are negative, women may become dissatisfied with their genital appearance and desire surgery. Iglesia, Yurteri-Kaplan, and Alinsod (2013) recommend that cosmetic genital surgery patients “should act autonomously without coercion from partners or surgeons” (2013, p. 2007). Nevertheless, in one study, 8.2% of the 49 patients seeking labiaplasty for purely aesthetic reasons admitted to being influenced by their male partners to undergo surgery (Miklos & Moore, 2008), and another study found 5.0% of the 177 labiaplasty and/or clitoral hood reduction surgeries were performed at the “urging of a sexual partner” (Goodman et al., 2010). In addition to comments from romantic partners, women may also discuss genital appearance with their female friends which, in turn, may influence their level of satisfaction with their own labia. Therefore, we predicted that greater frequency of comments from romantic partners and conversations with female friends would increase genital appearance dissatisfaction and consideration of labiaplasty.

In addition to the influence of the media and peers, we sought to examine whether the quality of women’s relationships with romantic and sexual partners influenced their consideration of labiaplasty. From the retrospective qualitative reports of labiaplasty patients, it would appear that, prior to surgery, their concern with their genital appearance detrimentally affected their sex lives (Bramwell et al., 2007). These women stated that they were anxious about

their partner seeing or touching their genitals, inhibited in their sexual relationships, and anxious about starting new romantic relationships (Bramwell et al., 2007). Therefore, it appears that relationship and sexual difficulties are associated with consideration of labiaplasty. Conversely, it might be the case that heterosexual women who are involved in satisfying romantic and/or sexual relationships would not consider the appearance of their genitals to be important and would be thus less likely to consider labiaplasty. Therefore, we predicted that greater relationship satisfaction and sexual confidence would serve as protective factors, and thereby decrease genital appearance dissatisfaction and the likelihood of undergoing labiaplasty.

In sum, we aimed to investigate predictors of heterosexual women's consideration of labiaplasty using the Tripartite Influence Model as a framework. Specifically, we predicted that greater media exposure (television, internet, advertising, pornography) and peer influence (from friends and romantic partners) would lead to *greater* dissatisfaction with genital appearance and, in turn, consideration of labiaplasty. Conversely, we predicted that higher relationship satisfaction and sexual confidence would lead to *lower* genital appearance dissatisfaction and consideration of labiaplasty. In addition, we predicted that more extensive pubic hair removal would lead to greater genital appearance dissatisfaction and labiaplasty consideration. In accord with the Tripartite Influence Model, internalisation of the genital ideal and genital appearance comparison were predicted to mediate the relationships between the proposed sociocultural predictors and genital appearance dissatisfaction and consideration of labiaplasty.

Method

Participants

Participants were 351 heterosexual women from the general Australian community aged 18-69 years ($M = 29.7$, $SD = 12.2$). They were recruited from the first author's Facebook page (n

= 215), survey sharing websites ($n = 35$), and undergraduate psychology classes ($n = 101$). The great majority (94.6%, $n = 332$) identified as Caucasian/White ($n = 11$ Asian, $n = 2$ Indigenous Australian, $n = 1$ African, $n = 5$ Other). The majority of women (71%, $n = 248$) in the sample did not have any children. Thirty two (9%) women had undergone at least one cosmetic surgical procedure and this covered 21 unique procedures. Of these, breast augmentation was the most common ($n = 6$), and one woman had previously undergone labiaplasty. The majority of women (65%, $n = 228$) personally knew at least one other person who had undergone a cosmetic procedure.

Procedure and Measures

Participants who were female heterosexuals aged 18 and over were invited to complete a questionnaire entitled “Cosmetic Surgery Attitudes”. The questionnaire was completed online and took approximately 20-30 minutes to complete. Although genital appearance dissatisfaction and consideration of labiaplasty were the focus of our study, the questionnaire was framed in the context of cosmetic surgery in general to encourage wider participation and so as not to prime participants. The questionnaire measured, in order, demographic information (age, ethnicity, number of children, and details of cosmetic procedures for themselves and people they knew), media exposure (television, internet, advertising, and pornography), peer influence (friend conversations and partner comments), relationship quality (relationship satisfaction and sexual confidence), pubic hair removal, proposed mediating processes (internalisation of the genital ideal and genital appearance comparison), and consequences (genital appearance dissatisfaction and consideration of labiaplasty). Genital specific items were embedded in measures addressing the breast and body in general. Ethical approval to conduct the questionnaire was obtained from the Institutional Research Ethics Committee.

Media exposure. Participants were provided with a list of 12 programmes showing on Australian television at the time of the study. Four of these programmes featured cosmetic surgery (“Extreme Makeover,” “Embarrassing Bodies,” “How to Look Good Naked,” “The Doctors”). The other eight (e.g., “MasterChef,” “Desperate Housewives,” “Big Bang Theory”) were popular programmes according to the OzTAM website (<http://www.oztam.com.au/>), and they served as filler items. The order of the 12 programmes was randomised and participants were asked to record the frequency with which they viewed each television programme on a 5-point Likert scale from 0 (*never*) to 4 (*every time it’s on*). Scores for the cosmetic surgery-related programmes were summed to produce a total score with a possible range from 0 to 16, with higher scores indicating greater exposure to cosmetic surgery on television. Reliability for the present sample was considered adequate for a scale with only a few items ($\alpha = .64$).

Participants were asked how often they had seen three specific naked female body parts (bodies in general, breasts, and genitals), separately on television and online. Exposure was rated on a 5-point Likert scale ranging from 0 (*never*) to 4 (*a great deal*). Participants also were asked how many advertisements they had seen for three specific types of cosmetic surgery: cosmetic surgery in general, breast surgery, and genital surgery. They rated each surgery type on a scale ranging from 0 (*none*) to 4 (*over 50*). Finally, participants were asked how much pornography they had viewed on three different sources of media (magazines, internet, and movies) on a 5-point Likert scale ranging from 0 (*none*) to 4 (*a great deal*); scores were summed to produce a total score which ranged from 0 to 12. Higher scores indicated greater exposure to pornography. Reliability for the present sample was considered adequate for a scale with only a few items ($\alpha = .67$).

Peer influences. The frequency of conversations with friends about genital appearance

was measured using two items (“My friends and I talk about the size and shape of our genitals” and “My friends and I talk about what genitals should look like”) that had been adapted from the five-item Appearance Conversations with Friends Scale (Jones et al., 2004). These two genital-specific items, along with two breast-specific items, were appended to the original five-item Appearance Conversations with Friends Scale. Here participants rated each item on a 5-point Likert scale ranging from 0 (*never*) to 4 (*very often*). Scores were summed to produce a total score which ranged from 0 to 8. Higher scores indicated more frequent conversations about genital appearance. Jones et al. (2004) reported high internal consistency for the original scale ($\alpha = .85$ for female and $\alpha = .83$ for male adolescents). Reliability for the genital-specific items for the present sample was high ($\alpha = .87$).

Participants were asked how often a romantic partner had ever given them negative comments about the appearance of their body parts, including two genital-specific items (“How often has a romantic partner suggested you alter/improve the appearance of your genitals?” and “How often has a romantic partner given you negative comments about your genitals?”), each rated on a 5-point Likert scale ranging from 0 (*never*) to 4 (*very often*). Scores were summed to produce a total score which ranged from 0 to 8. Higher scores indicated more frequent negative comments about genital appearance. Reliability for the present sample was adequate ($\alpha = .83$).

Relationship quality. Relationship satisfaction was measured using the seven-item Relationship Assessment Scale (Hendrick, 1988). Participants who had a current romantic partner rated each item (e.g., “In general, how satisfied are you with your relationship?”) on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*completely*). The majority of participants (72%, $n = 253$) had a current romantic partner, a percentage very similar to the 69% reported in a previous sample of Australian women aged 18–30 years-old (Tiggemann & Williams, 2012).

Scores were summed to produce a total score which ranged from 7 to 35. Higher scores indicated greater relationship satisfaction. Vaughn and Baier (1999) reported high internal consistency for this scale ($\alpha = .91$). Reliability for the present sample was also high ($\alpha = .91$).

Confidence as a sexual partner was measured using the six-item Sexual Confidence Scale (Abraham et al., 2009). Participants who had ever had a sexual partner rated their level of agreement with each item (e.g., “I have confidence in myself as a sexual partner”) on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The vast majority of participants (86%, $n = 303$) had had a sexual partner, a higher percentage than the 79% reported in the previous Australian sample (Tiggemann & Williams, 2012). Scores were summed to produce a total score which ranged from 6 to 36. Higher scores indicated greater sexual confidence. Abraham et al. (2009) reported high internal consistencies for this scale ($\alpha = .85$ to $.89$). Reliability for the present sample was also high ($\alpha = .88$).

Hair removal. Participants were asked several questions to assess their body hair removal habits, with a focus on pubic hair removal. Participants were asked whether they removed hair from their legs, underarms, bikini line, and pubic region. If they indicated bikini line and/or pubic region hair removal, participants were then asked how much pubic hair they removed (0 = *none*, 4 = *all*), how frequently they removed this hair (0 = *never*, 6 = *daily*), and their major method of pubic hair removal.

Mediating processes. Internalisation of societal appearance standards for genitals was measured using four items (e.g., “I would like my genitals to look like the genitals of women in porn movies”) which had been adapted from the five-item Sociocultural Internalization of Appearance Questionnaire-Adolescents (SIAQ-A; Keery, Shroff, Thompson, Wertheim, & Smolak, 2004). The SIAQ-A was selected for modification because, in contrast to other available

measures, it does not contain any items specifically addressing appearance comparison. The four genital-specific items, along with four breast-specific, were appended to the original five-item SIAQ-A. Participants rated their level of agreement with each item on a 5-point Likert scale ranging from 1 (*definitely disagree*) to 5 (*definitely agree*). Scores were summed to produce a total score which ranged from 4 to 20. High scores indicated greater internalisation of the genital ideal. Keery, Shroff, et al. (2004) reported high internal consistencies for the original scale ($\alpha = .83$ to $.92$). Reliability for the genital-specific items for the present sample was strong ($\alpha = .97$).

The extent of body part appearance comparison was assessed using a measure based on the comparison targets subscale of the Social Comparison Questionnaire (Schutz, Paxton, & Wertheim, 2002). Participants rated how often they compared the appearance of their body in general, breasts, and genitals with five social targets (e.g., “friends,” “fashion models”) on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). Scores were summed to produce a total score which ranged from 5 to 25. Higher scores indicated more frequent genital appearance comparison. Reliability for genital-specific items for the present sample was acceptable ($\alpha = .72$).

Consequences: Dissatisfaction and surgery consideration. The only measure to not be embedded in the context of general body appearance was the 11-item Genital Appearance Satisfaction Scale (Bramwell & Morland, 2009). Participants rated how often they agreed with each item (e.g., “I feel that my labia are too large”) on a 4-point Likert scale ranging from 0 (*never*) to 3 (*always*). Scores were summed to produce a total score which ranged from 0 to 33. Higher scores indicated greater genital appearance dissatisfaction. Veale et al. (2013) showed that the Genital Appearance Satisfaction Scale had good concurrent and convergent validity, could discriminate between women who were seeking labiaplasty and those who were not, and had good internal consistency ($\alpha = .84$). In the present sample, internal consistency was similar

($\alpha = .85$). Regarding consideration of surgery, participants rated how likely they were in the future to undergo nine different cosmetic procedures (e.g., abdominoplasty, rhinoplasty, breast surgery, labiaplasty) ranging from 0% to 100% in 10% increments. Because financial expense could potentially be a prohibitive factor, participants were also asked to indicate percentage likelihood if money was no object.

Results

Consideration of Labiaplasty

The women indicated, on average, a low likelihood of undergoing labiaplasty in the future (*Mode* = 0%, *Mean* = 4.15%, *SD* = 12.72%). Nevertheless, the number of women who indicated at least some interest in this surgery (i.e., 10% or greater likelihood) was sizeable ($n = 59$). Age was negatively correlated with consideration of labiaplasty ($r = -.13, p = .015$) indicating that younger women were more likely to be interested in this procedure. When cost was removed from the equation, the mean likelihood of undergoing labiaplasty increased slightly (*Mode* = 0%, *Mean* = 6.90%, *SD* = 19.80%), and the number of women indicating interest remained constant. The correlation between age and consideration of labiaplasty was not significant when the issue of cost was removed ($r = -.08, p = .158$).

Media Exposure

The most frequently watched cosmetic surgery-related television programme was *Embarrassing Bodies* ($M = 1.21, SD = 1.10$), which was, on average, viewed “occasionally”. On average, women had “occasionally” seen naked female genitals on TV ($M = 0.59, SD = 0.71$) and online ($M = 1.16, SD = 1.21$). In terms of specific advertising for female cosmetic genital surgery, on average, the women had not seen any advertisements ($M = 0.33, SD = 0.64$), but 26% ($n = 91$) of women reported viewing at least one advertisement for this type of surgery. Women’s

total consumption of pornography was, on average, “a little,” with internet pornography ($M = 1.09$, $SD = 1.16$) as the most utilised source.

Table 1 shows the correlations among these media variables, the two proposed mediators (internalisation of the genital ideal and genital appearance comparison), and the two outcome variables (genital appearance dissatisfaction and consideration of labiaplasty). The correlations for exposure to cosmetic surgery and genitals on television were generally small. On the other hand, exposure to female genitals via the internet was positively correlated with both mediators and with both outcome variables. Similarly, pornography exposure was positively related to both mediators and consideration of labiaplasty. Advertisement exposure was significantly related to genital appearance comparison only.

Table 1
Correlations Among Study Variables

| Predictors | Mediators | | Outcomes | |
|---|----------------------------|-----------------------|----------------------------|------------------------------|
| | Genital Internalisation | Genital Comparison | Genital Dissatisfaction | Labiaplasty Consideration |
| Media exposure | | | | |
| Television | .12* | .09 | .11 | .02 |
| Genitals (TV) | .13* | .12* | .11* | -.02 |
| Genitals (Internet) | .20*** | .31*** | .20*** | .24*** |
| Advertisements | .08 | .16** | .02 | .02 |
| Pornography | .13* | .30*** | .10 | .23*** |
| Peer influences | | | | |
| Friend conversations | .22*** | .29*** | .17** | .17** |
| Partner comments | .14** | .15** | .25*** | .28*** |
| Relationship quality | | | | |
| Relationship satisfaction ^a | -.11 | -.11 | -.11 | -.24*** |
| Sexual confidence ^b | -.20*** | -.08 | -.39*** | -.20*** |
| Cosmetic behaviour | | | | |
| Pubic hair removal | .15** | .19*** | .12* | .16** |

^a $n = 253$. ^b $n = 303$.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Peer Influences

On average, women's frequency of conversations about genital appearance with their female friends was very low ($M = 0.39$, $SD = 1.03$), and the mean frequency of negative comments received from romantic partners about their genitals was also low ($M = 0.26$, $SD = 0.86$). As can be seen in Table 1, both frequency of conversations with friends and frequency of negative comments from romantic partners were positively related to all of internalisation of the genital ideal, genital appearance comparison, genital appearance dissatisfaction, and consideration of labiaplasty.

Relationship Quality

Women who were currently involved in romantic relationships (72%, $n = 253$) reported a high level of relationship satisfaction ($M = 30.08$, $SD = 5.19$). Women who had had a sexual partner ($n = 303$) indicated a relatively high level of confidence as a sexual partner ($M = 28.28$, $SD = 5.84$). As shown in Table 1, relationship satisfaction was negatively correlated with consideration of labiaplasty only. On the other hand, sexual confidence was negatively correlated with internalisation of the genital ideal, genital appearance dissatisfaction, and consideration of labiaplasty. Because sexual confidence was not measured for women who had never had a sexual partner (14%, $n = 48$), we examined whether these women scored differently from women who had had a partner on the variables discussed above. According to the t -test results, there were some differences in scores between the groups. Women who had had a sexual partner reported more frequent exposure to genital images on television, $t(348) = 2.22$, $p = .027$, the internet, $t(349) = 3.09$, $p = .002$, and greater consumption of pornography, $t(347) = 3.65$, $p < .001$. Sexually active women also removed a significantly greater amount of their pubic hair, $t(349) = 3.83$, $p < .001$, and scored higher on genital appearance comparison, $t(121) = 3.29$, $p = .001$.

However, they did not differ on the two outcome variables of genital appearance dissatisfaction, $t(343) = 0.30, p = .764$, and consideration of labiaplasty, $t(349) = 0.65, p = .948$.

Hair Removal

The vast majority of women removed hair from their bikini line (81%, $n = 283$) and/or pubic region (62%, $n = 218$). The extent of this pubic hair removal was, on average, a “small amount” beyond the bikini line ($M = 2.31, SD = 1.44$). The most common method of pubic hair removal was shaving (56%, $n = 162$) followed by waxing (31%, $n = 90$), and the average frequency of pubic hair removal was “monthly” ($M = 2.81, SD = 1.37$). As seen in Table 1, the extent of pubic hair removal was positively correlated with internalisation of the genital ideal, genital appearance comparison, genital appearance dissatisfaction, and consideration of labiaplasty.

Relationships between Mediators and Outcomes

The first proposed mediator, internalisation of the genital ideal ($M = 7.07, SD = 4.17$), was positively correlated with both outcome variables, genital appearance dissatisfaction ($r = .46, p < .001$) and consideration of labiaplasty ($r = .30, p < .001$). The other mediator, genital appearance comparison ($M = 5.81, SD = 1.81$), was similarly positively correlated with both genital appearance dissatisfaction ($r = .45, p < .001$) and consideration of labiaplasty ($r = .26, p < .001$). The mediators themselves were intercorrelated ($r = .50, p < .001$), as were the outcome variables ($r = .48, p < .001$).

Test of the Proposed Model for Consideration of Labiaplasty

Based on the rationale of the Tripartite Influence Model (Thompson et al., 1999), a structural model was proposed for consideration of labiaplasty. In this model, there were four classes of predictors (media exposure, peer influences, relationship quality, and pubic hair

removal) which led to the two sociocultural mediators (internalisation of the genital ideal and genital appearance comparison). Media exposure was also set to lead to pubic hair removal, based on the findings of Tiggemann and Hodgson (2008). Internalisation of the genital ideal and genital appearance comparison were postulated to lead to genital appearance dissatisfaction which, in turn, was predicted to lead to consideration of labiaplasty. Relationship satisfaction was excluded from the model because 98 women were not in a current romantic relationship and thus did not complete the measure.

In testing the model, the very few missing values in the dataset (< 1%) were handled by substitution of the mean scaled score. The media variables (television, internet, advertising, and pornography) were treated as a single latent variable, as was consideration of labiaplasty (with and without cost consideration). All other variables were treated as observed variables, and all predictors were allowed to correlate with each other. The hypothesised structural model was evaluated for the 303 women who had had a sexual partner (and thus completed the measure of sexual confidence).

Structural equation modelling with maximum likelihood estimation was conducted using AMOS version 19.0. In accordance with Kline's (2005) recommendations, the comparative fit index (CFI), standardised root mean square residual (SRMR), and standardised root mean square error of approximation (RMSEA) were used to assess the adequacy of the model fit. According to Hu and Bentler (1999), values of .95 or higher for CFI, .08 or lower for SRMR, and .06 or lower for RMSEA indicate a good fit to the data. Values of .90-.94 for CFI, .09-.10 for SRMR, and RMSEA of .07-.10 indicate an acceptable fit to the data.

Evaluation of the initial model yielded a less than acceptable fit to the data (CFI = .854, SRMR = .081, RMSEA = .080). Examination of the modification indexes (MIs) suggested the

addition of three paths: sexual confidence → genital appearance dissatisfaction, media exposure → consideration of labiaplasty, and partner comments → genital appearance dissatisfaction.

After these modifications, the model provided a good fit to the data (CFI = .935, SRMR = .052, RMSEA = .055).

The structural coefficients for the final model are presented in Figure 1. Both media exposure and friend conversations significantly predicted internalisation of the genital ideal and genital appearance comparison which, in turn, predicted genital appearance dissatisfaction, which itself predicted labiaplasty consideration. However, there was also a direct significant path from media exposure to labiaplasty consideration. Although pubic hair removal was significantly predicted by media exposure, it itself did not significantly predict any other variable. Partner comments did not significantly predict internalisation of the genital ideal or genital appearance comparison, but did directly predict genital appearance dissatisfaction. Sexual confidence negatively predicted internalisation of the genital ideal, but not genital appearance comparison, and directly predicted genital appearance dissatisfaction. It is noteworthy that neither internalisation of the genital ideal nor genital appearance comparison directly predicted labiaplasty consideration. Instead, both predicted genital appearance dissatisfaction which, in turn, predicted labiaplasty consideration.

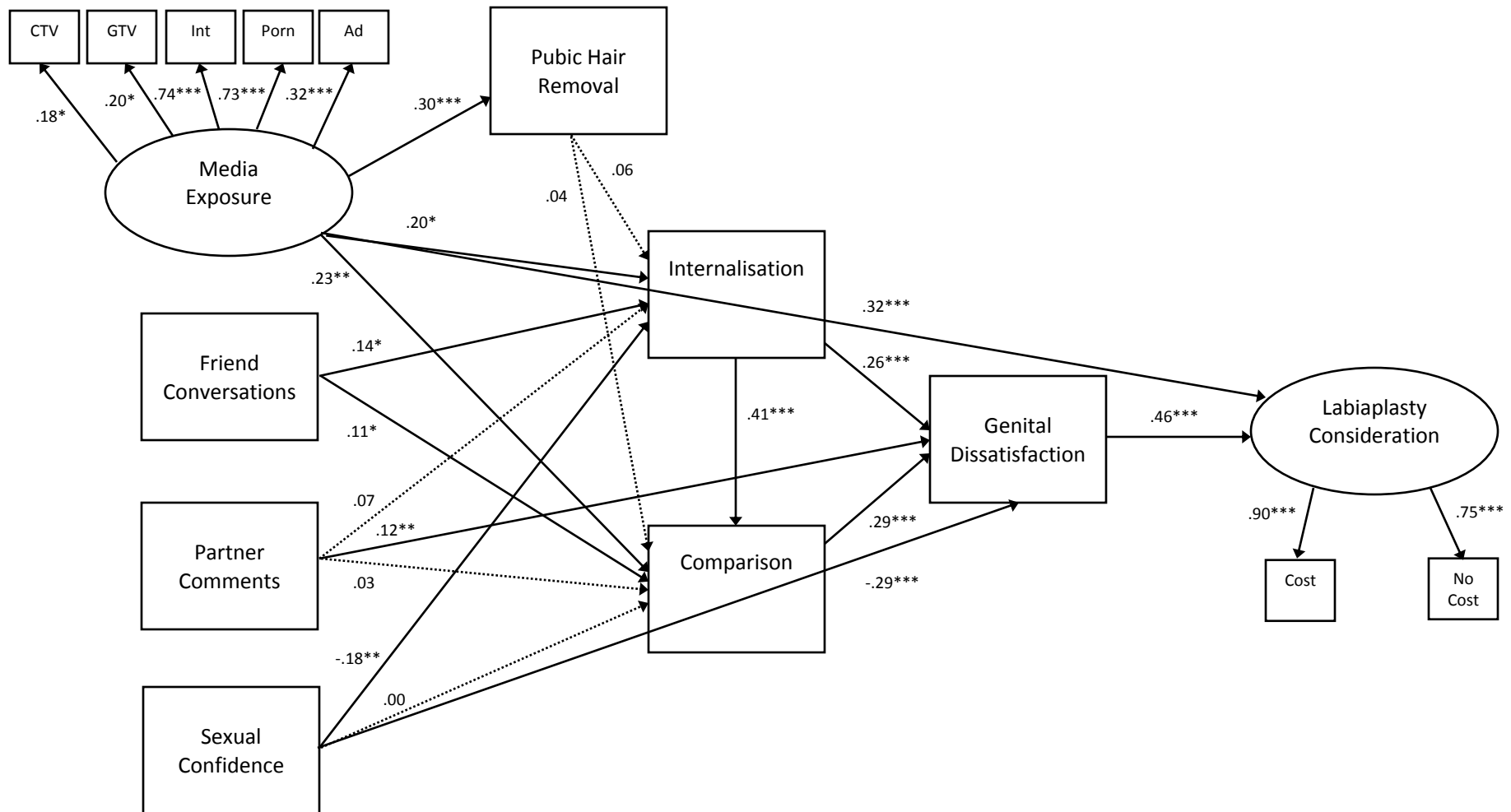


Figure 1. Factor loadings and path coefficients for the final structural model with 303 women. CTV = cosmetic surgery-related television programmes, GTV = genitals on television, Int = internet, Porn = pornography, Ad = advertisements, Cost = cost impacts consideration, No Cost = cost does not impact consideration.

