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**The Current Practices of New Zealand Plastic Surgeons with
respect to the Psychological Well-being of Patients Seeking
Elective Aesthetic Procedures**

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Abstract

The prevalence of psychopathology in patients seeking elective aesthetic surgery has been suggested to be higher compared to the general population, and adverse psychological outcomes appear to be more common than physical complications, particularly for patients with existing psychiatric problems. Although elective aesthetic surgery incorporates standard protocols to examine medical and anaesthetic risks, there seem to be no protocols for preoperative psychological evaluation. This study examines current practice among New Zealand plastic surgeons, their experience and management of their patients' psychological well-being, and it compares data from New Zealand and USA. The participants were 25 surgeons in New Zealand eligible to perform elective aesthetic surgery who responded to an online survey. Statistical analysis was used to determine significant differences and relationships between variables. The majority of the surgeons in the sample relied mostly on their personal experience, intuition and clinical judgement for psychological evaluation. All the surgeons had at least some experience with patients presenting with psychological disorders, and some have had patients with adverse psychological outcomes after the surgery. Most of the surgeons refer patients with psychological issues to mental health care, however, a small number of surgeons found access to mental health care difficult. The preoperative consultation time was an important variable that was statistically related to the surgeon's practice backgrounds and their experience of patients with psychopathology. In general, New Zealand data is consistent with those from USA in terms of the surgeons' experience and practice. The findings suggest a need for preoperative psychological evaluation for elective aesthetic surgery in New Zealand.

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Table of Contents

Abstract	ii
Acknowledgements	iii
Table of Contents	iv
List of Tables	vi
List of Appendices	vii
Chapter 1: Introduction	1
Chapter 2: The Surgeries, Patient Characteristics, and the Surgeons	4
Elective Aesthetic Surgeries	4
Seekers of Elective Aesthetic Surgery	5
Surgeons Qualified to Perform Elective Aesthetic Surgery	6
Chapter 3: The Role of Psychology in the Practice of Elective Aesthetic Surgery	8
The Psychology of the Presenting Patients	8
The psychological characteristics of the patients	8
The association between specific procedures and psychopathology	14
The psychological benefits for elective aesthetic surgery patients	17
The Psychology of Surgical Practice	21
Psychology in the decision to seek surgery	21
Psychological contraindications in elective aesthetic surgery	25
Psychology in surgical outcomes	26
Chapter 4: The Surgeons' Attitudes, Practices, and Management	33
The Current Study	43
Rationale	43

Aims	43
Chapter 5: Method.....	44
Chapter 6: Results.....	50
New Zealand data	50
New Zealand vs. USA	59
Chapter 7: Discussion.....	61
Plastic Surgeons in New Zealand	61
New Zealand Surgeons and USA Surgeons.....	73
Strengths and Limitations	75
Recommendations for Future Research	77
Conclusions	79
References	80
Appendices.....	93

List of Tables

Table 1. Significance Ratings of Various Patient Factors	54
Table 2. Percentages of Observed Psychological Symptoms among Patients	55
Table 3. Percentages of Observed Psychological Disorders among Patients	56
Table 4. Percentages of Management Method used by Participants	57
Table 5. Percentage of Participants Reporting Importance of Psychology in Various Outcomes	58
Table 6. Percentage of Participants Reporting Various Benefits of the Surgery	59

List of Appendices

Appendix A. Survey of the Psychological Practices of Surgeons who perform Elective Aesthetic Plastic Surgery	93
Appendix B. The Information Sheet Example.....	101

Chapter 1: Introduction

The popularity of elective aesthetic procedures has increased dramatically during the past decade, and is especially evident in the United States, with estimates of more than 1 million procedures being undertaken in 1997 and more than 10 million procedures in 2012 (The American Society for Aesthetic Plastic Surgery (ASAPS), 2012a). ASAPS (2012b) further reported that there were more than 9 million cosmetic or elective aesthetic procedures performed in 2011 despite the effect of the recession in 2009. Of these procedures, 1.6 million (approximately 20%) were surgical cosmetic procedures requiring anaesthesia. The actual number of surgeries performed was likely to have been higher, as aesthetic procedures are performed not only by plastic surgeons, but also by surgeons in other disciplines, such as dermatologists, ophthalmologists, otolaryngologists, and oral and maxillofacial surgeons (Waterhouse, 2008).

Studies have suggested that several factors are associated with the rapid growth of people seeking elective aesthetic procedures. These include medical advances in aesthetic surgery, better safety record, faster recovery period and competitive pricing from the plastic surgery companies, which have made the surgery a pursuable option for the general public (Swami et al., 2008). In addition, public awareness of elective aesthetic procedures has increased due to pervasive exposure on television programmes, advertisements and media fascination with the surgery results, especially of celebrities (Brown, Furnham, Glanville, & Swami, 2007). Given the rapid increase of this surgical population, much attention has been focused on surgery candidates in terms of their motivation, expectations of surgery and their emotional fitness to undergo elective aesthetic surgeries (Lyne, Ephros, & Bolding, 2010; Shridharani, Magarakis, Manson, & Rodriguez, 2010). As different aesthetic procedures serve different purposes and are accompanied by various levels of risk, it is important for surgeons to ensure that surgery candidates understand the procedures and are both physically and psychologically suitable and ready for them.

Depending on the purpose of the surgery, different aesthetic surgeries are available to treat conditions from head to toe. *Reconstructive surgery* is generally used to treat individuals wounded in traumatic events, such as burns and physical deformities caused by accidents. These operations are medically driven and often combined with plastic surgery to ensure a positive overall appearance and function (Thompson, 2012). *Plastic surgery* is usually performed on patients with congenital or birth defects that may have interfered with the individual's normal functioning, such as cleft palate; it also aims to "normalise" patients with abnormal tissues, such as removing scars or blemishes, and to repair wounds caused by traumatic events (Thompson, 2012). *Cosmetic or elective aesthetic surgery*¹ on the other hand, was derived from plastic surgery, but aims to subjectively enhance the normal physical appearance, such as looking younger and "better". The purpose of such surgery is not due to medical reasons but rather to the psychological needs of the individual. It therefore differs from plastic and reconstructive surgery (Lusted, 2009). However, the contemporary role of plastic surgeons remains conflicted, due to their need to both restore and reconstruct the abnormal tissues, as well as to improve or enhance the features of individuals (Waterhouse, 2008). The terms "plastic surgery" and "cosmetic surgery" are used interchangeably by many authors and by the general public and some surgeries, such as abdominoplasty (tummy tuck) and breast augmentation (Thompson, 2012) can be performed by plastic or cosmetic surgeons or general surgeons.

To further complicate matters of surgical technique, it can range from nonsurgical procedures to physical alterations and repairs that require partial or general anaesthesia. Nonsurgical procedures, such as injections of botulinum toxin (BOTOX) and resorbable dermal fillers are often of a temporary nature, meaning the treatment may be effective for only a few months. Such procedures can be performed by qualified specialists and nurses and the risks of complications from them are relatively low and rare, and are often of minor nature (Waterhouse, 2008). On the other hand, higher levels of surgery requiring partial or general anaesthesia have

¹ For the purpose of consistency, the terms "elective aesthetic procedure" and "surgery" in the current study refer to all types of aesthetic surgery that is driven by personal will without medical reasons, including cosmetic surgery. The term "plastic surgeon" refers to surgeons who are qualified to perform elective aesthetic surgery.

permanent effects, carry comparably higher risks of surgical and psychological complications and are performed by qualified surgeons and surgical teams (including nurses and anaesthetists) who specialise in the area of interest (Borah, Rankin, & Wey, 1999; Hawn et al., 2011).

Whilst different procedures have different purposes and definitions, the Medical Council of New Zealand (2011) has defined cosmetic procedures as “operations and other procedures that revise or change the appearance, colour, texture, structure or position of normal bodily features with the sole intention of improving the patient’s appearance or self esteem” (p. 1). These do not cover procedures that improve an individual’s physical health, again differentiating them from other aesthetic surgeries.