Discussion

The present study is the first known to systematically investigate the sociocultural predictors of consideration of labiaplasty, and in doing so, it has made three significant contributions. First, our findings expand our knowledge of the sociocultural mechanisms underlying the increased popularity in labial reduction surgery. Second, we have demonstrated that the Tripartite Influence Model (Thompson et al., 1999), originally designed to explain the development of body image concerns and disordered eating, can be extended to account for concerns with genital appearance and the desire to change labial appearance through surgery. This adds to the growing list of behaviours (e.g., tanning and exercise) to which the Tripartite Influence Model has been applied (Tiggemann, 2012). Third, beyond the Tripartite Influence Model, we have identified sexual confidence as an important predictor of dissatisfaction with genital appearance and, in turn, consideration of labiaplasty.

A sizeable percentage of Australian women (17%) in the present study indicated at least some interest in undergoing labiaplasty in the future. This figure is higher than the 7% reported for a non-surgical sample in the Netherlands (Koning et al., 2009) and 8-15% in the United States (Yurteri-Kaplan et al., 2012). These differences in level of interest may be due to sampling or cultural differences, which should be explored in future research. However, the most likely explanation is an increase in interest in labiaplasty over time (ASAPS, 2012; Crouch et al., 2011). At the very least, the present results confirm that there is a significant level of interest in this surgery among Australian (heterosexual) women.

In our attempt to identify the sociocultural predictors of consideration of labiaplasty, four classes of predictors (media, peers, relationship quality, and pubic hair removal) were examined. Correlations between media sources and consideration of labiaplasty showed that the internet and pornography were the two major media influences. These media sources are

the most likely to show images of female genitals. Although advertisements for cosmetic genital surgery also show representations of female genitalia, usually “before” and “after” surgery images (Liao et al., 2012), the majority of women in the present sample had never seen such an advertisement. The finding that cosmetic surgery-related television exposure was not correlated with consideration of labiaplasty differentiates this type of surgery from cosmetic surgery in general, where exposure to reality television makeover programmes is associated with consideration (Slevec & Tiggemann, 2010; Sperry et al., 2009). Nevertheless, television and advertisement exposure were significantly correlated with some of the other variables.

The proposed structural model provided a good fit to the data and, as predicted, media exposure exerted its effect on genital appearance dissatisfaction and consideration of labiaplasty via the mediators of internalisation of the genital ideal and genital appearance comparison. Importantly, this pattern demonstrates that even in the unique context of a specific type of cosmetic surgery, these sociocultural transmitters of internalisation and comparison still apply (Keery, van den Berg, et al., 2004). An additional pathway inserted into the model indicated that media exposure has a direct effect on consideration of labiaplasty. Normalisation is one process that may account for this direct effect. According to cultivation theory (Gerbner, Gross, Morgan, & Signorielli, 1994), media exposure can shape our perception of social reality, often without our awareness. It may be the case that continued exposure to the Barbie genital ideal and labiaplasty may modify attitudes such that labiaplasty is viewed as an acceptable body modification method. Alternatively, it may be the case that the portrayal of labiaplasty in the media may induce a desire to directly model this behaviour (Slevec & Tiggemann, 2010).

Like media exposure, peers (partners and friends) also influenced women’s consideration of labiaplasty. As expected, the women’s reported frequency of negative

comments from romantic partners about genital appearance was positively associated with consideration of labiaplasty. This finding corresponds to retrospective reports from a small but significant percentage of labiaplasty patients who have undergone surgery at the urging of their partner (Goodman et al., 2010; Miklos & Moore, 2008). In the structural model, romantic partners' comments led directly to dissatisfaction with genital appearance, independent of internalisation of the genital ideal and genital appearance comparison. It is logical that specific negative comments from romantic partners would directly impact women's satisfaction with their genital appearance and, in turn, lead to consideration of surgery. These comments from partners could be considered a form of appearance-based teasing which, when targeted toward weight, enhances body dissatisfaction in women (for a meta-analysis, see Menzel et al., 2010). Appearance-based teasing has also been shown to lead to consideration of cosmetic surgery in general in young women through increasing body dissatisfaction (Markey & Markey, 2009). The present results suggest this pathway also applies to specific genital appearance-based teasing and consideration of labiaplasty.

Women's reported conversations with their female friends about genital appearance were similarly positively associated with consideration of labiaplasty. As predicted, the effect of these conversations on genital appearance dissatisfaction and consideration of labiaplasty was mediated by internalisation of the genital ideal and genital appearance comparison. Retrospective reports from labiaplasty patients have very occasionally mentioned friends as a source of influence (Crouch et al., 2011; Miklos & Moore, 2008), but the present results suggest that they may play an important role in consideration of surgery. Conversations about genital appearance with friends may direct women's attention to this issue, reinforce its importance, and advocate genital appearance ideals (Jones et al., 2004). Then, if women do not fulfil these ideals, they may become dissatisfied with their own genital appearance and desire surgery. Although we determined that the majority of our

sample knew at least one person who had undergone some (unspecified) form of cosmetic surgery, future research could investigate whether having a friend who has undergone labiaplasty is a motivator for women to consider labiaplasty.

We also investigated the possibility that the quality of women's relationships with men could serve as a buffer against consideration of labiaplasty. As expected, for those women who were currently involved in a romantic relationship, relationship satisfaction was negatively correlated with consideration of labiaplasty. Similarly, for women who had ever had a sexual partner, sexual confidence was negatively associated with consideration. Retrospective accounts from labiaplasty patients indicate that relationship and sexual difficulties are common patient concerns that they hope to alleviate through surgery (e.g., Bramwell et al., 2007). Our results suggest that being involved in a satisfying romantic and/or sexual relationship actually protects women from consideration of surgery. In addition, the effects of sexual confidence on genital appearance dissatisfaction and consideration of labiaplasty were mediated by internalisation of the genital ideal, but not genital appearance comparison. Importantly, sexual confidence was also identified as the strongest direct predictor of genital appearance dissatisfaction. These results are understandable as it is likely that all aspects of a woman's sexual being would contribute to her sexual confidence, including her genital appearance. It has been shown that women who are dissatisfied with their genital appearance have greater genital image self-consciousness during sex which, in turn, leads to lower sexual esteem and sexual satisfaction (Schick, Calabrese, Rima, & Zucker, 2010). Future research should seek to identify predictors of sexual confidence because these could potentially serve as targets in order to buffer against genital appearance concerns.

We also investigated the behaviour of pubic hair removal in the present study. We found that the extent of pubic hair removal was positively correlated with consideration of

labiaplasty, but in the structural model, pubic hair removal did not predict any variable, but was itself predicted by media exposure. The vast majority of our sample removed at least some of their pubic hair, corresponding to reports that this practice is part of mainstream grooming for women (Braun & Tiefer, 2010; Tiggemann & Hodgson, 2008). Rather than directly influencing individual genital appearance dissatisfaction and consideration of surgery, the removal of pubic hair could be considered to be a societal setting condition that enables such dissatisfaction with labial appearance.

Practice Implications

Our findings showed that media exposure is highly influential in consideration of labiaplasty. However, only the “single crease” or “clean slit” look can be safely shown in mainstream media (McDougall, 2013). If the media could show a wider and more diverse range of female genital appearances, then girls, from a young age, would be more aware of the natural diversity in genital appearance and potentially be more accepting of their own genitals. From the present results, it is clear that boys and men could also benefit from education about diversity in female genital appearance. We showed that women’s reports of negative comments from romantic partners led directly to women’s dissatisfaction with their genital appearance, but men may be less likely to make these comments if they are aware of the wide range of “normal” female genital appearances. However, these large-scale changes in media guidelines are unlikely to occur quickly, if at all. Therefore, education around the diversity of normal female genital appearances may be better delivered by health professionals/educators, mental health clinicians, and counsellors. It may also be feasible to teach girls and boys about the digital alteration of genital images in the media and the consequent unrealistic nature of genital ideals as part of sexual education programmes. This information could form part of wider school-based media literacy programmes (Levine & Murnen, 2009), which have been shown to be effective in reducing body image concerns in

adolescent girls (Richardson & Paxton, 2010) and in pre-adolescent girls and boys (Bird, Halliwell, Diedrichs, & Harcourt, 2013).

Limitations

Like all studies, the present results should be viewed with a number of limitations in mind. First, the sample comprised only heterosexual women who were predominantly Caucasian, and all completed the survey online. Therefore, it is not known how far these results can be generalised to women of other sexual orientations and ethnicities recruited from other sources. It may be the case that a lesbian or bisexual identity serves as a protective factor against genital appearance dissatisfaction and consideration of labiaplasty as is the case for body dissatisfaction and disordered eating (Kozee & Tylka, 2006; Morrison, Morrison, & Sager, 2004). Lesbian and bisexual women would potentially be exposed to a more diverse range of labial appearances through their female sexual partners, and this exposure could lead to greater acceptance of their own genital appearance. It is also possible that women from different ethnic or cultural backgrounds would not endorse the Barbie ideal of genital appearance. For example, elongated labia are seen as attractive in Rwandan women (Koster & Price, 2008), and butterfly-shaped labia are considered the ideal in Japan (Scholten, 2009). Also, it is possible that women who self-select to participate in a study on the topic of cosmetic surgery may be more interested in cosmetic surgery than the general population.

A second limitation of the sample was that 14% of the women had never had a sexual partner, thus reducing the effective sample size for the structural equation modelling analysis. Nevertheless, a sizeable proportion of girls and women who are requesting labiaplasty have never actually been sexually active with a partner (Bramwell et al., 2007; Crouch et al., 2011). In our sample, there were no significant differences in the level of dissatisfaction with genital appearance and consideration of labiaplasty between women who

had and had not had a sexual partner. Women who had had a sexual partner reported greater exposure to genital images on television, the internet, and pornography, and they removed more of their pubic hair, possibly as a result of their sexual activity. It will be important for future research to further investigate these group differences because, although seemingly not the case in our study, it is possible that concern over genital appearance is causing some women to delay sexual activity until after they have undergone labial reduction surgery for fear of criticism from their future sexual partners.

A methodological limitation of the study was that some of the measures used had to be newly constructed or adapted from other measures and so warrant further psychometric investigation. Furthermore, although structural equation modelling assesses the strength of causal connections assumed on the basis of a causal model, in this case the Tripartite Influence Model, it is still fundamentally a correlational technique. For example, although media exposure may indeed lead to consideration of labiaplasty as hypothesised, the converse causal assumption is also plausible. That is, women who are considering labiaplasty may actively seek out particular types of media. Another example of a potential reciprocal relationship is that women who are already concerned with their genital appearance may be more likely to engage in conversations with female friends about genital appearance, which may then serve to further exacerbate their concerns. Only experimental and longitudinal research designs can provide greater clarification regarding the temporal and causal sequencing of these variables.

Conclusion

The present study has made an important start to the understanding of an increasingly popular trend in cosmetic surgery, labial reduction surgery. Our study is the first known to systematically examine sociocultural predictors of consideration of labiaplasty, thus providing an important platform for future research. Three classes of predictors (media

exposure, peer influence, and relationship quality) were shown to have direct and indirect effects on consideration of labiaplasty. In addition, the present study has extended the use of the Tripartite Influence Model to the consideration of genital cosmetic surgery.

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CHAPTER 3: Study 2 - Educating Women about Genital Appearance

Educating Women about Normal Female Genital Appearance Variation

Gemma Sharp and Marika Tiggemann

School of Psychology, Flinders University, South Australia

Corresponding author: Gemma Sharp, School of Psychology, Flinders University, GPO Box 2100, Adelaide 5001, South Australia, Australia. Email: gemma.sharp@flinders.edu.au

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Abstract

The study investigated the effectiveness of two online resources aimed at improving women's knowledge of the variation in normal female genital appearance and their attitudes towards their own genitals. The first consisted of a photographic array of normal female genitals and the second consisted of a video addressing digital airbrushing of women's genitals in media images. A sample of 136 female undergraduate students were randomly assigned to view the photographs, video, both the photographs and video, or neither. The video significantly increased women's perceptions of genital appearance diversity as well as awareness of digital airbrushing of genital images. Owing to relatively low levels of genital appearance concern, there was no effect of either resource on women's attitudes towards their own genitals, however, women who viewed the video indicated they would pass on their knowledge to help other women. Our results suggest that a video could be a useful tool, potentially in school settings, to educate young girls about the diversity in female genital appearance.

Keywords

Female genitals, labia, media, education, genital dissatisfaction, labiaplasty

According to the American Society of Aesthetic Plastic Surgery (ASAPS, 2014), the number of cosmetic surgeries performed has risen dramatically over the last decade, with 10 million surgical and non-surgical procedures performed in 2014. Ninety percent of these procedures were performed on women and one of the fastest growing procedures for women is labiaplasty (ASAPS, 2014). The purpose of labiaplasty is to reduce the size and/or change the shape of the labia minora or, less commonly, the labia majora (Iglesia, Yurteri-Kaplan, & Alinsod, 2013). The number of labiaplasties performed in the USA increased 49% from 2013 to 2014, that is from 5,070 to 7,535 procedures (ASAPS, 2014), and similar trends have been documented in the UK (Crouch, Deans, Michala, Liao, & Creighton, 2011) and Australia (Australian Government Department of Human Services). Despite the increasing number of labiaplasties performed over recent years, there have been concerns expressed amongst the medical community about the necessity and safety of cosmetic genital surgery (Committee on Gynecologic Practice American College of Obstetricians and Gynecologists, 2007; Hamori, 2014). As these procedures are still relatively new, there is still a lack of long-term safety or outcome data presently available (Cain, Iglesia, Dickens, & Montgomery, 2013). Although the research thus far suggests that surgical complication rates for labiaplasty are relatively low (e.g., Goodman et al., 2010; Veale, Naismith, et al., 2014), as labiaplasty involves the removal of highly sensitive tissue, risks of the procedure include a reduction in sexual pleasure, as well as infection, bleeding, scarring and wound separation (Crooks & Baur, 2013; Liao, Michala, & Creighton, 2010). Thus, labiaplasty is a procedure involving some risk.

Although research addressing labiaplasty is still limited, a number of studies have suggested that the primary motivator for surgery is concern over genital appearance. For example, in Veale, Eshkevari, et al.'s (2014a) study of 55 women seeking labiaplasty in the UK, the most

commonly reported reason for surgery was aesthetic concern (70.8%), followed by physical concerns such as irritation (62.5%), and then sexual difficulties (37.5%). Similarly, in a retrospective study of 163 labiaplasty patients in France, aesthetic dissatisfaction was the most common concern reported by 87% of patients (Rouzier, Louis-Sylvestre, Paniel, & Haddad, 2000). In addition, a recent analysis of women's comments on online cosmetic surgery forums in the USA, UK and Netherlands, showed that emotional discomfort with the appearance of the labia was the most frequently reported motivator for labiaplasty, regardless of the woman's age and nationality (Zwier, 2014).

This common theme of appearance concern was explored in detail in Bramwell, Morland, and Garden's (2007) qualitative study of six women who had undergone labiaplasty. All women reported that they perceived their genital appearance prior to their labiaplasty as "odd" or "weird". It appeared that these women were attempting to achieve a "normal" genital appearance through surgery (Bramwell et al., 2007). Using surgery to achieve a "normal" appearance has been well documented for other forms of cosmetic surgery such as breast augmentation and rhinoplasty (e.g., Gimlin, 2000). Surprisingly, this concept of "normal" female genital appearance has received little medical or scientific attention. To address this gap in the literature, Lloyd, Crouch, Minto, Liao, and Creighton (2005) examined the anatomical dimensions of the genitals of 50 premenopausal women. These women varied greatly in all genital measurements which included labial length, width, colour and texture, and so Lloyd et al. (2005) concluded that there is wide variation within normal female genital appearance. In fact, almost all women who request labiaplasty (Crouch et al., 2011; Veale, Eshkevari, et al., 2014a) have labia within normal size limits (Lloyd et al., 2005). These studies suggest that there is widespread lack of awareness of the wide variation in normal female genital appearance.

In particular, research indicates that women mistakenly perceive “normal” female genital appearance to consist of a completely smooth vulvar surface with no protruding labia minora (e.g., Yurteri-Kaplan et al., 2012), and that this is the aesthetic ideal which labiaplasty patients reportedly seek (Liao & Creighton, 2007). This aesthetic ideal has been colloquially termed the “Barbie look” (Alinsod, 2007; Iglesia et al., 2013), as Barbie has no labial or genital structure whatsoever. This look resembles that of a prepubescent girl which adult women can rarely fulfil owing to the development of labial tissue during puberty (Farage & Maibach, 2006). This unrealistic genital ideal did not develop in isolation, but rather as a function of broader sociocultural influences. These sociocultural influences were recently examined by Sharp, Tiggemann, and Mattiske (2015) in a general community sample of adult Australian women. Sharp et al. (2015) found that media exposure and peer influence predicted greater consideration of labiaplasty, while relationship satisfaction buffered against interest in labiaplasty. Of the specific media sources examined (television, internet, advertising), pornography was the most influential source (Sharp et al., 2015).

Pornography is generally classified as either hard-core or soft-core and within these two categories there are a number of genres (McNair, 2013). The difference between the two broad categories is that hard-core pornography contains graphic sexual content, as exemplified by the reality-based genre of pornography called “Gonzo” where the camera person is actually taking part in the sexual act so the viewer is placed directly in the scene (Shimizu, 2010). In contrast, soft-core pornography contains only simulated sexual activity and sexually suggestive content, such as men’s magazines like *Playboy* (Tylka & Kroon Van Diest, 2015). Studies have reported that women show a strong preference for the consumption of soft-core over hard-core pornography, while the opposite holds for men (e.g., Hald, 2006; McKee, Lumby, & Albury,

2008). Although all media representations of the female body have the potential to influence women's attitudes towards their own physical appearance, pornographic images may be particularly influential in affecting women's attitudes towards their own genitals with the lesser exposure of this body part in other forms of media (Schick, Rima, & Calabrese, 2011). As two qualitative studies have found, when women compare their bodies in general to the ideal bodies of women shown in pornography, they report feeling "inadequate" and label their own bodies as "fat", "ugly", "old", and "repulsive" (Bergner & Bridges, 2002; Löfgren-Mårtenson & Månsson, 2010). In the case of representations of female genitals in women's preferred medium of soft-core pornography, they are shown as smooth and hairless with no protruding labia minora (McDougall, 2013). Soft-core porn actresses are reportedly chosen on the basis of their small labia minora and digital removal of protruding labial tissue from magazine photographs is common practice in Western countries (Davis, 2002; Green, 2005; McDougall, 2013).

In regions like Australia and Britain, there are also legal reasons behind the digital removal of visible labia minora tissue (Drysdale & Russell, 2010; Hoyles, 2012). For example, there have been reports of the British Board of Film Classification (BBFC) implementing the so-called "ILOOLI" rule, which refers to "inner labia out" (i.e., not allowed to be shown) and "outer labia in" (i.e., allowed to be shown) (e.g., Hoyles, 2012). In Australia, the Classification Board states that only "discreet genital detail" with "no genital emphasis" can be shown to individuals aged 15 and over in "unrestricted" or soft-core pornography publications (Australian Government ComLaw, 2005, p. 8). Drysdale and Russell (2010) suggest that protruding labia minora tissue is too graphic and so publishers of soft-core pornography in Australia will digitally remove this tissue so as to avoid the classification of "restricted" or hard-core (i.e., only for individuals aged 18 years and over).

Although the digital alteration of genital images is not widely known, women are certainly aware of the digital alteration of other parts of the body (e.g., face, waist, thighs) of the models shown in fashion magazines (Engeln-Maddox, 2005; Tiggemann, Gardiner, & Slater, 2000). There is a large volume of correlational (for a meta-analysis, see Levine & Murnen, 2009) and experimental (for a meta-analysis, see Grabe, Ward, & Hyde, 2008) evidence to show the link between exposure to such digitally altered idealised images and women feeling worse about their own bodies. In response to these findings, a number of studies have included education around the variety of techniques used by the media industry to create these “perfected” looks as part of their interventions to alleviate body image concerns. Results have shown that such media literacy education is effective in reducing media-induced body dissatisfaction (Ogden & Sherwood, 2008; Posavac, Posavac, & Weigel, 2001; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005). Although there is a marked difference in the level of exposure women have to thin and attractive media images in their daily lives compared to the idealised genital images shown in pornography, we predicted that providing information about the wide diversity of normal female genital appearance and the digital alteration of genital images would similarly decrease women’s genital dissatisfaction and desire for labiaplasty.

Over recent years, a number of community groups have recognised and responded to the significant lack of information about normal and healthy female genital appearance available to girls and women. Owing to the potentially sensitive and embarrassing nature of the topic of genital appearance, individuals are more likely to seek information on this topic online (Koning, Zeijlmans, Bouman, & van der Lei, 2009), and so a number of websites have been developed as freely available educational tools (e.g., “The Centrefold Project”, “Large Labia Project”, “The Labia Library”). However, it would appear that the number of individuals actually accessing

these websites is relatively low (e.g., Malone & O'Halloran, 2014), while the percentage of women in the general community considering labiaplasty has been estimated at as high as 17% (Sharp et al., 2015). Furthermore, to our knowledge, a systematic experimental investigation of the educational impact of any of these online resources is yet to be conducted.

Thus the present study aimed to examine the effectiveness of two freely available online resources (a photographic array of normal female genitals to show the diversity of appearance, and a short video about the digital alteration of genital images) on women's knowledge of and attitudes towards female genital appearance. Our first hypothesis was that participants who viewed either the photographs or video would be more likely to perceive other women's genital appearance as normal. Our second hypothesis was that the video would result in greater knowledge about the digital alteration of genital images in the media. Our third hypothesis was that the viewing of either the photographs or video would lead to a greater reduction in genital appearance dissatisfaction. Our fourth hypothesis was that the viewing of either the photographs or video would lead to a greater reduction in consideration of labiaplasty. Our fifth hypothesis was that the viewing of either the photographs or video would result in lower support for another woman's consideration of labiaplasty.

Method

Design

The experiment employed a 2 (Photograph condition: viewed, not viewed) x 2 (Video condition: viewed, not viewed) between-subjects design. The main dependent variables were perceptions of normality, media knowledge, state genital appearance dissatisfaction, consideration of labiaplasty, and advice for others.

Participants

Participants were 136 female undergraduate psychology students at an Australian university aged 18-49 years ($M = 21.0$, $SD = 5.9$). The great majority (90.4%, $n = 123$) identified as White ($n = 5$ Indigenous Australian, $n = 2$ Asian, $n = 1$ African, $n = 5$ Other). Mean Body Mass Index (BMI) was 23.6 ($SD = 5.9$), which falls at the upper end of the normal weight range (BMI = 18.5-25.0). Most women (87.5%, $n = 119$) identified as “exclusively” or “predominantly” heterosexual, and most (84.6%, $n = 115$) had had a sexual partner. Over half (61.8%, $n = 84$) of the participants were currently involved in a romantic relationship. Only 1.5% ($n = 2$) of the women had undergone a cosmetic procedure in their lifetime (breast augmentation, $n = 1$; breast reduction $n = 1$). Two women (1.5%) personally knew a woman who had had a labiaplasty procedure. Random allocation resulted in 37 participants in the control condition, 33 in the photograph only condition, 32 in the video only condition and 34 in the photograph and video combined condition. These group sizes provided sufficient power to detect a medium effect size with a power of .80 and $p < .05$ (Cohen, 1988; Faul, Erdfelder, Lang, & Buchner, 2007).

Materials

Experimental manipulation. *Photograph condition.* A 5 x 4 array of photographs of female genitals from The Labia Library website (<http://www.labialibrary.org.au/photo-gallery/#>) was shown with permission from Women’s Health Victoria in Australia. The 20 photographs included in the array showed a range of female genital appearances in terms of labial size, shape and skin tone, and with varying amounts of pubic hair. The photographs were shown in the front orientation to replicate how a woman might view her genitals when standing in front of a mirror. Prior to showing the photographs, participants were informed that the photographs showed “real

and healthy female genitals”, and were instructed to “take a good look and really think about the images”. The participants were asked to view the array for 60 seconds.