As noted in the Medical Council’s definition, the purpose of elective aesthetic procedures typically is to enhance and improve an individual’s physical appearance, self-esteem and satisfaction with their body image. Some have further suggested that elective aesthetic surgery can be considered psychological intervention or, at least, a procedure with psychological consequences (Sarwer, Wadden, Pertschuk, & Whitaker, 1998a). Other research examining those seeking elective aesthetic surgery has suggested a higher prevalence of psychiatric conditions in this population compared with the general population (Napoleon, 1993; Shridharani et al., 2010), which in turn indicates the importance of patients’ psychological well-being and the psychological input throughout the procedure.

The majority of studies to date appear to have focused on the psychological characteristics of patients seeking elective aesthetic procedures (e.g., Ishigooka et al., 1998; Napoleon, 1993). However, the role of the surgeon is important given the relevance of psychology in this practice, yet there appears to have been limited research carried out on how surgeons evaluate and manage their patients’ psychological well-being. New Zealand in particular, does not appear to have relevant research in this area. The aim of the current study is to explore the current practice, management and experience of the surgeons with respect to the psychological issues of their patients seeking elective aesthetic surgery requiring general anaesthesia.

Chapter 2: The Surgeries, Patient Characteristics, and the Surgeons

Elective Aesthetic Surgeries

Elective aesthetic surgeries, by definition, include procedures that aim solely to enhance the individual's normal physical appearance, thus it is surgery that aims to increase the individual's satisfaction with the body feature that underwent the surgery (Waterhouse, 2008). Surgical procedures requiring anaesthesia can be performed on almost all parts of the body, depending on the desired effect. Lusted (2009) has listed some common elective aesthetic procedures, such as body reshaping and contouring, that include lipoplasty (liposuction), abdominoplasty (tummy tuck), and implantation with the aim of altering large parts of the body, such as bottoms, to the desired shape and size. Other well-known procedures include breast surgeries, such as breast augmentation, breast reduction, and breast lift. Lastly, there are facial procedures such as blepharoplasty (eyelid surgery), rhinoplasty (nose reshaping), lip augmentation, otoplasty (cosmetic ear surgery), and face lift. All of these procedures can be extensive, requiring various lengths of hospitalisation and recovery times. They are essentially permanent alterations to physical appearance, although, of course, these permanent effects can be affected by other factors, such as aging or eating habits. Although some procedures may not require long periods of hospitalisation, all surgical procedures come with potential risks of complication, particularly in surgeries requiring anaesthesia (Lusted, 2009; Nolan & Soar, 2012).

The most popular surgical procedures in United States in 2012 were breast augmentation, lipoplasty (liposuction), abdominoplasty, blepharoplasty, and rhinoplasty (ASAPS, 2012a). Like all other anaesthetic surgeries, these popular aesthetic surgical procedures are associated with a higher risk of surgical complications such as infections, cardiac infarction, and hematoma compared to nonsurgical procedures (Hawn et al., 2011). Elective aesthetic surgeries were once unspoken and secretive practices reserved for a minority of wealthy and famous

celebrities and stars (Waterhouse, 2008). It is not until recently that such surgery has been accepted by the public with increasing population seeking the widely available elective aesthetic procedures in the community aiming to alter or improve different parts of the body.

Seekers of Elective Aesthetic Surgery

According to ASAPS (2012a), 78% of total elective aesthetic procedures were performed on Caucasians; 60% to 100% of all types of elective aesthetic surgical procedures (e.g., lipoplasty and rhinoplasty) were performed on females (with the exception of gynecomastia (treatment of male breast reduction) where 100% were performed on males). Studies investigating factors that affect the likelihood of undergoing elective aesthetic procedures showed that women were more likely to consider elective aesthetic surgeries compared to men (Brown et al., 2007; Swami et al., 2008). The main factors influencing the willingness to undergo elective aesthetic surgeries were found to be personal experience of these surgeries (i.e., personal experience of oneself, family members or friends undergoing surgeries), with media exposure mediating the effect of gender and the vicarious experience of the surgeries. Moreover, such gender difference (i.e., more women than men) is believed to reflect the higher sociocultural pressure on women to pursue an ideal physical appearance and sexual attractiveness (Brown et al., 2007).

The age distribution for surgical procedures showed that patients between 35 and 50 years of age received the most surgical treatments (40%), followed by those from 19 to 34 years of age (28.1%) and 51 to 64 years of age (23.7%). Possible reasons for these discrepancies between the different age groups may be due to differing levels of financial independence, and perhaps age 35 is when signs of aging begin to become more apparent. Although studies have failed to find age an influential factor for women in their willingness to seek surgeries, young men were significantly more likely to consider elective aesthetic surgeries compared to older men (Brown et al., 2007).

Despite the U.S. Food and Drug Administration recommending that breast augmentation should be restricted to women aged 18 or over, 1% (approximately 3576 procedures) of all breast augmentation surgeries in 2012 were performed on patients aged under 18, where 50% of these patients had the surgery done purely for aesthetic reasons (ASAPS, 2012a). This perhaps indicates that the age in experiencing sociocultural pressure has decreased, where younger girls are experiencing pressure to pursue an ideal appearance and sexual attractiveness.

The majority of the population seeking elective aesthetic surgery in USA, therefore, seems to be female Caucasians aged 35 or over, with breast augmentation and lipoplasty being the most frequently performed procedures. Nevertheless, Waterhouse (2008), in his book of cosmetic surgery, pointed out that the increased demand for elective aesthetic surgery is evident from the mounting advertisements for aesthetic surgery services found in almost all media, including magazines, books and television programmes worldwide. The large number of surgical services offered in the community leads to a huge discrepancy in the quality of service offered to the patients; the author thus raised the concern that it can be very difficult for patients to distinguish between well-trained and qualified plastic surgeons and surgeons with qualifications that may not be recognised by national bodies.

Surgeons Qualified to Perform Elective Aesthetic Surgery

People seeking elective aesthetic surgeries are likely to face difficulties in selecting and differentiating the well trained and qualified surgeons from those who are not. Not only that, but elective aesthetic surgeries can be performed by surgeons with different specialities including cosmetic surgeons, plastic and reconstructive surgeons, oral and maxillofacial surgeons, ophthalmologists, otolaryngologists and dermatologists (Waterhouse, 2008). On the other hand, these surgeons are not only required to have brilliant surgical knowledge and skill, they also have an important role in selecting and screening the appropriate surgery candidates, for which the standard protocols are taught in their surgery training programme.

Despite various specialities the surgeons may have, the majority typically start with plastic surgery training where fundamental surgical skills and surgical complications are taught before any further specialisation. The plastic surgery training programme for a surgeon will take many years to complete and like other surgical disciplines, surgeons typically specialise further in particular areas of the body (Waterhouse, 2008). For instance, a surgeon with expertise in cosmetic facial surgery may not be an expert in body contouring surgery and vice versa. In New Zealand, a plastic surgeon will be required to complete the basic medical degree of six years, followed by at least two years of experience in general surgery, with a further five years of training in plastic surgery, in order to obtain Fellowship of the Royal Australasian College of Surgeons (New Zealand Association of Plastic Surgeons, 2013; The Royal Australasian College of Surgeons, 2013). That is when surgeons begin to further specialise in an area of interest (e.g., cosmetic surgery). However, the extent to which different surgeons know about psychology is rather inconsistent (O'Connor, Clarke, & Presnell, 1999), as this further training is not compulsory in their degree.

In addition to the plastic surgeons' training, the most distinctive difference between elective aesthetic surgeries and all other surgical specialties is the psychological component, which plays an influential role throughout the procedure, from the patient's psychological characteristics, their decision to seek the surgery and contraindications to the surgery, to the surgical outcome and the patient's expectations (Sarwer, Wadden, Pertschuk, & Whitaker, 1998b).