Video condition. A 7-minute video about “representations of female genitals in the media” was shown. This video explains the digital removal of protruding labial tissue in soft-core pornography images in relation to Australian media classification guidelines for nudity. The video was produced by Kirsten Drysdale and Ali Russell as a segment of episode 14 of the Hungry Beast Program, copyright © 2010 Australian Broadcasting Corporation. The video is available online on as a Vimeo clip (<https://vimeo.com/10883108>) and was shown with permission from the Australian Broadcasting Corporation.

Control condition. A 5 x 4 array of photographs of different fruits (e.g., mandarin, tomato, grapefruit) was shown. Fruits were chosen as they are considered to be symbolic of female genitalia (e.g., Stewart & Spencer, 2002) and were shown cut in half exposing their cores and seeds. The fruit images were arranged into a 5 x 4 array design and this design was employed to be comparable to the genital photograph array described above. Like the photograph condition, the participants were instructed to “take a good look and really think about the images”, and they were asked to view the array for 60 seconds.

Background measures. In terms of demographic information, participants were asked their age, height, weight, ethnicity, sexual orientation, sexual and romantic relationship status, details of any cosmetic procedures they had undergone, and whether they knew anyone who had had a labiaplasty. Pre-experimental levels of exposure to media images of female genitals were examined by asking participants about how often they had seen images of female genitals on television and also online on a 5-point Likert scale ranging from 0 (*none*) to 4 (*a great deal*). They were also asked about the number of advertisements they had seen for cosmetic genital

surgery on a 5-point Likert scale ranging from 0 (*none*) to 4 (*more than 10*). In addition, they were asked one item about the volume of pornography they had viewed in magazines, on the internet or in movies ranging from 0 (*none*) to 4 (*a great deal*). Pre-experimental levels of trait genital appearance dissatisfaction were measured using the 11-item Genital Appearance Satisfaction scale (GAS; Bramwell & Morland, 2009). Participants rated how often they agreed with each item (e.g., “I feel that my genitals are unattractive in appearance”) on a 4-point Likert scale ranging from 0 (*never*) to 3 (*always*). Items 1 and 4 were reverse scored (not Item 8, Bramwell & Morland, 2009). Scores were summed to produce a total score which ranged from 0 to 33. Higher scores indicated greater genital appearance dissatisfaction. Veale et al. (2013) reported good internal consistency for this scale ($\alpha = .84$). In the present sample, internal consistency was similar ($\alpha = .86$).

Attitudes toward own genital appearance. Visual analogue scales (VASs) were employed immediately before and after the experimental manipulation to measure any changes in participant attitudes towards their own genital appearance. Based on Heinberg and Thompson’s (1995) VAS for state body dissatisfaction, we developed scales to measure state genital dissatisfaction and state consideration of labiaplasty. State genital dissatisfaction was measured as the average of two strongly correlated VASs: “Dissatisfaction with the appearance of your genitals” and “Dissatisfaction with the size or shape of your labia” ($r = .83$ for pre-experimental manipulation measures and $.92$ for post-experimental manipulation). State consideration of labiaplasty was measured using a single VAS: “Interest in having a labiaplasty”. Each VAS consisted of a 10cm continuous horizontal line with the ends labelled “*none*” and “*a great deal*”. Participants were asked to shift a bar (situated on the far left) along the line to indicate how they felt “right now”. The placement of the bar from the left hand side was assessed

to the nearest millimetre. Thus possible scores ranged from 0 to 100, with higher scores indicating greater genital dissatisfaction or consideration of labiaplasty.

Perception of normality. Perceptions of normal female genital appearance were measured after the experimental manipulation by presenting participants with six photographs of female genitals taken directly from the 5 x 4 photograph array condition. The six photographs covered a range of female genital appearances: two showed prominent pubic hair, two showed protruding labial tissue, and two showed no protruding labial tissue. Participants rated the extent to which they thought each of the six photos showed a normal genital appearance on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*completely*). Overall mean total scores were calculated which ranged from 1 to 5, and higher scores indicated a greater normality score.

Media knowledge. Knowledge of the circumstances surrounding digital alteration of female genital images in mainstream media was measured after the experimental manipulations using eight true/false items. These items were developed for the study and were based on the content of the video. An example of a true item was “M15+ porn magazines digitally alter women’s genitals to avoid being censored” and a false item was “Porn magazines digitally alter women’s genitals to suit the taste of the readers”. Participants scored one point for each correct response and zero for an incorrect response. The scores were summed to produce a total score ranging from 0 to 8 with higher scores indicating greater media knowledge.

Advice for others. As some women in our sample were likely to be quite satisfied with their own genital appearance, we also examined the advice our participants would give to other women who were dissatisfied with their genital appearance. Specifically, we provided women with a scenario involving a friend who thought her labia appeared abnormal and was considering having a labiaplasty. Participants were asked, in an open ended response format, to outline their

advice for their friend. The response data were analysed using the thematic analysis strategy outlined by Braun and Clarke (2006). The first author and a research associate thoroughly read all participant responses for this item. Working separately, the two researchers coded all participant responses for pertinent features. Codes were added such that they were as inclusive as possible in an attempt to capture as many nuances in the participant responses as possible. Still working independently, the two raters then combined all of their codes into broader themes. When the two researchers discussed the content of their proposed themes, there were no differences between the two, and a set of seven “anti-surgery” themes (i.e., “explicitly opposed”, “appearance diversity”, “unrealistic media”, “naturalness”, “not for others”, “consider consequences”, and “seek information”), and three “pro-surgery” themes (i.e., “explicitly in favour”, “physical reasons”, and “psychological reasons”) were agreed upon. When the categorisation of participant responses into these ten themes for the two different researchers was examined, the inter-rater reliability was high, Krippendorff’s $\alpha = .90$ (Hayes & Krippendorff, 2007).

Study experience. In order to assess how the participants responded to the potentially confronting material employed in our study, we asked about their experience at the end of the study. Participants were asked to rate how “educational”, “embarrassing”, “enjoyable”, “boring” and “useful” they found the study on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*). Participants were also given the opportunity to provide any final comments about the study in an open ended response format.

Procedure

Upon receiving institutional ethics approval, the study was advertised as a project examining attitudes towards female genital appearance for women aged 18 years and over. The

study was completed online and took approximately 20-30 minutes to complete. Participants first completed the background measures and pre-exposure VAS measures of attitudes towards their own genital appearance. Next, participants were randomly allocated to one of the four experimental conditions using block randomisation. Participants then completed the following measures, in order, normality perception, media knowledge, post-exposure genital attitude VASs, advice for others, and study experience and feedback. Participants received course credit for their participation and were debriefed following completion of data collection via an online system.

Results

Baseline Characteristics of Sample

Prior to the experimental exposure, participants had on average “occasionally” seen genital images on television ($M = 1.00, SD = 0.76$) and on the internet ($M = 1.46, SD = 0.97$). They had consumed “a little” pornography from magazines, internet and movies ($M = 1.30, SD = 1.05$). On average, the women had not seen any advertisements for cosmetic genital surgery ($M = 0.33, SD = 0.61$), although just over a quarter of participants ($n = 35$) had seen at least one of these advertisements. Thus participants generally had low levels of exposure to genital images in the media. Participants also reported a low baseline level of trait genital appearance dissatisfaction according to their GAS scores ($M = 8.41, SD = 5.79$), a result very similar to a previous Australian sample (Sharp et al., 2015). The small number (2.9%, $n = 4$) of women who had themselves undergone cosmetic surgery or knew a woman who had had a labiaplasty were maintained in the sample, as excluding them did not alter the pattern of results.

To investigate the equivalence of groups prior to the experimental manipulation, a series of one-way ANOVAs and chi-squared tests was conducted. The tests showed that the four conditions did not differ significantly in age, $F(3, 132) = 0.78, p = .509, \eta^2 = .02$, BMI, $F(3, 129)$

= 1.10, $p = .352$, $\eta^2 = .02$, ethnicity, $\chi^2(12) = 9.80$, $p = .634$, $\phi = .27$, sexual orientation, $\chi^2(15) = 24.06$, $p = .064$, $\phi = .43$, sexual relationship status, $\chi^2(3) = 0.42$, $p = .935$, $\phi = .06$, or romantic relationship status, $\chi^2(3) = 1.42$, $p = .700$, $\phi = .10$. Importantly, they did not differ in terms of their baseline exposure to genital images on television, $F(3, 132) = 0.80$, $p = .494$, $\eta^2 = .02$, or the internet, $F(3, 132) = 0.15$, $p = .932$, $\eta^2 < .01$, or exposure to pornography, $F(3, 131) = 0.66$, $p = .580$, $\eta^2 = .01$, or cosmetic genital surgery advertisements, $F(3, 131) = 0.89$, $p = .448$, $\eta^2 = .02$. In addition, there were no significant differences between the groups for baseline trait (GAS) genital appearance dissatisfaction, $F(3, 127) = 0.90$, $p = .444$, $\eta^2 = .02$.

Effect on Perception of Normality

Table 1 displays the mean perception of normality scores for the four conditions. It can be seen that these were around the mid-point of the scale (“moderately” to “mostly” normal). The very few missing values in the data set (< 1%) were handled with pairwise deletion. A 2 (Photograph condition: viewed, not viewed) x 2 (Video condition: viewed, not viewed) factorial ANOVA was conducted to test the effect on perception of normality. There was a significant main effect for the video condition, $F(1, 130) = 9.05$, $p = .003$, $\eta^2 = .06$, whereby participants who viewed the video ($M = 3.50$ $SD = 1.13$) provided higher normality ratings than those who did not ($M = 2.95$, $SD = 0.94$), thus supporting the first hypothesis. In contrast, although the normality ratings were higher for those who viewed the photographs ($M = 3.36$, $SD = 1.09$) compared to those who did not ($M = 3.09$, $SD = 1.05$), the main effect of photograph condition was not significant, $F(1, 130) = 1.90$, $p = .171$, $\eta^2 = .01$. The Photograph x Video interaction effect was also not significant, $F(1, 130) = 1.33$, $p = .251$, $\eta^2 < .01$.

Table 1

Possible ranges, means (and standard deviations) for normality perception, media knowledge, and pre- and post-exposure state genital dissatisfaction and labiaplasty consideration by experimental condition

| | Range | Control | Photo | Video | Photo+Video |
|--------------------------------|-------|---------------|---------------|---------------|---------------|
| Normality perception | 1-5 | 2.73 (0.79) | 3.19 (1.05) | 3.48 (1.18) | 3.52 (1.11) |
| Media knowledge | 0-8 | 2.86 (1.29) | 3.21 (1.14) | 4.06 (1.27) | 4.06 (1.14) |
| Genital dissatisfaction-pre | 0-100 | 22.57 (25.58) | 27.05 (29.33) | 15.08 (22.94) | 18.30 (23.86) |
| Genital dissatisfaction-post | 0-100 | 14.90 (24.43) | 20.52 (26.61) | 11.78 (24.58) | 9.98 (19.23) |
| Labiaplasty consideration-pre | 0-100 | 4.94 (15.26) | 9.17 (16.82) | 6.32 (19.30) | 2.72 (7.99) |
| Labiaplasty consideration-post | 0-100 | 3.53 (14.32) | 8.44 (16.17) | 6.24 (19.90) | 1.65 (5.06) |

Effect on Media Knowledge

Similarly, a 2 (Photograph condition: viewed, not viewed) x 2 (Video condition: viewed, not viewed) factorial ANOVA was used to examine the effect of condition on media knowledge (means in Table 1). Again, there was a significant main effect for the video condition, $F(1, 131) = 23.83, p < .001, \eta^2 = .15$, whereby participants who viewed the video provided more correct responses for media knowledge ($M = 4.06, SD = 1.20$) than those who did not ($M = 3.03, SD = 1.23$), thus supporting the second hypothesis. The main effect for the photograph condition was not significant, $F(1, 131) = 0.68, p = .411, \eta^2 = .01$; nor was the Photograph x Video interaction, $F(1, 131) = 0.69, p = .406, \eta^2 < .01$.

Effect on State Genital Dissatisfaction and Consideration of Labiaplasty

Although state genital dissatisfaction was relatively low prior to experimental exposure, as can be seen in Table 1, all four groups decreased in dissatisfaction after exposure. This was confirmed in the 2 (Photograph condition: viewed, not viewed) x 2 (Video condition: viewed, not viewed) x 2 (Time: pre-, post-) mixed ANOVA, which produced a significant main effect of time, $F(1, 132) = 36.77, p < .001, \eta^2 = .21$, whereby genital dissatisfaction scores decreased from pre- ($M = 20.82, SD = 25.65$) to post-exposure ($M = 14.30, SD = 23.91$). In contrast to the third hypothesis, there was no significant Photograph x Time, $F(1, 132) = 0.83, p = .365, \eta^2 < .01$, Video x Time, $F(1, 132) = 0.37, p = .544, \eta^2 < .01$, or Photograph x Video x Time interaction effects, $F(1, 132) = 2.10, p = .150, \eta^2 = .01$. For labiaplasty consideration, it can be seen in Table 1 that the level of interest in this surgery was very low prior to exposure for all four conditions, and there was no change after exposure to either the photographic array or video.

Correspondingly, the results for the mixed ANOVA did not yield any significant effects: time, $F(1, 132) = 1.65, p = .201, \eta^2 = .01$, Photograph x Time, $F(1, 132) = 0.01, p = .902, \eta^2 < .01$, Video x Time, $F(1, 132) = 0.15, p = .698, \eta^2 < .01$, Photograph x Video x Time, $F(1, 132) = 0.43, p = .511, \eta^2 < .01$. Thus, the fourth hypothesis was not supported.

Effect on Advice for others Considering Labiaplasty

The participant's advice for a friend who considered her genital appearance to be abnormal and was considering labiaplasty reflected a number of different themes (see Table 2). Overall, approximately one third of women (35.3%, $n = 48$) expressed explicit opposition to their friend's consideration of labiaplasty. In contrast, a smaller percentage (22.1%, $n = 30$) were explicitly in favour of the surgery. As seen in Table 2, the percentage of participants who expressed opposition to surgery, or who were in favour, did not differ significantly between

groups. Therefore, the fifth hypothesis was not supported. However, there were some significant differences between the four groups in terms of the arguments used to convince their friend. As seen in Table 2, for arguments against surgery, two out of the seven themes (“unrealistic media” and “not for others”) differed between groups. More specifically, a higher percentage of women in the video group compared to the control group, $\chi^2(1) = 9.28, p = .002, \phi = .37$, photograph group, $\chi^2(1) = 6.12, p = .013, \phi = .31$, and photograph and video combined group, $\chi^2(1) = 5.13, p = .024, \phi = .28$, stated they would advise their friend that media depictions of female genitals are unrealistic owing to digital alteration. Further, a higher percentage of video group participants than control group participants, $\chi^2(1) = 4.03, p = .045, \phi = .24$, and photograph and video combined group participants, $\chi^2(1) = 12.45, p < .001, \phi = .43$, would tell their friend that surgery should not be undertaken to please others, such as romantic partners.

For pro-surgery arguments, there were two themes (“physical reasons” and “psychological reasons”), which differed between groups (see Table 2). Within the theme reflecting physical reasons, we found that a greater percentage of women in the photograph group compared to the control group, $\chi^2(1) = 5.06, p = .025, \phi = .27$, and video group, $\chi^2(1) = 6.07, p = .014, \phi = .31$, would advise their friend that difficulties such as discomfort wearing clothes or during sexual intercourse were appropriate reasons to have a labiaplasty. Within the theme reflecting psychological reasons, a lower percentage of women in the photograph group, $\chi^2(1) = 5.08, p = .024, \phi = .27$, and photograph and video combined group, $\chi^2(1) = 6.93, p = .008, \phi = .31$, compared to the control group would suggest that potential improvements in their psychological well-being, such as increased self-esteem and mood, were appropriate reasons for surgery.

Table 2
Number (and percentage) of participants in the four experimental conditions who provided advice to a friend about labiaplasty according to various anti- and pro-surgery themes

| Theme | Example | Control | Photo | Video | Photo+Video | <i>p</i> | ϕ |
|-----------------------|---|-----------|-----------|-----------|-------------|----------|--------|
| Anti-surgery | | | | | | | |
| Explicitly opposed | “Don’t do it” | 11 (29.7) | 12 (36.4) | 14 (43.8) | 11 (32.4) | .648 | .11 |
| Appearance diversity | “Every woman has a different looking vagina and they are all very normal” | 14 (37.8) | 17 (51.5) | 22 (68.8) | 14 (41.2) | .051 | .24 |
| Unrealistic media | “The photos of women in magazines and online are unrealistic and heavily edited” | 5 (13.5) | 6 (18.2) | 15 (46.9) | 7 (20.6) | .007 | .30 |
| Naturalness | “Her vagina is beautiful...she was born that way” | 6 (16.2) | 11 (33.3) | 10 (31.3) | 11 (32.4) | .320 | .16 |
| Not for others | “If it’s to make boys like you more then I think you’re making a mistake” | 6 (16.2) | 7 (21.2) | 12 (37.5) | 1 (2.9) | .005 | .31 |
| Consider consequences | “It is a massive waste of money and not only that but it would be painful” | 5 (13.5) | 8 (24.2) | 7 (21.9) | 8 (23.6) | .656 | .11 |
| Seek information | “Consult her GP to learn about what a “normal” or healthy vagina looks like” | 13 (35.1) | 7 (21.2) | 8 (25.0) | 11 (32.4) | .554 | .12 |
| Pro-surgery | | | | | | | |
| Explicitly in favour | “Go for it” | 10 (27.0) | 5 (15.2) | 9 (28.1) | 6 (17.6) | .472 | .14 |
| Physical reasons | “If it causes discomfort (pain, irritation) then it’s definitely okay to consider it” | 2 (5.4) | 8 (24.2) | 1 (3.1) | 4 (11.8) | .028 | .26 |
| Psychological reasons | “If...it would make them more confident and comfortable to go for it” | 16 (43.2) | 6 (18.2) | 8 (25.0) | 5 (14.7) | .028 | .26 |

Note. Percentages do not add up to 100% as participants provided advice which fulfilled multiple themes.

Participant Experience and Feedback

Participant experiences of our study along the dimensions of “educational”, “embarrassing”, “enjoyable”, “boring” and “useful” are shown in Table 3. On average, the women rated the study as “mostly” educational, “moderately” useful, and only “slightly” embarrassing and boring (although “not at all” enjoyable). A series of 2 (Photograph condition: viewed, not viewed) x 2 (Video condition: viewed, not viewed) factorial ANOVAs were conducted to investigate any differences between the conditions along these five dimensions. Only two significant effects were found - the main effect of video condition on educational, $F(1, 132) = 22.84, p < .001, \eta^2 = .15$, and usefulness ratings, $F(1, 132) = 6.07, p = .015, \eta^2 = .04$. Participants who viewed the video rated the experience as more educational ($M = 4.15, SD = .098$) and useful ($M = 3.61, SD = 1.16$) than participants who did not ($M = 3.33, SD = 1.00; M = 3.13, SD = 1.10$).

Table 3

Means (and standard deviations) for study experience by experimental condition

| | Control | Photo | Video | Photo+Video |
|--------------|-------------|-------------|-------------|-------------|
| Educational | 3.29 (0.97) | 3.36 (1.06) | 4.13 (0.98) | 4.18 (1.00) |
| Embarrassing | 2.47 (1.16) | 2.15 (1.00) | 2.78 (1.16) | 2.53 (1.11) |
| Enjoyable | 1.38 (0.59) | 1.48 (0.76) | 1.19 (0.47) | 1.26 (0.62) |
| Boring | 2.00 (1.11) | 2.03 (1.07) | 1.72 (1.05) | 1.61 (1.00) |
| Useful | 3.11 (1.05) | 3.15 (1.18) | 3.75 (1.22) | 3.47 (1.11) |

Twenty five participants (18.4%) also took the opportunity to provide qualitative feedback on the study. This feedback was very positive. Specifically, twenty participants (80.0%) commented on the importance of research in the area of female genital appearance (e.g., “I like to think that studies like this one will open up our societies comfortabilities [sic] in talking about topics revolving around genitalia and the body”, Participant 40, aged 18, control condition). Furthermore, six participants (24.0%) reported that the study had personally made them feel better about their own genital appearance (e.g., “It was good to see images of real vaginas and it made me feel more comfortable about my own. I didnt [sic] know what was normal until today”, Participant 111, aged 18, photograph condition).

Discussion

To our knowledge, our study is the first to systematically investigate the effectiveness of two brief tools addressing the topic of female genital appearance. Significantly, the photographs and video examined in this study were freely available “real world” online resources, but the educational impact of such resources had not been experimentally tested. We confirmed that the video has the intended effect of increasing women’s knowledge and awareness of the diversity of normal female genital appearance and the digital alteration of media images of female genitals. Importantly, we also showed that women were willing to apply the knowledge they had gained from the video to assist other women with genital appearance concerns.

When we examined the effect of the photographs and video on women’s perceptions of normal female genital appearance, we found that the video successfully increased normality ratings as predicted. For the photographic array, while there was an increase in normality perceptions for those who viewed the photographs, this did not reach statistical significance. Considering the reports of widespread confusion about the diversity of normal female genital

appearance amongst women and also medical professionals (e.g., Crouch et al., 2011; Reitsma, Mourits, Koning, Pascal, & van der Lei, 2011), the educational video represents a simple strategy to address this confusion. The women in our sample indicated that they had very little exposure to female genital images in the media prior to the study and it is likely that the genital images they had viewed conformed to the genital ideal (McDougall, 2013). Therefore, the video and photographs in our study may have been the first opportunity these women had had to view a wide range of normal female genital appearances.

We also examined effects on women's knowledge of the digital alteration of labia minora in media images. As predicted, the viewing of the video increased women's knowledge of the digital alteration process and media guidelines, but the photographic array had no significant effect. Pornographic images of women's genitals appear to be a powerful influence on women's consideration of labiaplasty (e.g., Braun & Tiefer, 2010; Liao & Creighton, 2007). Just as a woman may take a photograph of a celebrity's haircut to a hair salon to illustrate her desired hair style, some women are reportedly taking photographs in soft-core porn magazines to show their surgeons how they would like their genitals to look (Jones & Nurka, 2015; Liao & Creighton, 2007). Through the use of a video like the one implemented in this study, women will at least be more aware of the fact that the genitals in these photographs have been edited or the model may have already had a labiaplasty.

Although it is the Australian media guidelines that are specifically discussed in our study video, the main message that women's labia, like other body parts, are the subject of digital alteration is definitely appropriate for other Western countries (Green, 2005; Liao & Creighton, 2007; McDougall, 2013). Furthermore, the video also provided women with general information on labiaplasty and showed them a wide range of labial appearances to contrast these with the

digitally edited images. Overall, our results suggest that a video discussing female genital appearance and digital alteration practices can successfully improve both media knowledge and normality perception. Our findings also suggest that the photographic array does not have the same educational impact when implemented on its own or in combination with the video. Of course, the video was the longer and more intensive of the two resources examined so there was the opportunity to present more educational information in the video. However, it would appear that a more static representation of the variation in genital appearance (through photographs in this case) is not sufficient to impart the important message of genital appearance diversity. Instead, educational resources on this topic should include an engaging narrative which prompts women to think critically about the representations of women's genitals in the media.

In addition to the impact of the photographic array and video on women's knowledge, we also examined the effects on their attitudes towards their own genital appearance. Although the women in our study had initially low levels of concern about their genital appearance and were not considering labiaplasty, similar to a previous Australian sample of women (Sharp et al., 2015), there was a small decrease in women's level of dissatisfaction across the study. Contrary to prediction, this decrease occurred irrespective of whether or not participants were exposed to the photographic array or video. The fact that all women, including the control group, viewed six photographs of normal female genitals as part of the normality perception measure in the post-exposure questionnaire may have led them to reflect upon their own genital appearance when subsequently rating their post-exposure genital dissatisfaction. As it is unlikely that the women in our study had given much thought to the controversial topic of female genital appearance prior to participating in our study (Braun & Wilkinson, 2001), it may have been that simply providing them with the rare opportunity to reflect upon their genital appearance was sufficient to elicit the

small decrease in genital appearance concerns observed over time. Indeed, the qualitative feedback provided by the women indicated that they appreciated the opportunity to consider the topic of female genital appearance and suggested that a more open discussion would reduce the stigma associated with the subject.