Chapter 3: The Role of Psychology in the Practice of Elective Aesthetic Surgery

The Psychology of the Presenting Patients

The psychological characteristics of the patients. The growth of interest in psychological research on elective aesthetic surgery patients started in the 1950s and 1960s and continues in the present. The literature has repeatedly suggested that the psychological profile of patients seeking elective aesthetic surgery is significantly different from the general population, such that the majority of the patients for elective aesthetic procedures are seen as having various degree of psychopathology (Sarwer et al., 1998a). Findings in the earlier studies in particular seemed to suggest that almost all the patients are likely to have serious psychopathology. One of the early studies by Linn and Goldman (1949) took a particularly hard line and suggested that not only do those who seek rhinoplasty have a pathological syndrome but that almost all the patients seeking rhinoplasty surgery are “ill from the psychiatric point of view” (Linn & Goldman, 1949, p. 307). Similarly, Wright (1984) stressed the importance of recognising and controlling the psychological manifestations associated with elective surgery and stated that every patient seeking elective surgery is a potential problem patient.

However, this early research tended to be based upon psychodynamically oriented clinical interviews, and the studies tended to report a high prevalence of psychopathology, including a high prevalence of personality disorders (e.g., Edgerton, Jacobson, & Meyer, 1960; Webb, Slaughter, Meyer, & Edgerton, 1965). Later, Sarwer and Crerand (2004) stated that one of the major limitations in the early studies was the use of psychodynamically structured interviews, where the patients’ complaints and dissatisfaction with their physical appearance were often inferred as “symbolic displacements of intrapsychic conflicts” (p. 103), which led to

interpretations of psychopathology. These potential biases from reliance on psychodynamic theories may have resulted in over-reporting of psychological disorders.

In subsequent studies, in the 1970s and 1980s, researchers started to rely more on standardised psychometric assessments. Assessments such as the Minnesota Multiphasic Personality Inventory, the California Personality Inventory and standardised self-report assessments were used in the studies and most reports of psychopathology among patients were less than previously reported (Barker, Kolin, & Bartlett, 1974; Hay, 1970; Shipley, O'Donnell, & Bader, 1977). Notwithstanding the advances in assessment, Sarwer and Crerand (2004) pointed out that these studies still suffer from methodological limitations such as the absence of comparison between pre- and post-operative measurements and the failure to include appropriate control groups. Some studies (Barker et al., 1974) had no control groups at all.

Subsequent research in the early 1990s attempted to address previous methodological problems by the use of control groups, well-established diagnostic criteria, and measuring the patients' psychological functioning both before and after the surgery (Sarwer & Crerand, 2004). However, like earlier studies, the findings and the results seemed to be dependent on the methodologies used in these studies. For example, studies based on clinical interviews continued to report a high prevalence of psychopathology among aesthetic surgery patients (e.g., Napoleon, 1993), and others based on psychometric assessments found relatively less incidence of psychological problems among the patients (e.g., Goin & Rees, 1991). Sarwer and Crerand (2004) pointed out that although the research was based on formal diagnostic criteria, clinical interviews used in the interview-based studies were unspecified, making replication and verification of the findings rather difficult. The assessment-based studies in the 1990s mostly lacked appropriate control and comparison groups, making it difficult to generalise from the findings.

Moving on to more recent studies, findings continue to suggest different degrees of psychopathology occur in elective aesthetic surgery patients both before and after surgery. Preoperative and postoperative psychological disturbance and stress, such as high levels of depression, anxiety and low self-esteem, were commonly observed among elective aesthetic surgery patients (Sarwer et al., 1998a). Borah,

Rankin, & Wey (1999) reported that patients seeking aesthetic surgery are most likely to experience anxiety after the surgery, followed by disappointment with the surgical result, depression, physical complaints and sleeping problems. They reported that this was particularly evident in patients with pre-existing psychological conditions. A study in Australia found significantly higher rates of dysmorphic concern and psychiatric morbidity (i.e., depression and anxiety) in patients seeking elective aesthetic surgery compared to patients presenting for surgery with medically explained reasons (Kisely, Morkell, Allbrook, Briggs, & Jovanovic, 2002). Ishigooka and colleagues (1998) found 47.7% of the patients seeking elective aesthetic surgery in Japan met criteria for various mental disorders including personality disorders, schizophrenia, delusional disorders, depressive episodes and somatoform disorders, of which neurotic disorders (mostly anxiety disorders), somatoform disorders and depressive episodes were the most observed psychiatric conditions among all patients. Despite the psychiatric diagnosis, more than half of the patients in this study were identified with social adjustment problems. A noteworthy point is that the incidence of schizophrenia was 4.1%, which was higher than in the general population, which has been estimated at around 1% (Sadock & Sadock, 2007). This perhaps implies a high incidence of psychopathology among this population.