To bypass personal levels of satisfaction, we also examined the effect of the photographs and video on the advice women would give to a friend who was concerned about her genital appearance. In our sample, a higher percentage of women were opposed to labiaplasty than were in favour of the surgery, but, unexpectedly, this did not differ significantly according to the experimental condition. Nevertheless, women who viewed the video were more likely to reference the information presented in the video to argue against the need for labiaplasty. More specifically, these women mentioned that (1) media images of genitals are unrealistic due to digital editing; and (2) that the surgery should not be undertaken to please others like romantic partners. Our results suggest that the women who watched the video were able to apply the knowledge they had obtained to advise other women, thus confirming the educational impact of the video. Although genital appearance is not a common conversation topic amongst female friends, research suggests that such conversations can lead to greater concerns about genital appearance and greater consideration of labiaplasty (Sharp et al., 2015). Our findings suggest that an educational video can influence the content of these conversations in a positive way.

As with all research, the limitations of the study need to be acknowledged. One limitation was that our sample consisted of university educated, predominantly young, white, heterosexual women. Thus, the results may not generalise to individuals outside these categories. As the photographs and video are already freely available online, future research should investigate the effectiveness of these resources in a more heterogeneous community sample of women. In

addition, it is possible that women who self-select to participate in a study on the topic of female genital appearance may be more interested in and comfortable with their own genitals than the general population. Indeed, the women in our sample were generally satisfied with the appearance of their genitals and were not considering labiaplasty. Accordingly, it will be very important to examine whether the educational tools tested here are capable of alleviating genital appearance concerns in women who are highly dissatisfied with their genital appearance. It is also possible that the women who participated in our study were aware of the fact that appreciation of genital appearance diversity was the socially desirable response. As we did not ask the women in our study about their aesthetic preferences for the genitals shown in either the photographic array or video, they may still have preferred the smooth vulvar look. Furthermore, we were not able to provide the ages of the women included in the genital photographic array in our study as this information was not available on the original website. It will be important to include this information in future studies so women are able to compare their genital appearance with similarly aged women.

The results of the current study also have practical implications. Our findings showed that a short video is capable of increasing women's knowledge about female genital appearance, with participants finding it both educational and useful. Significantly, despite the sensitive nature of the topic, participants indicated that they were not overly embarrassed by the experience. In addition, the qualitative study feedback indicated that women in our sample thought there was a strong need for education about female genital appearance in the wider community. Medical practitioners such as general practitioners and gynaecologists and mental health professionals could direct girls and women who are concerned about their genital appearance to this kind of resource.

It is possible, however, that resources focused on increasing awareness of diversity in female genital appearance may not be sufficient to improve the attitudes of highly concerned individuals. In Bramwell et al.'s (2007) qualitative study of women who had undergone labiaplasty, several indicated that even though they were aware of the natural variation in genital appearance prior to surgery, this did not protect them from disliking the appearance of their own genitalia and a desire for surgical modification. This desire to enhance genital appearance through surgery may have been to avoid the risk of teasing or rejection by a sexual partner. Indeed, a recent study reported that over a third of the labiaplasty patients involved in their sample could recall specific negative comments or reactions about their labia, and these were predominantly from ex-boyfriends (Veale, Eshkevari, et al., 2014b). In cases where there is an aversive memory associated with the genital appearance concern, psychological interventions such as cognitive restructuring or imagery rescripting may be more helpful than education about diversity in genital appearance (Neziroglu, Khemlani-Patel, & Veale, 2008; Veale & Neziroglu, 2010). The finding that the source of these negative comments was predominantly from ex-boyfriends suggests that future research might usefully focus on educating boys and men about female genitals. If men are more aware of the great diversity in normal female genital appearance, they may be less critical of their partner's genital appearance.

Potentially the most important use of any educational tool would be to educate young girls about genital appearance diversity before they are at risk of developing concerns about their own genital appearance. Indeed, there have been reports of girls as young as 10 and 11 years of age presenting for labial reduction surgery (Crouch et al., 2011; Michala, Koliantzaki, & Antsaklis, 2011). Thus a video like the one tested here could be included as part of media literacy or sexual education programmes for adolescents and pre-adolescents in schools. This

would serve to increase awareness of the natural diversity in normal female genital appearance and educate girls and boys about the digital alteration of genital images in the media. This information would hopefully assist with concerns young girls might have about the natural growth in labial tissue they will experience during puberty (Farage & Maibach, 2006).

In conclusion, the present study is the first to demonstrate the educational impact of a real world yet under-utilised resource addressing normal female genital appearance. We showed that a freely available video could significantly increase women's knowledge of both the diversity of normal female genital appearance and of the digital alteration of genital images in the media. Future research is needed to determine whether the educational tools tested here would be helpful for women who are dissatisfied with their genital appearance and are actively considering labiaplasty. More broadly, the education of girls and women about normal female genital appearance could be potentially important in reducing the demand for cosmetic genital surgery.

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CHAPTER 4: Study 3 - Factors that Influence the Labiaplasty Decision

Factors that Influence the Decision to Seek Labiaplasty:

Media, Relationships, and Psychological Well-Being

Gemma Sharp, Marika Tiggemann, and Julie Mattiske

School of Psychology, Flinders University, South Australia

Corresponding author: Gemma Sharp, School of Psychology, Flinders University, GPO Box 2100, Adelaide 5001, South Australia, Australia. Email: gemma.sharp@flinders.edu.au

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Abstract

Background: An increasing number of women are undergoing labiaplasty procedures; however, very little is known about the psychological factors that motivate women to seek this procedure.

Objective: To investigate the factors that influence women's decisions to seek labiaplasty.

Methods: Women seeking labiaplasty ($n = 35$) were compared with women who were not seeking labiaplasty ($n = 30$). Standardised measures were employed to assess genital appearance satisfaction, media exposure (television, internet, advertising, pornography), relationship quality, and psychological well-being.

Results: Women's motivations for seeking labiaplasty were categorised as "appearance", "functional", "sexual", or "psychological", with appearance concerns being the most commonly reported reason. Correspondingly, women seeking labiaplasty were significantly less satisfied with the appearance of their genitals than the comparison group ($p < .001$).

These women had also experienced greater exposure to media images of female genitals on the internet ($p = .004$) and in advertisements ($p = .021$), and had internalised these media images to a greater extent ($p = .010$). There were no group differences on the measures of relationship quality. However, significantly fewer of the women seeking labiaplasty were involved in a romantic relationship ($p = .039$). There were also no group differences for measures of psychological well-being, except women seeking labiaplasty had less overall life satisfaction ($p = .027$).

Conclusions: As one of the first controlled studies to investigate the psychological factors motivating women to seek labiaplasty, the findings identified media exposure (internet, advertising) and relationship status as important factors.

Labiaplasty has become an increasingly popular type of cosmetic surgery. In the US, the demand for this surgery rose from 5,070 in 2013 to 7,535 in 2014, representing a 49% increase over the last year (American Society of Aesthetic Plastic Surgery, 2014) and similar trends have been documented in other Western countries, including Australia (Australian Government Department of Human Services, 2015; Crouch, Deans, Michala, Liao, & Creighton, 2011). Labiaplasty most commonly involves the reduction of the size of the labia minora (Iglesia, Yurteri-Kaplan, & Alinsod, 2013; Mirzabeigi, Jandali, Mettel, & Alter, 2011), where the main aim is to attain minimal or no protrusion of the labia minora beyond the labia majora (Hamori, 2011). Although labiaplasty patients generally appear satisfied with their surgical results (Goodman et al., 2010; Veale, Naismith, et al., 2014) the fact that many of the women who desire this surgery have anatomically normal genitals raises doubts about the necessity of the procedure (Crouch et al., 2011; Oranges, Sisti, & Sisti, 2015; Rogers, 2014). Furthermore, we still know very little about the specific factors that influence women's decision to undergo labiaplasty.

The research thus far suggests that aesthetic concern is the primary motivation for labiaplasty, followed by physical or functional concerns of both a sexual and non-sexual nature (Crouch et al., 2011; Rouzier, Louis-Sylvestre, Paniel, & Haddad, 2000; Veale, Eshkevari, et al., 2014a). For example, in a retrospective study of 163 labiaplasty patients, 87% reported aesthetic dissatisfaction as their motivation for surgery, 64% discomfort in clothing, 26% discomfort when taking part in sports, and 43% painful sexual intercourse (Rouzier et al., 2000). One prospective study of 33 women seeking labiaplasty similarly found that labial appearance was the most commonly reported concern (78%), followed by pain/discomfort (57%), difficulties with sexual intercourse (21%), difficulties with sports (15%), discomfort in underwear/clothing (15%), anxiety or embarrassment (9%), and relationship difficulties (9%) (Crouch et al., 2011).

These aesthetic concerns were examined in detail in a retrospective qualitative study of six women who had undergone labiaplasty (Bramwell, Morland, & Garden, 2007). All women reported that they perceived their genital appearance prior to their labiaplasty as “odd” or “weird”. It seemed that these women were attempting to achieve a “normal” genital appearance through surgery (Bramwell et al., 2007). However, their perception of normal genital appearance was very restricted. Specifically, they desired a completely smooth vulvar surface with no protruding labia minora (Yurteri-Kaplan et al., 2012) colloquially termed the “Barbie look” (Alinsod, 2006; Iglesia et al., 2013).

Such an unrealistic genital ideal does not develop in isolation, but rather as a function of broader sociocultural influences. The mass media are a powerful sociocultural influence and have certainly increased awareness of cosmetic procedures like labiaplasty within the general community. Research in unselected samples of young women has found that a greater endorsement or internalisation of the beauty ideals from the mass media is predictive of more positive attitudes towards cosmetic surgery in general (Markey & Markey, 2009; Sarwer et al., 2005). Similarly, media exposure to female genital images (television, internet, advertising, pornography) has been found to be the strongest predictor of consideration of labiaplasty in particular (Sharp, Tiggemann, & Mattiske, 2015). This latter study also found that peer influence from romantic partners and friends predicted greater consideration of labiaplasty, while a satisfying romantic relationship and having confidence in oneself as a sexual partner buffered against consideration of labiaplasty (Sharp et al., 2015). However, these studies were conducted in general community samples, and so it is yet to be determined whether these same sociocultural influences (media and relationship quality) are what drive women to actually seek labiaplasty.

To our knowledge, there has only been one controlled series of studies of the psychological characteristics and motivations of women actually seeking labiaplasty (Veale,

Eshkevari, et al., 2014a; Veale, Eshkevari, et al., 2014b). Veale, Eshkevari, et al. (2014a) found that the 55 women in their sample who were seeking labiaplasty were significantly more dissatisfied with the appearance of their genitals than the 70 women who did not desire surgery. Furthermore, a significantly higher percentage of the labiaplasty group (39%) were able to recall specific negative comments or reactions about their labia during their lives, compared with only 5% of the comparison group (Veale, Eshkevari, et al., 2014b). In addition, the labiaplasty group reported a lower quality of life in terms of their body image as well as an overall lower level of sexual satisfaction (Veale, Eshkevari, et al., 2014a). However, the two groups did not differ on general mental health; the women seeking labiaplasty were no more likely to report symptoms of anxiety and depression than the comparison group (Veale, Eshkevari, et al., 2014a).

The current study aimed to further examine the factors influencing women's decision to undergo labiaplasty by investigating the influence of a number of sociocultural and psychological factors in a controlled study design. Specifically, we hypothesised that women seeking labiaplasty would experience lower satisfaction with their genital appearance than women not seeking labiaplasty. We also predicted that they would have experienced greater exposure to images of female genitals in the media (television, internet, advertising, pornography) and would show greater internalisation of the idealised media representations of female genitals. In addition, we predicted that women seeking labiaplasty would report a higher frequency of negative comments received from romantic partners about their genital appearance, and would be less satisfied in their romantic relationship and less sexually confident than the comparison group women. Finally, we predicted that women seeking labiaplasty would have a lower overall satisfaction with life than women not seeking labiaplasty.

Method

Participants and Procedure

Institutional review board approval was obtained from the Flinders University Social and Behavioural Research Ethics Committee (Adelaide, Australia) prior to study initiation. From December 2013 to September 2015, a total of 65 women were recruited into the study. There were 35 women seeking labiaplasty from nine private cosmetic and gynaecology clinics throughout Australia. The comparison group consisted of 30 women from two private gynaecology clinics in Australia. These comparison women were attending clinics for general gynaecological reasons (not labiaplasty) and indicated a less than 10% likelihood of undergoing a labiaplasty in the future. Any adult woman who was aged at least 18 years and was proficient in English was eligible to participate in the study. Information about the study and the questionnaire in paper form were distributed at the clinics. For the labiaplasty group, this occurred at their initial consultation for labiaplasty. The questionnaires were completed anonymously at a location of the participant's choosing. Participants were provided with a reply paid envelope in order to return questionnaires to the researchers via post and the return of the completed questionnaire was considered to be informed consent. As the questionnaires were completed anonymously, we cannot be certain whether all of the 35 women seeking labiaplasty ultimately underwent the procedure. However, all 35 nominated an expected date for surgery in their questionnaire.

Questionnaire

The questionnaire was developed by the researchers and consisted largely of established and validated psychological measures. A few measures (media exposure, internalisation, partner comments) had to be developed or adapted for the labiaplasty context.

Demographics. Participants were asked their age, height, weight, ethnicity, sexual orientation, and highest level of education achieved. They were also asked whether they were

currently involved in a romantic relationship, had ever had a sexual partner in their lifetime, and whether they had any children.

Exposure to cosmetic surgery. Participants were asked if they had ever had any kind of cosmetic procedure and to describe these procedures (if any). In addition, they were asked if they personally knew anyone who had undergone a labiaplasty procedure.

Motivations for labiaplasty. The women seeking labiaplasty were asked to nominate their expected date for labiaplasty surgery as well as respond to two open-ended questions: how long they had considered having a labiaplasty, and their reasons for wanting a labiaplasty. Responses for the labiaplasty motivation item were coded independently by two raters into four themes labelled “appearance”, “functional”, “sexual”, and “psychological”. Inter-rater reliability (Hayes & Krippendorff, 2007) was high (Krippendorff’s $\alpha = .87$).

Genital appearance satisfaction. Satisfaction with genital appearance was measured using the 11-item Genital Appearance Satisfaction Scale (Bramwell & Morland, 2009). Participants rated how often they agreed with each item (e.g., “I feel that my labia are too large”) on a 4-point Likert scale ranging from 0 (*never*) to 3 (*always*). Scores were summed to produce a total score which ranged from 0 to 33, with higher scores indicating greater genital appearance dissatisfaction. The internal consistency for the scale was high (Cronbach’s $\alpha = .95$).

Media exposure. A measure was developed to assess exposure to images of female genitals in the media. This measure was based on that used by Sharp et al. (2015) in their general sample. Participants were asked how often they had seen images of naked female genitals on television and also online on a 5-point Likert scale ranging from 0 (*none*) to 4 (*a great deal*). They were also asked the number of advertisements they had seen for cosmetic genital surgery on a 5-point Likert scale ranging from 0 (*none*) to 4 (*more than 50*).

Participants were then asked how much pornography they had viewed on three different

media formats (magazines, internet, and movies) on a 5-point Likert scale ranging from 0 (*none*) to 4 (*a great deal*). Summed total scores ranged from 0 to 12, with higher scores indicating greater consumption of pornography. The reliability for the pornography scale was acceptable (Cronbach's $\alpha = .76$).

Internalisation of the genital ideal. A measure was developed to assess internalisation of the media appearance standards for genital appearance. This was adapted from an existing 5-item measure of internalisation of the thin ideal, the Sociocultural Internalization of Appearance Questionnaire-Adolescents (Keery, Shroff, Thompson, Wertheim, & Smolak, 2004). Three items were adapted to address the genital ideal (e.g., "I would like my genitals to look like the images of women's genitals in the media"). Participants rated their level of agreement with each of the three items on a 5-point Likert scale ranging from 1 (*definitely disagree*) to 5 (*definitely agree*). Summed total scores ranged from 3 to 15, with higher scores indicating greater internalisation of the genital ideal. The internal consistency for the scale was high (Cronbach's $\alpha = .96$).

Comments from romantic partners. The frequency with which participants had received negative comments about their labial appearance was assessed by a measure based on that of Sharp et al. (2015). Participants who had a current romantic partner were asked how often this romantic partner had given them negative feedback about the appearance of their genitals via two items (i.e., "How often has your romantic partner given you negative comments about your genitals?" and "How often has your romantic partner suggested you alter/improve the appearance of your genitals?"), each rated on a 5-point Likert scale ranging from 0 (*never*) to 4 (*very often*). Summed total scores ranged from 0 to 8, with higher scores indicating more frequent comments. Reliability for the present sample was acceptable (Cronbach's $\alpha = .80$).

Relationship satisfaction. Relationship satisfaction was measured using the seven-

item Relationship Assessment Scale (Hendrick, 1988). Participants who had a current romantic partner rated each item (e.g., “In general, how satisfied are you with your relationship?”) on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*completely*). Summed total scores ranged from 7 to 35, and internal consistency was high (Cronbach’s $\alpha = .86$).

Sexual confidence. Confidence as a sexual partner was measured using the six-item Sexual Confidence Scale (Abraham et al., 2009). Participants who had ever had a sexual partner in their lifetime rated their level of agreement with each item (e.g., “I have confidence in myself as a sexual partner”) on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Summed total scores ranged from 6 to 36, and reliability for the present sample was high (Cronbach’s $\alpha = .88$).

General psychological distress. The five-item short version of the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) was used as a general measure of psychological distress, which has a focus on symptoms of anxiety and depression. The short version of the scale has been shown to have good reliability and is considered to be a convenient replacement for the longer version (Strand, Dalgard, Tambs, & Rognerud, 2003). Participants rated how much they had been bothered by each of five specific symptoms (i.e., “feeling fearful”, “nervous or shakiness inside”, “feeling hopeless about the future”, “feeling blue”, and “worrying too much about things”) over the past two weeks on a 4-point Likert scale ranging from 1 (*not at all*) to 4 (*extremely*). Responses were averaged to form a score ranging from 1 to 4. The internal consistency was acceptable (Cronbach’s $\alpha = .82$).

Self-esteem. Self-esteem was measured using the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965). Participants rated how strongly they agreed with each item (e.g., “I feel that I have a number of good qualities”) on a 4-point Likert scale ranging from 0

(*strongly disagree*) to 3 (*strongly agree*). Summed total scores ranged from 0 to 30, and the internal consistency was high (Cronbach's $\alpha = .87$).

Satisfaction with life. The 5-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) was used to assess satisfaction with life as a whole. Participants rated how strongly they agreed with each item (e.g., "In most ways my life is close to ideal") on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Summed total scores ranged from 7 to 35, and internal consistency for the scale was high (Cronbach's $\alpha = .86$).

Statistical Analysis

The data were analysed using IBM SPSS (version 22.0; IBM SPSS, Inc, Chicago, IL). For the demographic variables, group differences were examined using independent samples *t*-tests or chi-squares tests. Differences between the labiaplasty and comparison groups were found for romantic relationship status and parity status and hence these variables were included as covariates in all subsequent group difference analyses. For the sociocultural and psychological variables, group differences were examined using ANCOVA. Although multiple statistical tests were conducted in this study, a correction for the *p*-value was not applied as a series of pre-planned specific hypotheses were examined. Under these circumstances, a correction is not recommended (Armstrong, 2014) and thus a value of $p < .05$ was considered to be statistically significant for all statistical tests.

Results

Demographics

The women seeking labiaplasty ranged in age from 18 to 56 years ($M = 31.3$, $SD = 9.3$) and the comparison group ranged in age from 21 to 55 years ($M = 35.8$, $SD = 8.6$). As seen in Table 1, there were no significant differences between the two groups in terms of their age, body mass index (BMI), ethnicity, sexual orientation, if they had ever had a sexual

partner, and highest level of education achieved. However, as can also be seen in Table 1, a significantly lower percentage of women in the labiaplasty group were currently involved in a romantic relationship, and a significantly lower percentage reported having had a child.

Cosmetic Surgery Exposure

Of the 35 women seeking labiaplasty, 10 (28.6%) reported that they had previously undergone at least one cosmetic procedure. These were breast augmentation ($n = 9$), rhinoplasty ($n = 2$), botulinum toxin injections ($n = 2$), rhytidectomy ($n = 1$), liposuction ($n = 1$), blepharoplasty ($n = 1$), dermal fillers ($n = 1$), and labiaplasty ($n = 1$). The one woman who had previously had a labiaplasty was seeking a revision. A significantly lower number ($n = 2$, 6.7%) of comparison group participants reported having undergone a cosmetic procedure ($p = .023$, $\phi = .28$). These were dermal fillers ($n = 1$) and “forehead crease removal” ($n = 1$). Only two women from each group reported knowing another women who had had a labiaplasty ($p = .873$, $\phi = .02$).

Table 1

Labiaplasty (n = 35) versus Comparison (n = 30) Group Participant Demographics

| | Group | | <i>p</i> -value | Effect size |
|---|-------------|------------|-----------------|-----------------|
| | Labiaplasty | Comparison | | |
| Age, <i>M</i> (<i>SD</i>) | 31.3 (9.3) | 35.8 (8.6) | .052 | <i>d</i> = 0.49 |
| Range | 18-56 | 21-55 | | |
| BMI, <i>M</i> (<i>SD</i>) | 22.2 (3.7) | 22.9 (3.7) | .467 | <i>d</i> = 0.18 |
| Range | 17.3-38.5 | 17.9-33.3 | | |
| Ethnicity, <i>n</i> (%) | | | | |
| Caucasian/White | 34 (97.1) | 29 (96.7) | .912 | Φ = .01 |
| Mixed | 1 (2.9) | 1 (3.3) | | |
| Sexual orientation, <i>n</i> (%) | | | | |
| Exclusively heterosexual | 30 (85.7) | 28 (93.3) | .474 | Φ = .15 |
| Predominantly heterosexual | 4 (11.4) | 1 (3.3) | | |
| Predominantly heterosexual but more than incidentally homosexual | 1 (2.9) | 1 (3.3) | | |
| Lifetime sexual partner status, <i>n</i> (%) | | | | |
| Yes | 32 (91.4) | 28 (93.3) | .774 | Φ = .04 |
| No | 3 (8.6) | 2 (6.7) | | |
| Current romantic relationship status, <i>n</i> (%) | | | | |
| Yes | 21 (60.0) | 25 (83.3) | .039 | Φ = .26 |
| No | 14 (40.0) | 5 (16.7) | | |
| Children, <i>n</i> (%) | | | | |
| Yes | 12 (34.3) | 20 (66.7) | .009 | Φ = .32 |
| No | 23 (65.7) | 10 (33.3) | | |
| Education, <i>n</i> (%) | | | | |
| Primary school | 0 (0.0) | 1 (3.3) | .321 | Φ = .27 |
| Secondary school | 8 (23.5) | 2 (6.7) | | |
| Trade/Certificate/Diploma | 8 (23.5) | 7 (23.3) | | |
| Undergraduate degree | 11 (32.4) | 11 (36.7) | | |
| Postgraduate degree | 7 (20.6) | 9 (30.0) | | |

Note. BMI = body mass index (weight kg/height m²)

Motivations for Labiaplasty

The length of time that women reported having considered a labiaplasty ranged from 4 months to 20 years ($M = 6.0$, $SD = 5.4$ years). As seen in Table 2, appearance concerns over labial appearance were the most commonly reported category of reason for seeking a labiaplasty, reported by close to three quarters of the sample. Non-sexual functional difficulties were the next most common, followed by difficulties with sexual intercourse/sexual relationships, and then psychological issues. Of the 35 women, 27 (77.1%) provided reasons for seeking labiaplasty which encompassed more than one of the four categories.

Table 2

Participant Motivations for Labiaplasty by Theme (n = 35)

| Theme | Examples | n (%) ^a |
|---------------|--|--------------------|
| Appearance | “Didn’t like the look of my labia. Not what is shown on social media.” “Feel like I don’t look ‘normal’” | 25 (71.4) |
| Functional | “Discomfort during sporting activity” “Discomfort wearing tight clothes and going to the toilet” | 24 (68.6) |
| Sexual | “I was sick of sexual discomfort during and after sex” “It made me self-conscious in being with a new partner. I worried they would be as freaked out about it as I was.” | 21 (60.0) |
| Psychological | “To improve my self-esteem - have been insecure and self-conscious for years” “I know my labia are different and this impacts my confidence” | 16 (45.7) |

^aPercentages do not sum to 100% as participants provided responses which were coded into multiple themes.