Moreover, there is evidence suggesting that several psychological symptoms are associated with an individual's likelihood of undergoing elective aesthetic surgery. A recent prospective research found that high scores in Hopkins Symptom Checklist indicating symptoms of depression and anxiety were significant predictors for the individual to seek elective aesthetic surgery, and participants with a history of at least one suicide attempt or deliberate self-harm doubled the probability of seeking elective aesthetic surgery (von Soest, Kvaalem, & Wichstrom, 2012).

Three main psychological disorders have been highlighted in the literature as being more prevalent than others. These are narcissistic personality disorder (NPD), histrionic personality disorder (HPD), and body dysmorphic disorder (BDD) (Shridharani et al., 2010). NPD is a personality disorder described as “a pervasive pattern of grandiosity (in fantasy or behaviour), need for admiration and lack of empathy, beginning by early adulthood and present in a variety of contexts” (American Psychiatric Association, 2000, p. 717). Individuals with NPD are

characterised by a grandiose sense of self-importance and uniqueness. In addition, these individuals have fragile self-esteem and are susceptible to depression. HPD, on the other hand, is a personality disorder characterised by “a pervasive pattern of excessive emotionality and attention seeking, beginning by early adulthood and present in a variety of contexts” (American Psychiatric Association, 2000, p. 714). Lastly, BDD is a serious psychiatric disorder categorised under somatoform disorders that is characterized by a preoccupation and excessive concern with an imagined defect or slight physical anomaly in appearance, which causes clinically significant distress or impairment to many areas of functioning (American Psychiatric Association, 2000, p. 510). BDD is frequently comorbid with many other psychological conditions, such as mood, anxiety and personality disorders, in which BDD patients can also exhibit high rates of suicidal ideation, suicide attempts and completed suicide (Marques et al., 2011; Neziroglu, Khemlani-Patel, & Yaryura-Tobias, 2006).

A recent systematic clinical review suggested that NDP, HPD and BDD are the most common psychiatric disorders in patients seeking elective aesthetic surgery, occurring at higher rates than in the general population (Shridharani et al., 2010). However, this review has been criticised for the apparent arbitrary inclusion and exclusion criteria used by the authors in selecting articles, which meant it failed to include several major studies that seemed to meet the inclusion criteria, and for somewhat inappropriate assumptions without providing a reasonable amount of evidence and support from the literature (Sarwer & Whitaker, 2011). Despite this, the authors agreed that psychological issues in patients seeking elective aesthetic surgery are important concerns in contemporary aesthetic surgery practice, and recommended that preoperative psychological assessment or the inclusion of a mental health professional in the practice could ensure an optimal surgical outcome (Sarwer & Whitaker, 2011; Shridharani, Magarakis, Manson, & Rodriguez, 2011).

Furthermore, although several personality disorders, such as borderline personality disorder, NPD, and HPD, were believed to have a high prevalence in the aesthetic surgery population, there is an ongoing discussion with regard to the prevalence of personality disorders in these patients, as they have rarely been studied in depth in this context (Sarwer & Whitaker, 2011; Shridharani et al., 2011). Sarwer

& Whitaker (2011) pointed out that one of the main reasons that this has not been accurately reported is that personality disorders are well known for complexity and difficulty in diagnosis and treatment. In addition, these disorders are somewhat controversial, and some have even been eliminated in the latest revision of the Diagnostic and Statistical Manual of Mental Disorders – the DSM-5 (American Psychiatric Association DSM-5 Development, 2012). Therefore, studies finding a high prevalence of personality disorders may not have considered this complexity, along with the controversial nature of personality disorders in terms of their diagnostic criteria and assessments used in their studies, thus personality disorders may be believed to be less prevalent than previously reported (Sarwer & Whitaker, 2011).