Media Exposure, Relationship Quality, and Psychological Well-Being

As seen in Table 3, there were several significant differences between the labiaplasty and comparison groups for the sociocultural and psychological factors examined, after controlling for the effects of romantic relationship status and parity status. As hypothesised, the labiaplasty group reported significantly higher genital appearance dissatisfaction than the comparison group, with a large effect size. For media exposure, on average the labiaplasty group reported “sometimes” viewing images of female genitals on the internet, while the comparison group “occasionally” viewed these images, representing a statistically significant difference. The labiaplasty group also reported viewing significantly more advertisements for cosmetic genital surgery (although these were few) but, unexpectedly, did not differ on their exposure to female genitals on television and their exposure to pornography. As predicted, the labiaplasty group reported a stronger internalisation of the media representations of female genitals than did the comparison group.

For the 21 (60.0%) women in the labiaplasty group and 25 (83.3%) in the comparison group currently involved in a romantic relationship, there was a high level of relationship satisfaction which, contrary to prediction, did not differ significantly between the two groups. In addition, the women from both groups reported a very low frequency of negative comments about their labial appearance from their current romantic partners which also did not differ significantly between groups. However, it must be noted that a significantly lower percentage of women in the labiaplasty group were involved in a romantic relationship/had a romantic partner. For the women who had had at least one sexual partner in their lifetime (labiaplasty: $n = 32$, 91.4%; comparison: $n = 28$, 93.3%), there was no significant difference between groups in their level of sexual confidence, which was reasonably high for both groups. In terms of psychological well-being, as expected, the labiaplasty group reported significantly lower satisfaction with their lives in general than the comparison group. In

contrast, there were no significant differences between the two groups on their levels of psychological distress or self-esteem.

Table 3

Labiaplasty (n = 35) versus Comparison (n = 30) Participants on Sociocultural and Psychological Measures^a

| | Group | | <i>p</i> -value | Cohen's <i>d</i> |
|--|------------------------|------------------------|-----------------|------------------|
| | Labiaplasty | Comparison | | |
| | <i>M</i> (<i>SD</i>) | <i>M</i> (<i>SD</i>) | | |
| Genital appearance satisfaction | 24.85 (6.12) | 8.07 (7.52) | < .001 | 2.46 |
| Media exposure | | | | |
| Television | 1.25 (1.04) | 0.97 (0.67) | .226 | 0.31 |
| Internet | 2.09 (1.12) | 1.07 (0.98) | .004 | 0.96 |
| Advertisement | 0.66 (0.76) | 0.30 (0.53) | .021 | 0.54 |
| Pornography | 3.83 (2.68) | 2.27 (2.59) | .104 | 0.57 |
| Internalisation | 9.71 (3.48) | 6.70 (3.41) | .010 | 0.87 |
| Relationship quality | | | | |
| Partner comments ^b | 0.52 (1.03) | 0.16 (0.80) | .407 | 0.39 |
| Relationship satisfaction ^b | 27.71 (5.99) | 29.92 (4.05) | .395 | 0.44 |
| Sexual confidence ^c | 27.30 (5.86) | 29.46 (5.62) | .634 | 0.38 |
| Psychological well-being | | | | |
| Psychological distress | 1.87 (0.74) | 1.61 (0.48) | .352 | 0.41 |
| Self-esteem | 20.37 (5.70) | 21.72 (4.02) | .631 | 0.27 |
| Satisfaction with life | 22.37 (6.42) | 27.52 (5.83) | .027 | 0.84 |

^aRomantic relationship status and parity status were controlled for as covariates.

^b*n* = 21 for labiaplasty group and 25 for comparison group.

^c*n* = 32 for labiaplasty group and 28 for comparison group.

Discussion

As one of the first studies to compare women seeking labiaplasty with a group of women who were not seeking this surgery, the results of our study provide new information on the factors that motivate women to seek labiaplasty. Media representations of female genitals have long been suggested as a powerful influence in the growing demand for labiaplasty (e.g., Bramwell, 2002; Braun, 2005; Koning, Zeijlmans, Bouman, & van der Lei, 2009; Liao & Creighton, 2007; Placik & Arkins, 2014; Schick, Rima, & Calabrese, 2011). However, the present study is the first to actually demonstrate that women seeking labiaplasty have been exposed to a greater volume of these idealised media images and display a stronger desire to resemble these images than women not seeking labiaplasty. Also, contrary to suggestion that the women who request labiaplasties are inhibited in their romantic relationships and are attempting to resolve relationship issues through surgery (Bramwell et al., 2007; Crouch et al., 2011), we found that these women did not differ from the comparison group in terms of their relationship satisfaction and sexual confidence. In addition, the levels of psychological distress and self-esteem reported by the labiaplasty group did not differ from the comparison group. However, women seeking labiaplasty were less satisfied with their lives in general.

In accordance with previous research (Veale, Eshkevari, et al., 2014a) we found that women seeking labiaplasty were more likely to have undergone previous cosmetic procedures than the comparison group. Although this group represented only just over a quarter of the labiaplasty patient sample, it does suggest that some of the patients in our study experienced appearance concerns with multiple body parts (in addition to their labia) which, as Veale, Eshkevari, et al. (2014a) have suggested, could be indicative of BDD. The influence of BDD in labiaplasty patient samples warrants further investigation.

Although the women in our sample reported a variety of motivations for requesting

labiaplasty, like in other studies (e.g., Crouch et al., 2011; Rouzier et al., 2000), appearance concern was the most commonly reported reason. This is consistent with the high levels of dissatisfaction with their genital appearance reported here. Nevertheless, we identified three other thematic categories in women's reported motivations, namely functional, sexual, and psychological. These categories correspond with those previously reported for labiaplasty patients (e.g., Crouch et al., 2011; Goodman et al., 2010; Rouzier et al., 2000; Veale, Eshkevari, et al., 2014a) and thus confirm the complexity of women's motivations to undergo labiaplasty.

As predicted, we found that women seeking labiaplasty reported greater media exposure to images of female genitals than the comparison group, specifically via the internet and cosmetic genital surgery advertising. Our results extend previous findings that media exposure is predictive of consideration of labiaplasty in general community samples (Koning et al., 2009; Sharp et al., 2015) to women who present at clinics requesting labiaplasties. Thus it appears that the media is a powerful motivator and source of information about genital appearance and labiaplasty for women. Individuals are often too embarrassed to discuss the topic of genital appearance and genital surgery with friends or family members and prefer the anonymity of internet searches (Hamori, 2014; Koning et al., 2009). Certainly, the women seeking labiaplasty in our sample reported knowing very few other women who had undergone labiaplasty with whom they could potentially discuss the topic.

The issue with mainstream media as a source of information regarding female genital appearance is that only a very narrow range of labial appearances is displayed (Hamori, 2013; McDougall, 2013). For women who are already concerned about their genital appearance, seeing images of female genitals on the internet (some of which have been airbrushed (Davis, 2002; Green, 2005)) may confirm to them that they are "abnormal" and require surgery to become "normal". Furthermore, increased publicity and advertising of cosmetic genital

surgery may suggest to women who were previously unconcerned with their genital appearance that they should be motivated to conform to the genital ideal (Braun, 2010). It is important that medical professionals educate women about the diversity of labial appearance and reassure them that their own genitals are in the normal size range. However, the women seeking labiaplasty in our sample displayed a significantly greater internalisation of media genital ideals than the comparison group and so, even though these women may accept that their labia are normal in size, their desire to fulfil the genital ideal is likely to perpetuate their appearance concerns.

Although lower levels of sexual satisfaction have previously been reported in women who seek labiaplasty (Veale, Eshkevari, et al., 2014a), our study is the first to examine measures of relationship quality in these women compared to women not seeking labiaplasty. Contrary to prediction, the women seeking labiaplasty in our sample displayed reasonably high levels of sexual confidence and satisfaction in their relationships, which did not differ from the comparison group. However, it must be noted that only women who had a current romantic partner completed the relationship satisfaction measure, which included just over half of the women in the labiaplasty group, a proportion which was considerably smaller than for the comparison group and also for other comparable community samples of adult women (Sharp et al., 2015; Tiggemann & Williams, 2012). As studies have alluded to previously (Bramwell et al., 2007; Crouch et al., 2011; Veale, Eshkevari, et al., 2014a), it appears that a sizeable percentage of women seeking labiaplasty may avoid becoming involved in romantic relationships. Perhaps these women are anxious about a potential sexual partner's reaction to their labial appearance. The reported level of negative commentary from current romantic partners was very low and did not differ significantly between groups. However, it is possible that women seeking labiaplasty may have received negative comments from previous sexual partners (Veale, Eshkevari, et al., 2014b). Indeed, a small percentage of the women in our

study described receiving negative feedback on the appearance of their labia from former partners in their qualitative responses. Therefore, the impact of these prior negative experiences on women's relationships should be explored by medical professionals when women request labiaplasty. The emotional concerns surrounding intimate relationships (as opposed to problems with sexual function) may not be so readily alleviated through labial reduction and warrant further investigation.

For overall psychological well-being, women seeking labiaplasty were not significantly different from the comparison group on levels of psychological distress or self-esteem. Like two previous studies (Goodman, Faschler, Miklos, Moore, & Brotto, 2011; Veale, Eshkevari, et al., 2014a), it appears that women who seek labiaplasty are, on average, in the normal range for psychological functioning. This finding contrasts with that of von Soest et al. (2012), in which symptoms of depression and anxiety, and a history of deliberate self-harm and parasuicide predicted prospective cosmetic surgery in a large community sample of women, a result which could potentially differentiate labiaplasty patients from other forms of cosmetic surgery. However, further research is needed. Nevertheless, the women seeking labiaplasty in our sample did report a lower overall satisfaction with their lives than the comparison group, potentially indicating that their concerns about their labia had a negative impact on their quality of life.

Like all studies, the present results should be viewed with a number of limitations in mind. Our sample size was small and may not have been representative of women seeking labiaplasty in general, as the women were sourced from only private clinics in one country (Australia) with its particular private/public health system. Some of the measures had to be constructed or adapted for the study and so warrant further psychometric investigation. There were also some limitations in our examination of the role of other people in women's decision to undergo labiaplasty. In particular (as discussed above), we only assessed feedback

from the woman's current partner. However, women may have received negative comments from other sources (e.g., former partners, family members, health professionals) at any stage throughout their lives (Veale, Eshkevari, et al., 2014b) which may have contributed to dissatisfaction with their genital appearance and/or avoidance of romantic relationships. Furthermore, our measure of psychological distress was limited to symptoms experienced only in the two weeks prior to completion of the survey. A more thorough examination of the mental health status of women who seek labiaplasty is warranted. As well as BDD (Veale, Eshkevari, et al., 2014a), the presence or history of mood disorders and eating disorders are worthy of exploration in this group, as these disorders have been documented in other groups of cosmetic surgery patients (Sarwer, 2007; Sarwer & Crerand, 2004).

Conclusions

As one of the first controlled studies to examine the factors that motivate women to seek labiaplasty, we have provided new insights into the psychological characteristics of these women and provide a platform for future research. We identified that women who seek labiaplasty have had greater exposure to and more strongly endorse the representations of female genitals in the media. Furthermore, fewer of the women seeking labiaplasty were in a romantic relationship, which raises the possibility that they avoid them potentially due to anxiety over a sexual partner's response to their labial appearance. These women are also less satisfied with their lives overall. The results presented here potentially allow medical professionals to help their patients make better informed decisions when considering labiaplasty.

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CHAPTER 5: Study 4 - Psychological Outcomes of Labiaplasty

Psychological Outcomes of Labiaplasty: A Prospective Study

Gemma Sharp, Marika Tiggemann, and Julie Matiske

School of Psychology, Flinders University, South Australia

Corresponding author: Gemma Sharp, School of Psychology, Flinders University, GPO Box 2100, Adelaide 5001, South Australia, Australia. Email: gemma.sharp@flinders.edu.au

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Abstract

Background: Although the demand for labiaplasty has rapidly increased over the last decade, little is known about the psychological outcomes of this procedure. In particular, there is a lack of prospective controlled studies to assess the effects of labiaplasty on women's psychological well-being and intimate relationship quality. Nor has research investigated whether preoperative patient characteristics predict satisfaction with surgery.

Methods: The current study employed a prospective controlled design. Participants were 29 adult Australian women who underwent labia minora reduction and 22 comparison women who did not. Both groups completed a baseline questionnaire (preoperatively for the labiaplasty group) and a follow-up questionnaire 6 months later. The questionnaires contained standardised measures of genital appearance satisfaction, relationship satisfaction, sexual confidence, psychological distress, self-esteem, and life satisfaction.

Results: Of the 29 women who underwent labiaplasty, the vast majority reported that they were "moderately" or "extremely" satisfied with the aesthetic (82.8%), functional (86.2%), and overall (82.8%) outcomes. For the standardised measures, the only significant change from baseline to follow-up for the labiaplasty group relative to the comparison group was a reduction in genital appearance dissatisfaction with large effect size ($p < .001$, $d = 3.26$). Higher levels of psychological distress ($p = .001$) and having a romantic partner ($p = .016$) preoperatively were significantly related to lower satisfaction with surgical outcomes.

Conclusions: Labiaplasty appears to have a positive effect on women's satisfaction with genital appearance, but not their general psychological well-being or intimate relationship quality.

Medical professionals should be mindful of patients with greater psychological distress (anxiety

and depression symptoms in particular) as this may compromise satisfaction with surgical outcomes.

The demand for labiaplasty has risen dramatically in recent years. For example, in the USA, the number of labiaplasties performed increased by 72% in the 2 year period from 2013 to 2015, that is from 5,070 to 8,745 procedures (American Society for Aesthetic Plastic Surgery, 2014, 2015), and similar increases have been documented in other Western countries like Australia (Australian Government Department of Human Services, 2015). Despite the increased popularity, peer-reviewed studies examining women's motivations for and outcomes of labiaplasty are still relatively sparse (Hunter, 2016). To date, results suggest that women are generally very satisfied with the aesthetic and functional results of their labiaplasty (e.g., Alter, 2008; Goodman et al., 2010; Gress, 2013; Oranges, Sisti, & Sisti, 2015; Ostrzenski, 2014; Triana & Robledo, 2012). Some studies have also found that women reported improvements in their psychological well-being, such as increased self-esteem, as well as improvements in their enjoyment of sex after undergoing labiaplasty (Alter, 2008; Goodman et al., 2010; Gress, 2013; Ostrzenski, 2014; Triana & Robledo, 2012). However, several methodological issues limit the conclusions that can be drawn from these studies. These include retrospective study designs, lack of appropriate control groups, and the use of non-validated outcome measures.

To our knowledge, there have only been two prospective studies using validated outcome measures involving labiaplasty patients (Goodman, Faschler, Miklos, Moore, & Brotto, 2011; Veale, Naismith, et al., 2014), one of which employed a controlled study design (Veale, Naismith, et al., 2014). In the first study, Goodman et al. (2011) examined the sexual and psychological functioning of 33 women undergoing vulvovaginal aesthetic surgery (which included labiaplasty) before surgery, 1 month and 6-9 months after surgery. Goodman et al. (2011) reported that although there was an initial increase in women's sexual arousal and sexual satisfaction (1 month after surgery), it was not maintained at 6-9 months post-surgery. Moreover,

there was no significant effect on women's psychological functioning either immediately or 6-9 months post-surgery (Goodman et al., 2011). In addition, the results for labiaplasty were not differentiated from other vulvovaginal aesthetic surgeries. The second study (Veale, Naismith, et al., 2014) compared 49 women undergoing labiaplasty with a comparison group of 39 women and also found that there were initial improvements in overall sexual function, as well as a reduction in anxiety symptoms 3 months after labiaplasty. However, like the earlier study, these improvements were not maintained in the long term (i.e., 11-42 months). Nevertheless, the labiaplasty patients did experience long-term reductions in their level of dissatisfaction and life impairment concerning the appearance of their genitalia with large effect sizes. Clearly, the existing research is limited. Thus, the major aim of the present study was to examine the effect of undergoing labiaplasty on women's genital appearance satisfaction, intimate relationship quality and psychological well-being using a prospective controlled study design.

A secondary aim of the study was to examine potential predictors of satisfaction with the outcomes of labiaplasty, a question yet to be explored in any study. The studies to date indicate that the vast majority of patients are satisfied with their surgical outcomes. For example, in Rouzier, Louis-Sylvestre, Paniel, and Haddad's (2000) study of 163 labiaplasty patients, of the 98 who completed the follow-up questionnaire, 89% were satisfied with the aesthetic outcome, 93% with the functional outcome, and 96% with the overall result. Similarly, of the 166 respondents in Alter's (2008) study, 95% rated their happiness with surgery as 8 or more of 10. These results and others (e.g., Ellsworth et al., 2010; Gonzalez, Dass, & Almeida, 2015; Gress, 2013; Oranges et al., 2015) suggest that a small percentage of women who have labiaplasty are not satisfied with the outcomes. The examination of potential predictors of satisfaction in this

study may help medical professionals identify individuals more and less likely to benefit from undergoing a labiaplasty procedure.

Method

Participants

The study received institutional board approval from the Flinders University Social and Behavioural Research Ethics Committee and was conducted between December 2013 and February 2016. A total of 51 adult Australian women were included in this study: 29 women who underwent labiaplasty and 22 comparison women who did not undergo labiaplasty. The comparison group consisted of women who were attending gynaecology clinics for general gynaecological reasons such as a Pap smear and were not undergoing any form of gynaecological surgery. The comparison women reported a less than 10 percent likelihood that they would undergo a labiaplasty procedure in the future. These two groups of women were a subset of those described previously (Sharp, Tiggemann, & Mattiske, 2016), who completed an additional 6-month follow-up questionnaire. Follow-up completion rates were 82.9% (29/35) for the labiaplasty group and 73.3% (22/30) for the comparison group. Attrition analyses indicated that women who did not complete the follow-up questionnaire did not differ significantly from completers on any of the baseline measures. For the labiaplasty group, the baseline questionnaire was completed within a month prior to their labiaplasty procedure and the follow-up questionnaire 6 months after. The comparison group similarly completed the baseline and follow-up questionnaires 6 months apart. The distribution of detailed study information and the baseline questionnaires was conducted in ten private cosmetic surgery and gynaecology clinics in Australia (Sharp, Tiggemann, et al., 2016). Participants completed the questionnaire anonymously at a location of their choosing and returned the questionnaire to the researchers via

post using a postage paid envelope. Follow-up questionnaires were sent via an email link or as a paper copy through the post depending on the participant's preference. Return of the completed questionnaires to the researchers was considered to be informed consent, according to the Australian National Statement on Ethical Conduct in Human Research (The National Health and Medical Research Council, 2007). Participants were provided with a 50 Australian dollar store voucher for their participation. Table 1 shows baseline participant demographic information.

Table 1

Baseline Demographic Characteristics for the Labiaplasty (n = 29) and Comparison Groups (n = 22)

| Variable | Group | | <i>p</i> -value |
|--|----------------|----------------|-----------------|
| | Labiaplasty | Comparison | |
| Mean age \pm <i>SD</i> , yr | 32.0 \pm 9.5 | 35.9 \pm 9.8 | .161 |
| Mean BMI \pm <i>SD</i> , kg/m ² | 22.2 \pm 4.0 | 23.0 \pm 3.4 | .471 |
| Ethnicity, <i>n</i> (%) | | | |
| Caucasian/White | 28 (96.6) | 22 (100.0) | 1.000 |
| Mixed | 1 (3.4) | 0 (0.0) | |
| Sexual orientation, <i>n</i> (%) | | | |
| Exclusively heterosexual | 24 (82.8) | 20 (90.9) | .575 |
| Predominantly heterosexual | 4 (13.8) | 1 (4.5) | |
| Predominantly heterosexual, but more than incidentally homosexual | 1 (3.4) | 1 (4.5) | |
| Lifetime sexual partner status, <i>n</i> (%) | | | |
| Yes | 27 (93.1) | 20 (90.9) | 1.000 |
| No | 2 (6.9) | 2 (9.1) | |
| Romantic relationship status, <i>n</i> (%) | | | |
| Yes | 16 (55.2) | 19 (86.4) | .017 |
| No | 13 (44.8) | 3 (13.6) | |
| Children, <i>n</i> (%) | | | |
| Yes | 11 (37.9) | 14 (63.6) | .069 |
| No | 18 (62.1) | 8 (36.4) | |
| Education, <i>n</i> (%) | | | |
| High school | 6 (21.4) | 2 (9.1) | .725 |
| Trade/Certificate/Diploma | 6 (21.4) | 6 (27.3) | |
| Undergraduate degree | 10 (35.7) | 8 (36.4) | |
| Postgraduate degree | 6 (21.4) | 6 (27.3) | |

Note. BMI = body mass index.

Questionnaire

The baseline questionnaire (Sharp, Tiggemann, et al., 2016) contained measures of demographic information, exposure to cosmetic surgery, and motivations for surgery (for the labiaplasty group only), as well as standardised measures of genital appearance satisfaction, intimate relationship quality (relationship satisfaction, sexual confidence) and psychological well-being (psychological distress, self-esteem, satisfaction with life). The 6 month follow-up questionnaire contained measures of surgical satisfaction (for the labiaplasty group only) and the same standardised measures.

Demographics. Participants were asked their age, height, weight, sexual orientation, ethnicity, and highest education level achieved. They were also asked whether they were involved in a romantic relationship at the time of completing the questionnaire, had ever had a sexual partner in their lifetime, and whether they had any children.

Exposure to cosmetic surgery. Participants were asked if they had ever had any kind of cosmetic procedure. In addition, they were asked if they personally knew anyone who had undergone a labiaplasty procedure.

Motivations for surgery. Participants in the labiaplasty group were asked to outline their reasons for wanting a labiaplasty in an open-ended response. Participant responses were coded by two independent raters and after discussion four main categories (Sharp, Tiggemann, et al., 2016) were agreed upon: “concerns with labial appearance”, “physical discomfort with clothing and/or exercise”, “physical and/or emotional difficulties with sex life”, and “general self-consciousness”.

Genital appearance satisfaction. The 11-item Genital Appearance Satisfaction (GAS) scale (Bramwell & Morland, 2009) was used to measure satisfaction with genital appearance.

Scores could range from 0 to 33, with higher scores indicating greater genital appearance dissatisfaction.

Relationship satisfaction. The seven-item Relationship Assessment Scale (Hendrick, 1988) was used to measure participant's satisfaction with their relationship. Only participants who were involved in the same relationship across the two time points (labiaplasty: $n = 12$, 41.4%; comparison: $n = 19$, 86.4%) were included in the analyses for this measure. Scores could range from 7 to 35 with higher scores indicating greater relationship satisfaction.

Sexual confidence. The six-item Sexual Confidence Scale (Abraham et al., 2009) was used to assess participant's confidence as a sexual partner. Only participants who had had a sexual partner in the intervening six months were asked to complete this measure at 6-month follow-up (labiaplasty: $n = 26$, 89.7%; comparison: $n = 19$, 86.4%). Scores could range from 6 to 36 and higher scores indicated greater sexual confidence.

General psychological distress. The five-item version of the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) was used as a short measure of psychological distress. It focuses on symptoms of anxiety and depression. Responses were averaged to form a score which could range from 1 to 4 with higher scores indicating greater psychological distress.

Self-esteem. Self-esteem was measured using the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965). Scores could range from 0 to 30 with higher scores indicating higher self-esteem.

Satisfaction with life. The five-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) was used to assess satisfaction with life as a whole. Scores could range from 7 to 35 with higher scores indicating greater life satisfaction.

Surgery details and satisfaction. For the labiaplasty group, participants were asked if their procedure was covered by Medicare (Australian public health service), if they had any procedures performed at the same time as labiaplasty (with details), and if they had any complications after their labiaplasty (with details). They were asked three items to assess their level of satisfaction with surgery: (1) current satisfaction with their labial appearance, (2) current satisfaction with labial function, and (3) overall satisfaction, all ranging from 1 (extremely dissatisfied) to 7 (extremely satisfied). In order to explore how having a labiaplasty may have changed the lives of participants, they were also asked how much they thought labiaplasty had affected their lives, ranging from 1 (not at all) to 5 (greatly), followed by the opportunity to provide an open-ended response. These responses were coded by two independent raters and after discussion four main categories were agreed upon (see Table 2).

Statistical Analysis

As described previously (Sharp, Tiggemann, et al., 2016), differences in demographic variables between the labiaplasty and comparison groups at baseline were examined using independent sample *t* tests, chi-square tests or Fisher's exact tests. Romantic relationship status was found to be the only significant difference between the two groups at baseline (see Table 1) and so was included as a covariate in all group comparison analyses. Comparisons for the two groups over the two time points were conducted using 2 (group: labiaplasty, comparison) x 2 (time: baseline, follow-up) mixed ANOVA tests. Significant group x time interaction effects, indicating that the two groups differed over time, were further analysed using paired sample *t* tests. Multiple linear regression was used to examine whether baseline variables predicted satisfaction with surgery outcomes. A value of $p < .05$ was considered to be statistically significant and analyses were performed using SPSS Version 23.0 (SPSS, Inc., Chicago, Ill.).

The sample sizes for the labiaplasty ($n = 29$) and comparison groups ($n = 22$) provided sufficient power to detect a medium effect size with a power of .80 and $p < .05$ (Cohen, 1988; Faul, Erdfelder, Lang, & Buchner, 2007).

Results

Sample Characteristics

Women's motivations for labiaplasty at baseline were categorised into four main themes: "concerns with labial appearance" ($n = 21$, 72.4%), "physical discomfort with clothing and/or exercise" ($n = 21$, 72.4%), "physical and/or emotional difficulties with sex life" ($n = 17$, 58.6%), and "general self-consciousness" ($n = 14$, 48.3%). With regard to the procedure, four women (13.8%) claimed Medicare entitlements. Four women (13.8%) also had another procedure performed at the same time as their labiaplasty and these were breast augmentation ($n = 2$), mastopexy ($n = 1$), and "haemorrhoid removal" ($n = 1$).

Satisfaction with Labiaplasty Outcomes

The majority (82.8%) of women reported that they were "moderately" or "extremely" satisfied with the appearance of their labia 6 months after surgery and the results were similar for labial function satisfaction ($n = 25$, 86.2%) and overall satisfaction ($n = 24$, 82.8%). The vast majority ($n = 25$, 86.2%) reported that their lives had changed "moderately" or "greatly" after surgery and the four main themes of how their lives were affected: "increased confidence", "increased comfort", "appearance relief", and "remaining concerns" are outlined in Table 2. Complications were nominated by 10 women (34.5%), which included infection ($n = 4$), pain/discomfort ($n = 4$), difficulties with stitch removal ($n = 3$), and wound breakdown/tearing ($n = 2$).

Table 2

Self-Reported Changes to the Lives of Participants after Undergoing Labiaplasty by Theme (n=27)^a

| Theme | Example | n (%) ^b |
|------------------------|---|--------------------|
| Increased confidence | | |
| Intimacy/Relationships | “I feel so much more confident - a lot sexier than before” “More comfort beginning new relationships” | 14 (48.3) |
| General | “I feel more confident in myself” “I now have a confidence I never had before” | 10 (34.5) |
| Increased comfort | | |
| Clothes/Exercise | “More comfortable when exercising/bike riding” “The pain and discomfort from riding and tight pants is now gone” | 8 (27.6) |
| General | “Improved comfort” | 4 (13.8) |
| Sexual intercourse | “I feel comfortable having sex now that my labia are not in the way” | 3 (10.3) |
| Appearance relief | “I no longer feel self-conscious about how it looks” “I can look at myself and not feel embarrassed to wear gym clothes” | 10 (34.5) |
| Remaining concerns | “I thought I would be able to have more [tissue] off but the surgeon said ‘no’” “I would have liked a tiny bit more [tissue] taken off and then I’d be 100% satisfied” | 6 (20.7) |

^aTwo participants did not provide an answer to this item. ^bPercentages do not sum to 100% because participants provided responses that were coded into multiple themes.

Comparisons on Standardised Measures

As seen in Table 3, there was a significant group x time effect observed on the GAS scale only. Women who underwent labiaplasty experienced a significant reduction in their dissatisfaction with their genital appearance from baseline to 6 month follow-up with large effect size, $t(26) = 13.74, p < .001, d = 3.26$. There was no significant change for the comparison group, $t(21) = 0.25, p = .807, d = 0.02$. For the intimate relationship quality and psychological well-being category measures, in terms of main effects, there were no significant main effects of time, however, there were two significant main effects of group. Firstly, for psychological distress, the labiaplasty group were significantly more distressed ($M = 1.8, SD = 0.5$) than the comparison group ($M = 1.5, SD = 0.4$), $F(1,45) = 4.07, p = .050, d = 0.63$. Secondly, for life satisfaction, the labiaplasty group was significantly less satisfied ($M = 23.3, SD = 5.8$) than the comparison group ($M = 27.4, SD = 5.3$), $F(1,46) = 5.36, p = .025, d = 0.74$.

Predictors of Satisfaction

Regression analyses were used to investigate whether satisfaction with labiaplasty was related to baseline characteristics (demographics, cosmetic surgery exposure, psychological well-being). As the three satisfaction items (labial appearance, labial function and overall satisfaction) were highly intercorrelated (all $r_s > .86, p < .001$), the mean score was calculated and labelled “overall total satisfaction”. The other outcome measure was the GAS scale score at follow-up. As seen in Table 4, of the demographic characteristics, romantic relationship status negatively predicted overall total satisfaction. Neither of the cosmetic surgery exposure variables were significant predictors. For the baseline psychological well-being variables, psychological distress negatively predicted overall total satisfaction and, correspondingly, positively predicted genital appearance dissatisfaction at follow-up.

Table 3

Group by Time Mixed ANOVA Results for the Labiaplasty (n = 29) and Comparison Groups (n = 22) from Baseline to 6-month Follow-up^a

| Measure | | Group | | Group x Time <i>p</i> -value |
|--|----|----------------------|----------------------|------------------------------|
| | | Labiaplasty | Comparison | |
| | | <i>M</i> ± <i>SD</i> | <i>M</i> ± <i>SD</i> | |
| Appearance satisfaction | | | | |
| GAS | B | 25.4 ± 4.9 | 6.6 ± 7.3 | < .001 |
| | FU | 6.6 ± 6.5 | 6.4 ± 7.3 | |
| Intimate relationship quality | | | | |
| Relationship satisfaction ^b | B | 30.2 ± 3.9 | 29.6 ± 4.5 | .796 |
| | FU | 29.8 ± 5.1 | 29.6 ± 4.9 | |
| Sexual confidence ^c | B | 28.2 ± 6.4 | 28.4 ± 5.9 | .157 |
| | FU | 31.2 ± 5.7 | 29.1 ± 5.5 | |
| Psychological well-being | | | | |
| Psychological distress | B | 1.8 ± 0.6 | 1.6 ± 0.5 | .314 |
| | FU | 1.8 ± 0.6 | 1.4 ± 0.4 | |
| Self-esteem | B | 20.9 ± 5.3 | 22.2 ± 4.4 | .787 |
| | FU | 20.5 ± 5.8 | 22.1 ± 4.4 | |
| Life satisfaction | B | 23.3 ± 6.5 | 27.1 ± 6.5 | .800 |
| | FU | 23.3 ± 6.4 | 27.6 ± 4.9 | |

Note. GAS = genital appearance satisfaction; B = baseline; F = follow-up.

^aBaseline romantic relationship status was controlled for as a covariate. ^b*n* = 12 for the labiaplasty group and *n* = 19 for the comparison group for this measure. ^c*n* = 23 for labiaplasty group and *n* = 19 for comparison group this measure.

Table 4

Regression Coefficient Estimates for Baseline Variables predicting Satisfaction with Labiaplasty at 6 month Follow-Up (n = 29)

| Variable | Overall Total Satisfaction <i>B</i> | Follow-Up-GAS <i>B</i> |
|--|--|---------------------------|
| Demographic characteristics | | |
| Age | .26 | -.21 |
| BMI | .00 | .03 |
| Ethnicity ^a | .15 | -.02 |
| Sexual orientation ^b | -.28 | -.10 |
| Lifetime sexual partner status ^c | -.10 | .23 |
| Romantic relationship status ^c | -.49* | .22 |
| Children ^c | -.12 | .02 |
| Education ^d | -.32 | .26 |
| Exposure to cosmetic surgery | | |
| Previously undergone cosmetic surgery ^c | .10 | -.25 |
| Know someone who had labiaplasty ^c | -.06 | .48 |
| Psychological well-being | | |
| Psychological distress | -.76** | .58* |
| Self-esteem | -.41 | .25 |
| Life satisfaction | .23 | -.12 |
| Total R^2 | .68** | .36 |

Note. GAS = genital appearance satisfaction; BMI = body mass index.

* $p < .05$, ** $p < .01$

^aCoding was 1 for white/caucasian and 2 for other; ^b1 for exclusively heterosexual and 2 for other; ^c1 for no and 2 for yes; ^d1 for highschool, 2 for trade/diploma/certificate, 3 for undergraduate, and 4 for postgraduate degree.

Discussion

As one of the first prospective controlled investigations of the outcomes of labiaplasty, our study results have provided some new insights. We showed that labiaplasty had a positive effect on women's genital appearance satisfaction but not more generally on their psychological well-being and intimate relationship quality. We also found that, irrespective of time, the women who underwent labiaplasty experienced higher psychological distress and lower overall life satisfaction relative to the comparison women. Furthermore, as the first study to investigate predictors of satisfaction with labiaplasty, we found that higher psychological distress and having a romantic partner preoperatively were related to lower satisfaction.

As previously reported (e.g., Alter, 2008; Ellsworth et al., 2010; Gonzalez et al., 2015; Goodman et al., 2010; Gress, 2013; Ostrzenski, 2014; Rouzier et al., 2000), the women in our sample were generally very satisfied with the aesthetic, functional and overall outcomes of their labiaplasty. The complication rate for our sample was higher than previously reported (Alter, 2008; Rouzier et al., 2000) but this might reflect that we collected all reported side effects which were nominated by the patients themselves. As identified in the open-ended responses for how labiaplasty had influenced their lives, just over 20% of the sample reported a desire to have more labial tissue removed, which corresponds to previous qualitative study findings (Sharp, Mattiske, & Vale, 2016). Some of the patients in this earlier study (Sharp, Mattiske, et al., 2016) expected to have all protruding labia minora tissue surgically removed and when this expectation could not be fulfilled, they were slightly less satisfied with the overall outcome, which was also the case in this study. These results potentially suggest, in order to decrease the likelihood of patient dissatisfaction, that it may be important to have discussions with patients preoperatively about the likely appearance of their labia after labiaplasty (Sharp, Mattiske, et al., 2016).

For the measures of intimate relationship quality (relationship satisfaction and sexual confidence) and psychological well-being (psychological distress, self-esteem and life satisfaction), the women who underwent labiaplasty did not experience any significant changes from baseline to the 6 month follow-up relative to the comparison group. These findings were similar to the long-term follow-up results of the two previous prospective studies (Goodman et al., 2011; Veale, Naismith, et al., 2014) and were in contrast to retrospective reports (Alter, 2008; Goodman et al., 2010; Gress, 2013; Ostrzenski, 2014; Triana & Robledo, 2012). The earlier prospective studies found small improvements in sexual functioning (Goodman et al., 2011; Veale, Naismith, et al., 2014) and anxiety symptoms (Veale, Naismith, et al., 2014) when women were examined at shorter follow-up time points (i.e., 1-3 months) which was not examined in the present study.

However, Goodman et al. (2011) suggested that the short-term improvements reported by patients may have been impacted by cognitive dissonance. That is, patients who have experienced the pain, inconvenience and financial cost of surgery, as well as potentially having a pre-surgery belief that surgery will be beneficial for their sex lives, may judge the outcome more favourably to avoid the psychological discomfort that would arise if they believed surgery had been unsuccessful (Homer, Sheard, & Jones, 2000). The effects of cognitive dissonance have been shown to diminish over time as memories of preoperative expectations, and the pain and cost of surgery become more distant (Homer et al., 2000). Therefore, like the longer-term follow-up results in the two previous prospective studies (Goodman et al., 2011; Veale, Naismith, et al., 2014), it may have been the case that cognitive dissonance had less of an effect on our participants' responses by 6 months post-surgery and thus the lack of significant findings. In addition, intimate relationship quality and psychological well-being are broad psychological

constructs which are influenced by a number of different factors. As a result, they may not be enhanced by a physical change to the appearance of the labia minora, and this is also the case for other types of cosmetic surgery (Murphy, Beckstrand, & Sarwer, 2009; Sarwer et al., 2008).

Like Veale, Naismith, et al.'s (2014) prospective study, the only significant change experienced by the labiaplasty group in this study at the 6 month follow-up was a reduction in their genital appearance dissatisfaction, as measured by the GAS scale. The GAS scale items examine not only dissatisfaction with genital appearance, but also the impact of genital appearance dissatisfaction on sex lives and on daily living (including physical discomfort) (Bramwell & Morland, 2009; Veale et al., 2013). When the women in our study were asked to outline in open-ended responses how they thought their lives had changed after undergoing labiaplasty, the themes identified (i.e., relief with genital appearance, improved confidence with intimate relationships, and increased physical comfort with activities) corresponded closely with the GAS scale items. Therefore, it is not unexpected that the labiaplasty group's responses only significantly changed over time on the GAS scale.

In our examination of the predictors of satisfaction with labiaplasty outcomes, only a few of the baseline patient characteristics were significant predictors. Greater psychological distress (particularly anxiety and depression) and having a romantic partner preoperatively had a negative impact on satisfaction with outcomes. A possible explanation for this finding may be that these women had unrealistic expectations of how labiaplasty might lessen their psychological distress or how labiaplasty might improve their relationship with their partner. Alternatively, their baseline psychological profile may have been associated with a more negative evaluation style in general (von Soest, Kvalem, Skolleborg, & Roald, 2011). Indeed, from the significant main effects of group found in this study, it was evident that the labiaplasty group in general

experienced greater psychological distress and lower overall life satisfaction than the comparison group. Our study is the first to examine predictors of satisfaction with labiaplasty, but our results correspond to those by von Soest et al. (2011) where poorer mental health at baseline predicted lower satisfaction with surgical outcomes after 5 years in cosmetic surgery patients. Our identification of baseline psychological distress and relationship status as negative predictors of satisfaction potentially suggests the importance of assessing mental and sexual health history and discussing expectations for outcomes in these areas when medical professionals evaluate eligibility for labiaplasty.

Limitations and Future Directions

As with any study, our results should be viewed with some limitations in mind. Like the two previous prospective studies (Goodman et al., 2011; Veale, Naismith, et al., 2014), the sample sizes of our groups were relatively small, particularly for our investigation of the effects of labiaplasty on intimate relationship quality as not all women were involved in relationships and therefore did not complete the measures. Thus, we did not have sufficient statistical power to detect smaller effects sizes. Our attrition rates (labiaplasty: 17.1% and comparison: 26.7%) were, however, considerably lower than the previous studies. In addition, our sample of labiaplasty patients were sourced only from private clinics in Australia, and so may not be representative of labiaplasty patients in other parts of the world.

Finally, there is a lack of specific measures to assess the psychosocial outcomes of labiaplasty. Future research should investigate the development of a multi-factorial outcome measure that examines satisfaction and quality of life issues important to labiaplasty patients, such as confidence to enter into intimate relationships. Such a measure has already been developed for other surgery types including breast surgery, called the BREAST-Q (Pusic et al.,

2009). In addition to the development of more specific measures, as we have started to identify some of the factors associated with lower satisfaction with labiaplasty outcomes, such as psychological distress, non-surgical forms of treatment to address genital appearance concerns could be considered. A form of psychological therapy called cognitive behavioural therapy has been shown to be an effective treatment for body image concerns and BDD (Veale, 1996) and could potentially provide a useful platform to develop a treatment specifically addressing genital appearance concerns.

Conclusion

As one of the first prospective controlled studies to examine the psychological outcomes of labiaplasty, our results provide new insights into the effects of labiaplasty on women's lives as well as provide a platform for future research. We found that labiaplasty significantly improved women's satisfaction with their genital appearance. However, no effect was found for general psychological well-being or intimate relationship quality. We recommend the development of more specific outcome measures to assess quality of life issues important for labiaplasty patients. We also found that higher levels of psychological distress and having a romantic partner preoperatively were related to lower levels of satisfaction with surgery. Our study findings will potentially assist medical professionals when assessing patient suitability for labiaplasty.

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CHAPTER 6: Study 5 - Motivations, Expectations, and Experiences of Labiaplasty

Motivations, Expectations, and Experiences of Labiaplasty:

A Qualitative Study

Gemma Sharp, Julie Mattiske, and Kirsten I. Vale

School of Psychology, Flinders University, South Australia

Corresponding author: Gemma Sharp, School of Psychology, Flinders University, GPO Box 2100, Adelaide 5001, South Australia, Australia. Email: gemma.sharp@flinders.edu.au

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Abstract

Background: The demand for labiaplasty has increased rapidly over recent years; however, very little is known about the experiences women have undergoing this surgery or the subsequent effects it has on their well-being.

Objective: To explore women's reasons for undergoing labiaplasty, their expectations, and pre and postoperative experiences.

Methods: One-to-one semi-structured interviews were conducted with 14 adult women who had undergone a labiaplasty procedure. The women were asked about their reasons for having labiaplasty, the processes of accessing and undergoing surgery, and how various aspects of their lives were influenced after having surgery. The interviews were audio-recorded then transcribed verbatim. The interview transcripts were analysed using thematic analysis owing to the exploratory nature of the study.

Results: Themes reflecting "media influence", "negative commentary", "physical versus appearance reasons", "satisfaction with surgery", and "sexual well-being" emerged from the analyses. Online media representations of labial appearance, and negative past experiences, primarily sexual in nature, contributed to women's concerns about their labial appearance. Issues of physical discomfort were also common and were sometimes emphasised to potentially legitimise women's requests for surgery. Most women were generally very satisfied with their surgical results, although some noted that their labia were not as small and/or symmetrical as they had expected. Most women reported significant improvements in their sexual well-being after surgery, however, some noted that their emotional discomfort around sexual intercourse had not improved.

Conclusions: These new insights into why women seek labiaplasty, their experiences and outcomes may assist clinicians in enhancing their communication with prospective patients.

A growing number of women are choosing to undergo female genital cosmetic surgery (American Society for Aesthetic Plastic Surgery, 2014) and the most popular of these procedures is labiaplasty (Crouch, Deans, Michala, Liao, & Creighton, 2011). Labiaplasty is performed primarily for aesthetic reasons (e.g., Crouch et al., 2011; Miklos & Moore, 2008; Rouzier, Louis-Sylvestre, Paniel, & Haddad, 2000; Veale, Eshkevari, et al., 2014a) and is often advertised as a procedure which improves women's physical, psychological, and sexual well-being (Liao, Taghinejadi, & Creighton, 2012; Rogers, 2014). Indeed, the research thus far suggests that patients are generally very satisfied with the results of their labiaplasty (Goodman et al., 2010; Oranges, Sisti, & Sisti, 2015; Veale, Naismith, et al., 2014), however, these satisfaction ratings were usually obtained via short non-standardised outcome measures (Oranges et al., 2015).

To date, there have only been two prospective studies using validated outcome measures in labiaplasty patients (Goodman, Faschler, Miklos, Moore, & Brotto, 2011; Veale, Naismith, et al., 2014). The first study found in their sample of women undergoing vulvovaginal aesthetic surgery (which included labiaplasty) that although there was an initial increase in women's sexual functioning 1 month after surgery, this was not maintained 6-9 months postoperatively (Goodman et al., 2011). Moreover, there were no significant effects on women's psychological functioning immediately after surgery or at 6-9 months (Goodman et al., 2011). The second study, comparing labiaplasty patients with a matched comparison group, similarly found that there were no long term improvements in the labiaplasty patients' sexual functioning, measured between 11 and 42 months after surgery (Veale, Naismith, et al., 2014). However, these women experienced a sustained and significant improvement in their satisfaction with their genital appearance (Veale, Naismith, et al., 2014). Nevertheless, such quantitative questionnaire studies are somewhat limited in their capacity to provide an in-depth understanding of women's

motivations for labiaplasty and the influence the procedure has on their lives postoperatively.

To our knowledge, there has been only one qualitative exploration of the reasons why women have labiaplasty, their experiences and expectations (Bramwell, Morland, & Garden, 2007). Bramwell et al. (2007) interviewed six women about their experience undergoing labiaplasty and described three overarching themes: “normality and defect”, “the process of accessing surgery” and “sex lives”. All women interviewed reported that they perceived their genital appearance to be “abnormal” prior to surgery and that they were seeking a “normal” genital appearance through labiaplasty. The women also reported receiving potentially confusing messages about the normality of their genital appearance and the necessity of surgery when consulting with medical professionals. Furthermore, there was a tendency for some women to emphasise their physical symptoms (e.g., irritation in clothing) when requesting labiaplasty, potentially to legitimise their requests. Finally, all of the sexually active women reported that their abnormal genital appearance negatively impacted their sexual relationships (Bramwell et al., 2007). However, in contrast to the trends reported in quantitative studies (e.g., Alter, 2008; Goodman et al., 2010), having a labiaplasty did not necessarily improve the quality of their sex lives (Bramwell et al., 2007).

Although Bramwell et al.’s (2007) study provided a very useful initial platform for research, it was somewhat limited in its scope, in particular, the influence of the media did not feature prominently in their theme description. A number of studies have highlighted the influence of media representations of female genitals, particularly pornography and cosmetic genital surgery advertisements, in the increased demand for labiaplasty (e.g., Koning, Zeijlmans, Bouman, & van der Lei, 2009; Liao et al., 2012; Placik & Arkins, 2014; Sharp, Tiggemann, & Mattiske, 2015). However, as highlighted in a recent review (Mowat, McDonald, Dobson,

Fisher, & Kirkman, 2015), our understanding of how women are using and interpreting these images and media content is still lacking. Along with media influences, studies have found that peer commentary about genital appearance is also an influential factor for women's consideration of labiaplasty (Sharp et al., 2015). In a study of the factors associated with women's requests for labiaplasty, over a third of women seeking surgery had received negative comments about the appearance of their labia, predominantly from former sexual partners, compared to only 5 percent of women not seeking labiaplasty (Veale, Eshkevari, et al., 2014b). However, women's interpretations of these negative experiences and the impact of these experiences on women's sexual relationships and their decision to undergo labiaplasty are yet to be explored.

In sum, it is clear that thorough evaluations of the reasons why women have labiaplasty and their experiences thereafter may benefit the labiaplasty field of research. Thus, in this study, a qualitative approach has been adopted involving in-depth interviews with women who have had a labiaplasty. The aim of the study was to examine women's reasons for undergoing labiaplasty, with a particular focus on the influence of media, peers, and intimate relationships. Furthermore, we sought to investigate women's experiences with medical professionals when seeking surgery. Finally, we aimed to explore women's assessment of their surgical result and any postoperative effects on their intimate relationships and psychological well-being.

Method

Participants

Participants were 14 adult women living in Australia who had undergone surgical reduction of their labia minora (labiaplasty) during the period of January 2014 through to April 2015. One participant had undergone a labiaplasty operation previously and had sought a

revision. Four of the participants (29%) claimed Medicare (i.e., Australia's national health service) entitlements for their procedure. The interviews were conducted during the period of May to November 2015 when the participants were between 5 and 16 months postoperative ($M = 10.4$, $SD = 4.0$). The 14 participants were recruited from a pool of 30 women (response rate: 46.7%) who had previously participated in the authors' labiaplasty questionnaire research and had indicated interest in further research. Seven (50.0%) of the participants had previously been involved in a study disseminated from private cosmetic and gynaecology clinics throughout Australia. The other 7 (50.0%) were involved in a study that was advertised online on Australian cosmetic surgery and women's health forums. Any adult woman who was aged at least 18 years and was proficient in English was eligible to participate in any of this research. Table 1 shows participant demographic information.

Table 1

Participant Demographic Information (n = 14)

| Demographic Variable | <i>n</i> (%) |
|--|--------------|
| Age in years, Mean (<i>SD</i>) | 38.4 (11.9) |
| Range | 23-59 |
| BMI, Mean (<i>SD</i>) | 21.5 (3.3) |
| Range | 17.3-28.4 |
| Ethnicity | |
| Caucasian/White | 14 (100.0) |
| Sexual orientation | |
| Exclusively heterosexual | 10 (71.4) |
| Predominantly heterosexual | 3 (21.4) |
| Predominantly heterosexual but more than incidentally homosexual | 1 (7.1) |
| Sexual partner(s) before labiaplasty | |
| Yes | 14 (100.0) |
| Current romantic relationship | |
| Yes | 12 (85.7) |
| No | 2 (14.3) |
| Children | |
| Yes | 8 (57.1) |
| No | 6 (42.9) |
| Education | |
| Secondary school | 3 (21.4) |
| Trade/Certificate/Diploma | 4 (28.6) |
| Undergraduate degree | 1 (7.1) |
| Postgraduate degree | 6 (42.9) |

Note. BMI= body mass index (weight kg/height m²)

Procedure

Ethics approval for the study was obtained from the Flinders University Social and Behavioural Research Ethics Committee (Adelaide, Australia). Women who had previously participated in the authors' research and indicated interest in participation in other studies were sent an invitation via email or post to participate in a one-on-one phone interview with the first author (G.S.) to discuss their labiaplasty experience. Women who were interested in participating provided informed consent via the return of a written consent form. The phone interviews were between 20 and 45 minutes in duration ($M = 30.0$, $SD = 10.0$), and participants were provided with a store voucher for 25 Australian dollars for their participation.

Interviews

Semi-structured interviews were employed in this study. Semi-structured interviews consist of a set of key questions to define the topics to be explored, however, there is also the flexibility for interviewees to briefly diverge from the key questions to explore issues of particular relevance to them (Gill, Stewart, Treasure, & Chadwick, 2008). The first author (G.S.) began the interviews with confirmation, where needed, of the demographic details obtained from the previous research. The next section of questions involved the exploration of sociocultural influences (media, peers, and intimate relationship quality) on the participant's decision to have a labiaplasty. If unclear from this discussion, the participant was asked to describe the development of her genital appearance concerns and clarify her reasons for requesting a labiaplasty. Participants were then asked about the process of accessing surgery, including discussions they had with medical professionals when describing their concerns about their labia. The final section of the interview involved exploring the participant's satisfaction with the surgical outcomes and any effects labiaplasty had on their lives including in their intimate

relationships and psychological well-being. This same framework was used in all interviews. However, if new information was introduced by the participant, this was explored as it may have contributed to relevant themes beyond the scope of the interview questions.

Data Analysis

All phone interviews were audio recorded and transcribed verbatim. As the purpose of the research was more exploratory, the interview transcriptions were analysed using thematic analysis as outlined by Braun and Clarke (2006). The first stage of analysis was to aggregate individual interview data into a contextual database. The second stage was to code the material where concepts were generated and sort into recurring themes of interest. Categories were added such that they were as inclusive as possible to capture all the nuances in the data. The coding and theme generation was conducted by the first author (G.S.) in consultation with the second and third authors (J.M. and K.I.V.). The final categories were agreed upon by all authors.

Results

Overall, the data from the 14 participants, aged 23 to 59 years ($M = 38.4$, $SD = 11.9$), reflected a number of categories that encapsulated women's motivations, experiences and outcomes of labiaplasty. The following themes emerged from the thematic analysis: "media influence", "negative commentary and experiences", "physical versus appearance reasons", "satisfaction with surgery", and "sexual well-being".

Media Influence

This theme related to the influence of the media as a source of information about labiaplasty and labial appearance. The vast majority of women ($n = 11$, 78.6%) reported first hearing about the topic of labiaplasty in the media, most often a television show. Almost all

participants ($n = 13$, 92.9%) discussed the importance of thoroughly researching the topic of labiaplasty using the internet before deciding to undergo surgery.

“I just typed labiaplasty into Google and then the links I would hit on would be surgeons’ websites, plastic surgeons, I think there were a couple of sort of plastic surgery message boards that I was sort of trolling through for a little while there as well just to get other people’s experiences.” (Participant 7, aged 31, 9 months postoperative)

Almost all participants ($n = 11$, 78.6%) had been exposed to some kind of pornography in their lifetime. However, only two women (14.3%) explicitly linked their request for labiaplasty with a desire for their genitals to resemble those of porn actresses.

“My goal for surgery was to have it tidy and nice...so it looked like the porno.”
(Participant 11, aged 24, 8 months postoperative)

Four women (28.6%) articulated that the reason they did not compare their own labial appearance to female porn actresses was an awareness that the genital representations in pornography were sometimes unrealistic.

“I know that they’re not real and I know that they’re air-brushed as well.” (Participant 2, aged 43, 8 months postoperative)

Instead, it appeared that the majority of participants ($n = 10$, 71.4%) tended to compare their own labial appearance with images they considered to be more valid representations. This was primarily the “before” labiaplasty photographs on surgeons’ websites.

“I’d seen a lot on the internet like lots of “before” ones [photos]... I thought, oh my god, all these women are getting it done [labiaplasty]. Mine was still worse than theirs.”
(Participant 12, aged 46, 10 months postoperative)

Negative Commentary and Experiences

This theme reflected a cognitive bias towards information and experiences which confirmed that women's preoperative labial appearance was unacceptable, and their subsequent dismissal of any competing evidence. The vast majority of participants ($n = 10$, 71.4%) could recall at least one negative experience which linked to the development of their distress surrounding their labial appearance. These were predominantly negative comments received from former sexual partners.

“He just sort of grabbed me down there and said, ‘what’s this?’ ... And I was just so humiliated!” (Participant 4, aged 59, 16 months postoperative)

However, these negative comments and experiences also involved discussions with friends, family members, and medical professionals for some participants.

“I mean when I wore bathers or when I wore leggings and things like that, if you knew to look, you could see it like I’d ask my friends, I’d ask my mum and they’d say, ‘yeah maybe you don’t want to wear that!’ And of course that brought my confidence level down even more.” (Participant 6, aged 36, 7 months postoperative)

“There was once when I had a Pap smear done after the birth of my second child, where I did notice that the GP [general practitioner] gave an unusual expression on her face.”

(Participant 3, aged 35, 16 months postoperative)

In contrast, half of the participants ($n = 7$, 50.0%) reported that they had received reassurance or even positive comments about their labial appearance.

“His [my former partner’s] quote was ‘I love your flaps!’” (Participant 2, aged 43, 8 months postoperative)

However, as exemplified by Participant 2, she dismissed the reassurance she received about her labial appearance as her aesthetic concerns were already firmly established.

“I still could not believe him...these are so unlovable...If I’d stayed with that guy, I probably actually wouldn’t have done it [labiaplasty], but I did have that base level of unhappiness anyway with them.” (Participant 2, aged 43, 8 months postoperative)

Furthermore, the vast majority of participants ($n = 12$, 85.7%) had received feedback or were already aware that their labia were within normal size ranges before surgery. However, this knowledge did not reassure them about the appearance of their own labia.

“I know they come in all shapes and sizes but I suppose it’s just a case of how I felt personally about my own.” (Participant 10, aged 42, 5 months postoperative)

Physical versus Appearance Reasons

This theme related to the perception that physical or functional difficulties were more legitimate reasons to undergo labiaplasty than aesthetic concerns. The vast majority of participants ($n = 11$, 78.6%) reported a mixture of both physical and appearance reasons for requesting labiaplasty. However, physical concerns were usually framed as the primary reason for surgery and appearance concerns were secondary.

“It was just so uncomfortable for horse riding, I just decided to get something done about it...But if I was going to be like really honest I suppose things just didn’t look the same anymore either, once you’ve been through menopause, it just didn’t look very nice either.” (Participant 14, aged 54, 16 months postoperative)

Some women ($n = 5$, 35.7%), who reported that their primary reason for labiaplasty was to alleviate physical discomfort, were somewhat critical of the need for labiaplasty for purely cosmetic reasons.

“Then there are people who would do it purely for cosmetic and in that instance, the pain I went through and that was only one side. I really don’t see any reason for it.”

Participant 5, aged 25, 6 months postoperative)

There were only three women (21.4%) in the sample who indicated that their labiaplasty was for purely cosmetic reasons. However, as exemplified by Participant 9, there was an awareness that their labiaplasty request might be viewed as superficial and thus less legitimate and so she labelled herself as “vain”.

“I didn’t have any physical problems...I think I’m very vain in a way. I don’t like imperfections.” (Participant 9, aged 23, 8 months postoperative)

For the women who reported a mixture of physical and appearance reasons, the desire for their surgery not to appear cosmetically driven influenced some women to omit their appearance concerns entirely in discussions with clinicians, particularly their general practitioner.

“I just mentioned the medical reason so I just said they rub which was true but it was probably more for body image issues.” (Participant 2, aged 43, 8 months postoperative)

“I just explained for me that it was the discomfort while [horse] riding. And I really didn’t go into the fact that...you know, the appearance or anything.” (Participant 14, aged 54, 16 months postoperative)

Satisfaction with Surgery

This theme was related to women’s satisfaction with their surgery. All women reported that they were generally satisfied with the improvements in the appearance and physical function of their labia, and only minor complications (e.g., infection) were reported by four women (28.6%).

“I love it! I couldn’t be happier!” (Participant 11, aged 24, 8 months postoperative)

“I’m really happy with the results that I got. Half the time I forget that I had it done and half the time or so I wonder why the hell I didn’t do it sooner. (Participant 7, aged 31, 9 months postoperative)

Most women ($n = 9$, 64.3%) reported that owing to the alleviation of their concerns about their labia through surgery, their overall self-perception had improved.

“I think the biggest change was probably my confidence and self-esteem. I was just so happy...I’d never have to think about having a problem with my labia again. So this made me feel really good.” (Participant 9, aged 23, 8 months postoperative)

However, over half the women ($n = 8$, 57.1%) reported that their postoperative labial appearance did not quite meet their expectations. More specifically, there was a sense that their genital appearance was still not “perfect”, which they seemed to define as labia that were completely symmetrical with no protruding labial tissue. When these women did not achieve this ideal genital appearance after surgery, they were slightly less satisfied with the surgery outcomes.

“Oh I’m quite happy! Yep quite happy. I mean it didn’t turn out absolutely perfect like I’m not completely symmetrical.” (Participant 4, aged 59, 16 months postoperative)

“I’m glad I’ve had it done but I thought that I would have more of a level crotch area.” (Participant 1, aged 49, 8 months postoperative)

Nevertheless, none of the women reported that they were willing to go through surgery again to alter their labial appearance further. Thus, there appeared to be a level of acceptance with their improved but still slightly “imperfect” labia.

“I did mention it [the asymmetry] when I went back to the specialist and he said, ‘do you want me to correct it?’ But...I just didn’t want to go through it [surgery] again.” (Participant 4, aged 59, 16 months postoperative)

Sexual Well-being

This theme included concerns about sexual well-being and relationships prior to surgery and the impact labiaplasty had on these areas. As seen in Table 1, all of the women in our sample had had at least one sexual partner in their lifetime prior to surgery, and almost all were involved in a romantic relationship when they were interviewed. The vast majority ($n = 12$, 85.7%) mentioned that their concerns with their labia had impacted negatively on their sex lives prior to surgery. The women referred to anxiety about their partners seeing or touching their labia, particularly during oral sex, and also anxiety about starting new sexual relationships.

“When he [partner] would go down on me [oral sex]...I guess there was that sort of reaction of this [labia] is different or weird or that sort of thing...it was just like, well you know what, we’re just not going do that [oral sex] anymore. Because I felt too conscious about it.” (Participant 5, aged 25, 6 months postoperative)

“I do also think that because I’ve had large labia, I haven’t slept around whereas otherwise I may have.” (Participant 2, aged 43, 8 months postoperative)

Almost all of the 12 women who had experienced sexual difficulties ($n = 10$, 83.3%) reported a reduction in their anxieties around sexual intercourse after their labial reduction.

“I feel a lot more comfortable having sex now because I think I used to be a bit ashamed or like tend to protect myself even though I’m very comfortable with him – we’ve been together for a long time now. But I guess I feel more free now.” (Participant 8, aged 24, 13 months postoperative)

However, there were four women out of the 12 (33.3%) who commented that at least some of their difficulties with sexual intercourse and relationships were psychological in origin and were not alleviated through a labial reduction.

“I still do find it hard to relax [during oral sex]. I’ve got years of issues in my brain about it...That’s something that doesn’t just go away with a new vagina.” (Participant 10, aged 42, 5 months postoperative)

Discussion

As one of the first in-depth qualitative explorations, our study showed that there were a number of important themes which describe women’s experience of undergoing labial reduction surgery and these were; media influence, negative commentary and experiences, physical versus appearance reasons, satisfaction with surgery, and sexual well-being. Although discussion of the themes of physical versus appearance reasons and sexual well-being have been included in previous qualitative research (Bramwell et al., 2007), our study was the first in-depth qualitative exploration of how women use online media content, in particular, surgeons’ websites and cosmetic surgery forums, when considering labiaplasty. Furthermore, we are also the first to show that women who undergo labiaplasty may have a cognitive bias towards negative comments and experiences which confirm that their labial appearance is unacceptable and disregard any reassuring comments. Finally, we have also provided further insights into women’s satisfaction with the appearance of their labia after surgery. More specifically, although women are generally very satisfied with the improvement in appearance, some women feel their labia are still not “perfect”.

In accordance with previous studies suggesting that the media is the driving force behind the growing demand for labiaplasty (e.g., Bramwell, 2002; Koning et al., 2009; Placik & Arkins, 2014; Sharp et al., 2015), and a very recent study reporting the importance of internet images on women’s decisions to undergo labiaplasty (Sharp, Tiggemann, & Mattiske, 2016), almost all of the women interviewed in our study reported using the internet as their main source of

information about labiaplasty. Specifically, they relied heavily upon the content of surgeons' websites and other women's accounts of their labiaplasty experience on cosmetic surgery forums. Contrary to previous research in community samples (Sharp et al., 2015), very few of the women explicitly linked their exposure to pornography with their desire for labial reduction surgery. This may have been a desire to distance their choice for surgery from pornography given the stigma surrounding pornography use, particularly for women (Goldey & van Anders, 2015). Furthermore, the predominantly smooth and hairless female genitals shown in pornography (McDougall, 2013) may still have provided these women with their first exposure to the genital ideal and may have potentially prompted their genital appearance concerns. Nevertheless, some of the women expressed that they did not consider pornography to be a reliable source of information owing to their awareness of the digital alteration of the labia in some pornographic images and the fact that porn actresses may themselves have already had a labiaplasty (Green, 2005; McDougall, 2013; Sharp & Tiggemann, 2016).

Instead, the women interviewed tended to compare their labial appearance to images they considered to be more valid, namely the "before" labiaplasty photographs on surgeons' websites. A review of online advertisements for female genital cosmetic surgery found that the "before" photographs, although depicting larger labia, were still within normal size ranges (Liao et al., 2012). Liao et al. (2012) also found that negative connotations for larger labia were implied on these websites such as "ugliness", "odour", and "irritation". Therefore, if a woman has similar or larger sized labia than the normal sized labia shown in "before" photographs, her concerns about her genital appearance are likely to be reinforced. The "after" labiaplasty photographs generally show a "homogenised vulval appearance" with minimal or no protruding labia minora, thus perpetuating the genital ideal (Liao et al., 2012; Moran & Lee, 2013). The juxtaposition of the

“before” and “after” images also serve to normalise labiaplasty as a solution to concerns around larger labia (Moran & Lee, 2013).

In addition to the influence of the media, and in keeping with the findings by Veale, Eshkevari, et al. (2014b), a high percentage of the women here could recall a negative experience, which usually involved a former sexual partner. Some of the comments recounted could be considered to be objectively insulting, while others may have been misinterpretations of the comments and/or behaviours (Veale, Eshkevari, et al., 2014b). On the other hand, some women reported receiving feedback that their preoperative labial appearance was acceptable, often from their current sexual partner. However, some women appeared to disregard affirmations and selectively attend to experiences which confirmed that their labial appearance was unacceptable. These negative interpretations about their labial appearance seemed to lead to emotional distress and subsequent avoidance behaviors (Veale, Eshkevari, et al., 2014a) such as not wearing tight clothing and/or swimming costumes, avoiding medical investigations such as Pap smears etc. It is thought that these avoidance behaviours maintain these negative appearance interpretations through negative reinforcement as these behaviours help to reduce distressing emotions in the short-term (Fang & Wilhelm, 2015). However, in the long term, these behaviours maintain the negative appearance interpretations as the individual never has the opportunity to learn that these situations could be managed if she had not avoided them (Fang & Wilhelm, 2015). With an understanding of this negative interpretation bias, it is clear why recommendations for the education of prospective labiaplasty patients by their clinicians about normal genital appearance diversity (e.g., Harding, Hayes, Simonis, & Temple-Smith, 2015), which seeks to reassure patients, may not necessarily lessen their desire for surgery. In order to address this negative interpretation bias, psychological interventions such as cognitive

restructuring (Fang & Wilhelm, 2015; Neziroglu, Khemlani-Patel, & Veale, 2008; Veale & Neziroglu, 2010) could be considered.

Another theme which emerged surrounded women's justifications for undergoing labiaplasty. The controversy surrounding the necessity of labiaplasty has received considerable attention within the medical and scientific community, and in the popular media.(Hamori, 2014) The women involved in this study were seemingly aware of this controversy and appeared to make a considerable effort when articulating their reasons for having a labiaplasty. As reported in several other studies (Crouch et al., 2011; Miklos & Moore, 2008; Rouzier et al., 2000; Sharp et al., 2016; Veale, Eshkevari, et al., 2014a) almost all of the women interviewed reported a combination of physical and aesthetic concerns with their labia. However, unlike these other studies where appearance concerns were the primary motivator for labiaplasty, most of the women in this study reported that physical discomfort was more distressing than their aesthetic concerns. As suggested by Gimlin (2000) in her interview study of cosmetic surgery patients, the women may have been aware that their decision to undergo labiaplasty may be viewed by others as superficial or shallow and so aesthetic concerns were minimised. Similar to the findings of Bramwell et al. (2007) the emphasis of physical symptoms over appearance concerns was also noted for some of the women when they described their concerns to their clinicians. This could have been to legitimise their request for labiaplasty in front of clinicians whom they may have viewed as "gatekeepers" (Bramwell et al., 2007). This is particularly relevant for women seeking referrals for labiaplasty from their general practitioner and accessing surgery through a public health system (Bramwell et al., 2007; Harding et al., 2015).

As found in other labiaplasty outcome studies (e.g., Goodman et al., 2010; Oranges et al., 2015) the women interviewed in this study generally expressed high levels of satisfaction with

both the appearance and function of their labia after surgery. Furthermore, this improvement in their perceptions of their genitals appeared to translate to improved confidence and self-esteem in general, consistent with qualitative studies investigating other types of cosmetic surgery (Klassen, Cano, Scott, Johnson, & Pusic, 2012; Klassen, Pusic, Scott, Klok, & Cano, 2009). Nevertheless, over half of the women interviewed qualified that although they were satisfied with the improvement in their genital appearance, it was not “perfect” as they had hoped. From the descriptions provided, it appeared as though these women expected their labia to conform to the genital ideal like the “after” labiaplasty photographs they had viewed on surgeons’ websites. However, the desire for perfection was not sufficient for any of the women to report considering a revision. Although we did not specifically address BDD in our interviews or previous questionnaire research with these participants, Veale, Eshekevari, et al. (2014a) reported that 18% of women seeking labiaplasty in their study met criteria for BDD. It is important for clinicians to screen for symptoms of BDD when women request labiaplasty (Oranges et al., 2015) as the vast majority of individuals with BDD report no change or a worsening of their symptoms after cosmetic treatments (Crerand, Infield, & Sarwer, 2007; Crerand, Phillips, Menard, & Fay, 2005). In general, in order to decrease the likelihood of patient dissatisfaction, it may be important for clinicians and patients to discuss the likely appearance of their genitals after surgery. Patients may desire complete amputation of the labia minora in order to resemble the genital ideal, however, as stated by Lista, Mistry, Singh, and Ahmad (2015) conservative excision is recommended in order to prevent over-reduction which is difficult to correct.

As found by Bramwell et al. (2007) the theme of sexual well-being was an important issue for almost all of the women interviewed. They reported that their genital appearance made them self-conscious, particularly with regards to oral sex. Furthermore, their concerns around

their genital appearance made them hesitant when entering new intimate relationships. For the most part, the women found that their sexual and relationship concerns were alleviated after having a labiaplasty. This result is consistent with previous research reporting that genital appearance dissatisfaction is associated with greater genital image self-consciousness during physical intimacy, which, in turn, impacts negatively on sexual esteem and sexual satisfaction (Schick, Calabrese, Rima, & Zucker, 2010). Therefore, with the improvement in their satisfaction with their genital appearance, most women were able to feel more comfortable and confident in their sexual relationships. However, over a quarter of the women indicated that their psychological concerns around sex did not improve with the physical changes made to their labia minora. It will be important for clinicians to comprehensively assess women's concerns around their sexual relationships when they request labiaplasty to determine whether psychosexual counselling (Bramwell et al., 2007) might be a more beneficial option to address these concerns.

As with all studies there are limitations to this study which must be acknowledged. As this study was retrospective, it required participants to recall their experiences and, for some participants, their labiaplasty procedure was performed well over a year prior to the interview. It is likely that there were other experiences in their lives besides labiaplasty which influenced their relationship satisfaction and psychological well-being which were not explored in the interviews. Another limitation was that the sample size was relatively small and participants had already been involved in the authors' labiaplasty questionnaire research before this study. Therefore, the participants who agreed to this further phone interview study may have had a particularly strong interest in the topic of labiaplasty. Furthermore, out of the 30 women invited to participate in this interview study, the 14 (46.7%) who agreed may have been more comfortable and forthcoming in their discussion of sensitive topics such as sexual intercourse in an interview setting than the

women who did not participate. A further limitation was that none of the women interviewed reported strong feelings of dissatisfaction with the results of their labiaplasty. Although the reports to date indicate that the vast majority of women are satisfied with their surgery (e.g., Goodman et al., 2010; Oranges et al., 2015; Veale, Naismith, et al., 2014) it would be beneficial to gain an understanding of the experiences of women for whom this surgery was not helpful. This study was also limited by the fact that all of the participants reported having at least one sexual partner before their labiaplasty. Crouch et al. (2011) reported that over 60% of the 33 women requesting labiaplasty in their study had never been sexually active, and so it would be useful to explore how these individuals predict their labial appearance/function might impact their future sex lives and if they are delaying sexual activity as a result. This may involve interviewing a younger sample of individuals as the average age of the present sample was 38 years, with the youngest participant at 23 years.

Conclusions

As one of the first qualitative studies involving labiaplasty patients, we have provided new insights into their motivations, expectations and experiences of surgery, thus providing a platform for future studies. The findings suggest that online media and negative peer commentary play an important role in women's decisions to undergo labiaplasty. Women are also generally very satisfied with the results of their labiaplasty and this usually translates to improvements in their psychological and sexual well-being. However, women's expectations are not always fulfilled, particularly concerning the effects on their sexual relationships. The results presented here will potentially allow clinicians to communicate more effectively with women who are seeking labiaplasty. A thorough understanding of the motivations and expectations of

prospective labiaplasty patients will facilitate better decision making by the patient and increase the likelihood of the patient's satisfaction with the outcome.

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CHAPTER 7: General Discussion

Chapter Overview

As outlined in Chapter 1, the thesis aimed to examine the psychological predictors and outcomes of labiaplasty. This was addressed in five studies that utilised correlational, experimental, longitudinal, and qualitative research designs. This final chapter begins with a short summary of the findings and seeks to integrate the findings of the five studies and provides a discussion of the theoretical and practical implications.

Summary of Findings

Study 1 examined the predictors of consideration of labiaplasty using a sociocultural framework. Four classes of predictors were examined, namely, media exposure, peer influence, intimate relationship quality, and pubic hair removal. The results showed that media exposure, peer influence, and relationship quality influenced consideration both directly and indirectly through the sociocultural mediators of internalisation of the genital ideal and genital appearance comparison. In contrast, pubic hair removal was not a significant predictor but was itself predicted by media exposure. Study 1 found that media exposure was the strongest direct predictor of labiaplasty consideration and so Study 2 examined the effectiveness of two online resources (photograph array and video) aimed at raising women's awareness of the often unrealistic representations of female genitals shown in the media. The results showed that only the video resource increased women's knowledge of the diversity in normal female genital appearance as well as their awareness of digital editing of genital images in the media. However, there was no effect of either resource on women's attitudes towards their own genitals or on their interest in undergoing labiaplasty in the future.

Study 3 investigated the influence of the factors of media exposure, intimate relationship quality, and psychological well-being in a group of women seeking to undergo labiaplasty compared to a group of women who were not interested in labiaplasty. The women seeking labiaplasty had been exposed to a greater volume of media images of female genitals than the comparison group, and, in terms of psychological well-being, the labiaplasty group had lower overall life satisfaction. In addition, although they did not differ in the quality of their intimate relationships, women seeking labiaplasty were less likely to be involved in an intimate relationship prior to surgery. Study 4 followed up a subset of these women 6 months after they had undergone labiaplasty and found that, although they experienced a significant increase in their satisfaction with their genital appearance, there were no effects on their intimate relationship quality or psychological well-being from pre- to post-surgery. This study also found that higher pre-operative levels of psychological distress and involvement in an intimate relationship before undergoing labiaplasty were significantly related to lower satisfaction with outcomes.

In Study 5, the qualitative examination of women's experiences undergoing labiaplasty identified five themes: "media influence," "negative commentary," "physical vs appearance reasons," "satisfaction with surgery," and "sexual well-being". The study results showed that media representations and negative comments from intimate partners contributed to women's concerns with their labial appearance. In addition, some women emphasised issues of physical discomfort over aesthetic concerns to potentially legitimise their requests for surgery. Furthermore, most women were very satisfied with their surgical results and improvements to their intimate relationships, however, some still experienced emotional discomfort around sexual intercourse.

Implications for the Major Aims

The first major aim of the thesis was to examine predictors of interest in labiaplasty which was investigated in both a general community sample of women as well as labiaplasty patients. In terms of the major motivation for women to undergo labiaplasty, genital appearance concerns are the most common reason (Study 3) which supports the previous literature (e.g., Miklos & Moore, 2008; Rouzier, Louis-Sylvestre, Paniel, & Haddad, 2000; Veale, Eshkevari, et al., 2014a; Zwier, 2014). Importantly, these appearance concerns were not only when women were undressed, but also when wearing certain types of everyday clothing like yoga pants and swimsuits (Study 5). Accordingly, and as expected, women seeking labiaplasty have significantly higher genital appearance dissatisfaction than women not seeking labiaplasty with large effect size (Study 3), which was also found by Veale, Eshkevari, et al. (2014a) in their prospective controlled study.

However, these aesthetic concerns were commonly reported along with other motivations which included physical discomfort, sexual difficulties of both a physical and emotional nature, as well as more general psychological distress such as embarrassment and self-consciousness (Studies 3 and 5), consistent with previous findings (e.g., Crouch, Deans, Michala, Liao, & Creighton, 2011; Veale, Eshkevari, et al., 2014a). Nevertheless, as found in the qualitative results (Study 5), women may emphasise physical/functional motivations over their aesthetic concerns, even though aesthetic concerns may be more distressing, to avoid appearing superficial or shallow. Furthermore, as also suggested by Bramwell, Morland, and Garden (2007), functional motivations may serve to legitimise women's requests for labiaplasty when consulting with health professionals whom they may view as "gatekeepers".

As discussed above, considering or undergoing labiaplasty commonly reflects concerns about genital appearance, and a key issue addressed in this thesis is the identification of factors promoting that concern. Sociocultural influences such as media and peers have been shown to be influential in the perpetuation of unrealistic beauty ideals leading to body dissatisfaction and attempts to modify one's appearance to achieve these ideals (Keery, van den Berg, & Thompson, 2004; Menzel et al., 2011; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). This thesis extended this examination to the influence of four classes of factors (i.e., media exposure, peer influence, intimate relationship quality, and pubic hair removal) on genital appearance dissatisfaction and labiaplasty consideration (Study 1). With the exception of pubic hair removal, all of these factors had both a direct and indirect effect (through the sociocultural mediators of internalisation of the genital ideal and genital appearance comparison) on women's consideration of labiaplasty (Study 1). The lack of relationship between pubic hair removal and labiaplasty consideration was unexpected as several theorists have nominated this behaviour as having a major role in the increased popularity of labiaplasty (e.g., Braun & Tiefer, 2010; Green, 2005). Instead, we conceptualised pubic hair removal as a social setting condition that allows women to scrutinise the appearance of their labia more closely and potentially become dissatisfied rather than a motivating factor.

To our knowledge, Study 1 was the first to demonstrate that an established theoretical framework, namely the sociocultural model, could be extended to explain the development of genital appearance concerns leading to interest in labiaplasty. However, it must be noted that the modelling analysis employed in this study was fundamentally a correlational technique and so relationships within this model may also function in a reciprocal fashion. Nevertheless, these results provided insights into how the factors of media exposure, peer influence and intimate

relationship quality may play a role in women's consideration of labiaplasty, which were further investigated in the subsequent studies.

With few opportunities for women to compare their genital appearance with other women in their daily lives, unlike other body parts, genital images in the media represent an easily accessible source. Exposure to the predominantly idealised depictions of female genitals shown in different types of media (pornography, internet, advertising, television) appears to lead to the development of genital appearance concerns and an interest in labiaplasty (Study 1). We also showed, for the first time, that women who were actively seeking labiaplasty, had been exposed to a greater volume of genital images on the internet and cosmetic genital surgery advertisements which appeared to influence their decision to have surgery (Study 3). In addition, women seeking labiaplasty displayed stronger internalisation of media genital ideals than comparison women, suggesting that they endorsed and wanted to resemble the media images. These results support a number of articles which propose that the narrow range of genital appearances shown in the media plays an important role in women's genital dissatisfaction and desire for labiaplasty (e.g., Braun & Tiefer, 2010; Koning, Zeijlmans, Bouman, & van der Lei, 2009; McDougall, 2013).

Of course, as suggested above, it is possible that rather than the viewing of these media images leading to development of genital appearance concerns, women who are already concerned may actively seek out these images to find solutions. Certainly, from the qualitative findings (Study 5), it appeared that online media was an important source of information regarding labiaplasty when women had already decided upon surgical intervention. Nevertheless, the negative manner in which protruding/larger labia minora are often described in labiaplasty advertisements (e.g., ugly and odorous) (Liao, Taghinejadi, & Creighton, 2012), are likely to further exacerbate women's genital appearance concerns and confirm their desire for labiaplasty.

Clearly, women are likely to discuss a sensitive topic like genital appearance only within close personal relationships such as with romantic partners and female friends. Thus, it was not unexpected that the content/tone of these conversations influenced women's evaluation of their genital appearance and interest in labiaplasty (Study 1). Although there was not a significant difference between women seeking labiaplasty and the comparison group in terms of negative commentary about labial appearance from *current* romantic partners (Study 3), negative feedback on labial appearance from *former* sexual partners was nominated by women as a factor which negatively impacted their genital appearance satisfaction in multiple studies (Studies 3 and 5), which corresponded to previous research (Veale, Eshkevari, et al., 2014b). Study 5 added some depth to the issue of commentary from peers as women also reported receiving reassuring and even positive comments about their labial appearance prior to surgery. However, these comments were usually dismissed and, instead, they selectively attended to negative feedback, that is, they had a negative interpretation bias. Although it appeared in Study 5 that these negative experiences/comments may have instigated the development of women's genital appearance concerns and negative interpretation bias, further qualitative research could examine this more closely to determine whether they were the instigator or a confirmation a pre-existing appearance concern (Veale, Eshkevari, et al., 2014b). In addition, this research could examine how women interpreted these negative comments and the images that came to mind at the time they received them as cognitive restructuring or imagery rescripting may be helpful psychological interventions for these women (Neziroglu, Khemlani-Patel, & Veale, 2008; Veale & Neziroglu, 2010).

Related to the influence of intimate partners, we also investigated whether women in higher quality intimate relationships would consider their genital appearance to be less of an

issue and thus less interested in labiaplasty, a proposal which was supported in Study 1. However, when intimate relationship quality was assessed in women who were actively seeking labiaplasty compared to women who were not, there were no significant differences (Study 3). A potentially important finding, though, was that significantly fewer of the women seeking labiaplasty were involved in an intimate relationship prior to labiaplasty (and thus did not complete the measures), which corresponded with one of the two prospective controlled studies in the field (Goodman et al., 2016). As suggested in the qualitative findings (Study 5), and also in other studies (Bramwell et al., 2007; Veale, Eshkevari, et al., 2014a), women may avoid entering into intimate relationships owing to fears that a new partner may tease or reject them owing to their labial appearance, as discussed above, but this suggestion of relationship avoidance needs to be confirmed in future research. Nonetheless, it might explain the increase in the percentage of women involved in a romantic relationship from pre-surgery to 6 months after (Study 4).

In addition to the effects of external factors like media and intimate partners, the thesis also examined the influence of internal factors, more specifically, whether women were motivated to undergo labiaplasty owing to their psychological functioning. However, women seeking labiaplasty did not differ from the comparison group in terms of their psychological distress (anxiety and distress symptoms) or self-esteem (Study 3), which corresponded to previous research suggesting that prospective labiaplasty patients are within the normal population range for psychological functioning (Goodman, Faschler, Miklos, Moore, & Brotto, 2011; Veale, Eshkevari, et al., 2014a). Therefore, it did not appear that women were motivated to undergo labiaplasty as a result of general psychological distress. However, women seeking labiaplasty were significantly more dissatisfied with their lives overall with large effect size

(Study 3). Lower life satisfaction may be the result of this group of women having a more negative evaluation style and/or outlook on life in general, but this needs to be replicated because its reliability is unknown.

In addition, an important oversight in our analysis of psychological functioning was the presence of BDD. Individuals with BDD have a preoccupation with a slight or imagined defect in their appearance (American Psychiatric Association, 2013) which prompts some to seek cosmetic treatment (Sarwer & Polonsky, 2016). However, BDD sufferers commonly report no improvement or a worsening of their symptoms after cosmetic treatment (Crerand, Phillips, Menard, & Fay, 2005) and so pharmacological and psychological interventions are recommended for these individuals (Crerand, Infield, & Sarwer, 2007; Sarwer, Gibbons, & Crerand, 2004). Although the prevalence of BDD has been investigated via structured clinical interview in one previous study of prospective labiaplasty patients (Veale, Eshkevari, et al., 2014a), the presentation of this disorder in this population warrants further investigation. Furthermore, as this thesis focused primarily on the influence of external factors on women's decisions to undergo labiaplasty, the influence of other internal/individual difference factors should also be investigated. For example, higher levels of appearance investment (Slevec & Tiggemann, 2010) and self-objectification (Calogero, Pina, & Sutton, 2014) are related to greater interest in cosmetic surgery in general and may also influence women's consideration of labiaplasty.

As discussed above, the relationship between media exposure and labiaplasty consideration suggests that idealised images of female genitals are potentially promoting genital appearance dissatisfaction. Therefore, Study 2 investigated whether educational resources aimed at mitigating the effects of unrealistic media representations improved women's attitudes

towards their own genitals. This type of educational approach has been suggested by a number of researchers (e.g., Michala, Liao, & Creighton, 2012; Moran & Lee, 2014), but this study was the first experimental investigation of two of the now many freely available online educational resources. The results confirmed one particular approach, a short video, successfully improved women's knowledge of the diversity in female genital appearance, but had no significant effect on how women felt about their own genitals. However, this study was conducted in a general community sample of women, who were, on average, satisfied with their genital appearance and were not considering labiaplasty. It may have been the case that women who felt most comfortable about their genital appearance were more likely to volunteer to participate in this study. Thus, there was less opportunity to improve their attitudes. Nevertheless, the women in the study who viewed the video reported that they would pass on their knowledge to a friend who was considering labiaplasty, which could potentially lead to an improvement in their friend's genital appearance attitudes. In future research, this experimental investigation should be conducted with women who are more highly concerned about their genital appearance and are actively considering labiaplasty to determine whether an educational approach can improve women's attitudes towards their own genitals.

The second major aim of the thesis was to examine the psychological outcomes of labiaplasty. Broadly speaking, the main aim of aesthetic surgery is to improve satisfaction with appearance which is presumed to translate to broader psychological benefits for patients (e.g., Honigman, Phillips, & Castle, 2004; Lista, Mistry, Singh, & Ahmad, 2015), however, the findings to date for cosmetic surgery in general are equivocal (e.g., Honigman et al., 2004; Sarwer, 2007; von Soest, Kvaalem, Skolleborg, & Roald, 2011). In this thesis, we investigated whether labiaplasty improved women's satisfaction with their genital appearance and whether

this extended to improvements in intimate relationship quality and broader psychological well-being. Both the quantitative (Study 4) and qualitative findings (Study 5) showed that most women are generally very satisfied with their surgical results which corresponds with a number of retrospective studies (e.g., Alter, 2008; Goodman et al., 2010; Rouzier et al., 2000) and also the findings for other types of cosmetic surgery like breast augmentation (e.g., Park, Chetty, & Watson, 1996; Young, Watson, Centeno, & Boswell, 2004). In addition, the longitudinal study results (Study 4) showed that women experience a significant increase in their satisfaction with their genital appearance with large effect size, similar to the three prospective studies in the field to date (Goodman et al., 2011; Goodman et al., 2016; Veale, Naismith, et al., 2014), such that their satisfaction levels were comparable to general community women.

As would be expected, the assessment of genital appearance satisfaction in this thesis also showed, that with the changes to their genitals, women felt less self-conscious during sex and more comfortable with physical activities such as exercise. Studies 4 and 5 also provided further insights into post-surgery appearance satisfaction. In particular, although most women were satisfied with the change in their genital appearance after surgery, some women were disappointed that their genital appearance was not “perfect”, which they defined as symmetrical labia with no protruding labia minora. When complete amputation of their labia minora was not performed by their treating physician as over-reduction is difficult to correct (Lista et al., 2015), women were slightly less satisfied with the results.

Unlike the improvements in genital appearance satisfaction, the longitudinal study (Study 4) did not find any improvements in measures of intimate relationship quality (relationship satisfaction and sexual confidence) or psychological well-being (psychological distress, self-esteem, and life satisfaction) after 6 months. These findings corresponded to those from two of

the three prospective studies (Goodman et al., 2011; Veale, Naismith, et al., 2014) which found that sexual satisfaction and psychological functioning (including anxiety and depression symptoms) did not differ significantly from baseline from 6 months post-surgery onwards. Psychological factors such as relationship satisfaction and self-esteem are multidimensional constructs which are influenced by a number of factors (Sarwer et al., 2008) and so it may be unrealistic to expect enhancements in these domains after physical changes are made to the appearance of the labia minora. Such findings are consistent with other forms of cosmetic surgery (Murphy, Beckstrand, & Sarwer, 2009; Sarwer, 2007; Sarwer et al., 2008).

In addition, it must be noted that, for most women, the primary aim for undergoing labiaplasty is to improve their genital appearance (which appears to be fulfilled for most women) and so some would not be desiring improvements in their psychological well-being or sexual relationships after surgery in the first instance. Nevertheless, the most recent prospective controlled study (Goodman et al., 2016) involving FGCS patients found a sustained improvement in women's sexual satisfaction 2 years after surgery. However, patients undergoing labiaplasty were combined with those undergoing vaginal/perineal procedures which may have influenced the results for sexual satisfaction. In order to clarify the outcomes of labiaplasty, it would be useful to conduct further prospective controlled studies involving only labiaplasty patients, focusing on a range of sexual outcomes such as sexual self-consciousness, sexual esteem, as well as sexual satisfaction, which are all reportedly influenced by genital appearance concerns (Schick, Calabrese, Rima, & Zucker, 2010).

There were even contrasting findings regarding the psychological outcomes of labiaplasty within the studies presented in this thesis. In the qualitative study (Study 5), most women reported improvements in their psychological and their sexual well-being after labiaplasty,

contrary to Study 4's results. However, as Bramwell et al. (2007) also suggested in the only other qualitative interview study in the field to date, it may have been the case that the changes women reported in these domains were the result of improvements in their self-image. That is, if a woman perceives that her genital appearance is more attractive, she may have more self-confidence and thus a more satisfying sexual experience (Bramwell et al., 2007; Goodman et al., 2011). Furthermore, the retrospective nature of Study 5 must be taken into consideration as retrospective assessments are particularly prone to the effects of cognitive dissonance (Goodman et al., 2011). That is, if women believe their psychological and sexual well-being will be enhanced after surgery and go through the pain and inconvenience of surgery, they are more likely to report favourable outcomes to avoid the psychological discomfort that would arise if they believed surgery had been unsuccessful (Homer, Sheard, & Jones, 2000).

Nevertheless, the qualitative study (Study 5) findings provide potentially important insights into the specific reasons why women are less satisfied with their surgical outcomes, which have been given little attention in previous research. Consistent with the findings from Bramwell et al. (2007), while labiaplasty may alleviate self-consciousness in sexual situations, it does not necessarily provide the solution to other psychosexual concerns that patients may expect. Although Study 5 did not aim to investigate these concerns in any great depth, it appears that memories of negative sexual experiences in the past, often surrounding their labial appearance, were still troubling for some women, despite the change in the appearance of their labia minora. Thus, they were somewhat less satisfied with the overall outcome of their labiaplasty. Future research could examine whether the psychological outcomes for women who can recall these negative sexual experiences are significantly different from women who have not had these experiences (Veale, Eshkevari, et al., 2014b).

Another important issue addressed in this thesis was whether preoperative patient characteristics were predictive of satisfaction with labiaplasty (Study 4). Such an examination can provide information about potential contraindications for surgery and helps to identify patients for whom labiaplasty should be avoided. To our knowledge, this was the first investigation of predictors of satisfaction with labiaplasty outcomes, but replication is recommended owing to the small sample size. Nevertheless, the results showed that from the categories of demographic characteristics, prior exposure to cosmetic surgery, and psychological well-being, involvement in an intimate relationship prior to surgery and higher preoperative psychological distress (particularly anxiety and depression symptoms) predicted lower satisfaction with surgical outcomes. These results appear to correspond with the qualitative study (Study 5) as it may be that some women have unrealistic expectations for how their intimate relationships/sex lives and psychological well-being might improve after labiaplasty and are disappointed when this does not occur. Surprisingly, the analysis of preoperative predictors of surgical satisfaction has been rarely addressed for any form of cosmetic surgery (von Soest et al., 2011). However, the results presented in this thesis are consistent with other studies (von Soest, Kvaalem, Roald, & Skolleborg, 2009; von Soest et al., 2011) that poorer preoperative mental health may inhibit the positive effects of cosmetic surgery. Future research should include a broader range of predictors including a more in depth investigation of preoperative mental health status, including BDD, as well as intimate relationship issues such as labiaplasty being motivated by the belief that it will save a relationship (Honigman et al., 2004).

Practical Implications

The results presented in this thesis also have a number of practical implications. Concerns have long been raised about the increasing number of adolescent and adult women choosing to

undergo FGCS owing to limited data regarding the efficacy and safety of these procedures (Committee on Gynecologic Practice American College of Obstetricians and Gynecologists, 2007), although this has started to change over recent years (e.g., Lista et al., 2015).

Nevertheless, the unrealistic representation of female genitals in the media has been nominated as one of the major factors underlying the increased popularity of labiaplasty (e.g., Harding, Hayes, Simonis, & Temple-Smith, 2015; Liao & Creighton, 2007; Michala, Koliantzaki, & Antsaklis, 2011). In this thesis, media exposure was found to be a potentially influential factor in women's interest in and decision to undergo labiaplasty. As also demonstrated in this thesis, a short freely available video outlining the misrepresentation of women's genitals in the media significantly improved women's awareness of the diversity in normal female genital appearance. However, the women involved in that particular study were not actively seeking labiaplasty and so it could not be determined whether this increased awareness of diversity lessened their desire to undergo surgery. Future research should involve women who are considering labiaplasty and whether informing them that media depictions are not always realistic alleviates their concerns about their own genital appearance.

Nevertheless, it may be the case that some women considering labiaplasty may want their genitals to resemble idealised media depictions regardless of how unrealistic these depictions are. Certainly, women would be aware from their daily lives that normal female bodies come in all shapes and sizes yet this does not necessarily deter some women in their pursuit of the thin ideal and subsequent dissatisfaction when it is almost impossible to achieve (Tiggemann, 2012). Therefore, the educational approach discussed above may be best suited to individuals who are only concerned that their genital appearance is not within the normal range. On the other hand, women who have strongly internalised the genital ideal may potentially benefit more from a

broader cognitive behavioural therapy approach addressing body image concerns (Farrell, Shafran, & Lee, 2006). In regards to the educational approach, a potential use may be as a genital dissatisfaction prevention strategy with younger girls before they have been exposed to greater volumes of media depictions of female genitals. Information about labial appearance variation may also be helpful so younger girls have a better understanding of how their labial appearance will change during puberty (Farage & Maibach, 2006). In fact, some very recent guidelines by the American College of Obstetricians and Gynecologists suggest that when adolescents request labiaplasty, the first step gynaecologists should take is “education and reassurance regarding normal variation in anatomy, growth, and development” (Committee on Adolescent Health Care American College of Obstetricians and Gynecologists, 2016). Potentially such an educational approach could be delivered in schools as part of sexual education programmes focusing on the often unrealistic depictions of sex and relationships shown in pornography (Owens, Behun, Manning, & Reid, 2012).

In addition to media exposure, it appeared that peer commentary and intimate relationship factors played a role in women’s interest in labiaplasty. Thus, these factors could also potentially serve as targets for interventions addressing genital appearance dissatisfaction. As shown in multiple studies in this thesis, some women who undergo labiaplasty have received negative comments about their labial appearance, usually from former sexual partners. From the qualitative study results, the memories of these events were usually quite distressing with women potentially avoiding entering into romantic relationships for fear of further negative commentary. For women with distressing memories, as discussed above, psychological interventions such as cognitive restructuring or imagery rescripting could be examined for their effectiveness in

alleviating emotional discomfort surrounding genital appearance (Neziroglu et al., 2008; Veale & Neziroglu, 2010).

The finding that ex-boyfriends were the primary source of negative comments suggests that interventions addressing genital appearance concerns and labiaplasty might usefully involve boys and men too. Recent research (Horrocks et al., 2015; Mazloomdoost et al., 2015) has shown that although most men do not appear to have a preference for the labial appearance of their female partners, a sizeable minority, of younger men in particular, prefer the idealised labial appearance and would potentially recommend labiaplasty to a partner. However, the sources of influence for men's attitudes towards female genitals are yet to be explored and could be addressed in future research. The portrayal of women's genitals in pornography may be particularly influential for males owing to their higher consumption of pornography compared to females (Hald, 2006). Thus, the genital appearance diversity education programme proposed above may also benefit boys and men so they are more aware that only a restricted range of female genital appearances are generally shown in pornography. Therefore, if any of their female partners has protruding labia minora, they will know that this is not "abnormal".

Another important practical application which emerged from this thesis were factors that may influence patient suitability for labiaplasty. As discussed above, although most women are generally satisfied with the results of their labiaplasty, the results from this small study (Study 4) suggested that preoperative involvement in a romantic relationship and greater psychological distress are linked to lower dissatisfaction with surgical outcomes. It was proposed that this may be due to women having unrealistic expectations for improvements in these areas of their lives and recommend that clinicians explore these in detail with prospective patients. The examination of patient psychological functioning in this thesis was somewhat limited and did not include

BDD, the most common psychiatric disorder amongst cosmetic surgery patients (Crerand, Franklin, & Sarwer, 2006). Individuals with BDD are typically dissatisfied with the results of cosmetic surgery (Veale et al., 1996). In addition, some patients with BDD have threatened legal action or even violence against their treating physician (Sarwer, 2002). The design of a preoperative assessment tool for labiaplasty to identify women with underlying psychological disorders, or unrealistic motivations and expectations, and also to provide reason for psychological referral, may be useful to circumvent such situations (Wildgoose, Scott, Pusic, Cano, & Klassen, 2013). In terms of psychological referral, as yet there are no forms of psychological therapy specifically addressing issues around genital appearance. However, cognitive behavioural therapy has been shown to be an effective treatment for body image concerns and BDD (Veale, 1996) and could potentially provide a framework for the development of a specific psychological intervention.

Conclusion

The present thesis has examined the psychological aspects of labiaplasty across five studies using different methodologies. The studies have identified a number of sociocultural predictors and examined the psychological outcomes of labiaplasty. Practically, the findings suggest ways in which genital appearance dissatisfaction could be addressed in a non-surgical manner. In addition, the findings identify factors which could help with the assessment of patient suitability for labiaplasty. Overall, the results presented in this thesis may help both women and health professionals make better informed decisions around labiaplasty.

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