Nevertheless, of all the psychological disorders that have been observed among patients seeking elective aesthetic surgery, BDD is the most well-researched disorder: in investigating disorders in these patients the bulk of the literature concerns BDD. Although the aim of this study does not specifically target BDD patients, it is worthwhile to understand the role BDD has within this population and the implications these studies might have for the surgeons' practice with regard to their patients presenting with psychological conditions.

One of the main reasons BDD is the most researched disorder is the observed high prevalence it has among elective aesthetic patients. The prevalence of BDD in the general population is estimated at 0.7% (Faravelli et al., 1997; Otto, Wilhelm, Cohen, & Harlow, 2001). However, the prevalence of BDD in elective aesthetic patients has been reported at 7% to 8% in USA and in other countries ranging from 6% to 53% (Crerand, Franklin, & Sarwer, 2006). Although most of these studies have received criticism due to methodological limitations, such as small sample sizes, selection bias and the use of unstructured clinical interviews (Crerand et al., 2006), two studies with improved methodology have reported BDD prevalence of 6.3% (Altamura, Paluella, Mundo, Medda, & Mannu, 2001) and 9% (Aouizerate et al., 2003).

Perhaps it is no surprise that there is an increased prevalence of BDD in this group, since an individual who is pathologically concerned with an apparent defect might be expected to seek elective aesthetic procedures to correct the defect.

However, given that BDD is a serious and disabling disorder with high rates of morbidity and mortality, it is often under-diagnosed and under-recognised by health professionals. Conroy and colleagues (2008) pointed out that patients with BDD tend to hide their symptoms, mainly from embarrassment, fear of negative judgement and fear of not being understood. Phillips (2009) further stated that people with BDD often seek cosmetic intervention or dermatological treatment for their problems, but the majority of patients are either too ashamed of their obsession to disclose their concerns to anyone, or lack insight into their symptoms. This, therefore, makes it difficult for the professionals to recognise relevant symptoms (Phillips, 2009). In addition, patients with BDD tend to seek multiple elective aesthetic surgeries as they often exhibit dissatisfaction with the surgical outcome, even with what are considered to be perfectly performed surgeries. This can in turn further exacerbate the BDD symptoms and the already impaired functioning (Phillips, 2009; Vindigni et al., 2002).

Phillips (2009) further noted that with increased dissatisfaction of the body appearance, BDD patients are likely to attempt appearance alteration by themselves (DIY surgery) in which deliberate self-harm often occurs with the purpose of changing the way they look. Furthermore, BDD patients experience a poorer quality of life compared to patients suffering from other psychopathology and medical pathology (Phillips & Dufresne, 2000; Phillips, 2000). As evidence suggests that elective aesthetic surgery does not effectively treat BDD patients in terms of increasing their body image satisfaction, self-esteem and quality of life, or reduce BDD symptoms, the surgery can also put the patients at risk of exacerbating their psychiatric symptoms, including depression, social isolation, self-destructive behaviour and suicide attempts, and worsen the already poor quality of life (Honigman, Phillips, & Castle, 2004; Pavan et al., 2008).

As many studies failed to provide sufficient empirical evidence that aesthetic surgery has useful effects in treating BDD, many researchers began to suggest that preoperative psychiatric consultation for BDD should be required for patients seeking aesthetic surgery (Crerand, Menard, & Phillips, 2010; Vindigni et al., 2002). Similarly, many researchers have also suggested the need for preoperative psychological assessment not only for detecting patients with BDD, but also for

recognising other psychological conditions of the patient and to assist the surgeon in identifying patients who are psychologically inappropriate for the surgery (Kellett, Clarke, & McGill, 2008; Lyne et al., 2010).

In summary, given the different methodological weaknesses in the literature, the findings of the overall psychological characteristics of patients seeking elective aesthetic surgery seemed rather contradicted where the assessment methods used (i.e., interviews or psychometric assessments) seemed to determine the findings. Therefore, it is difficult to firmly determine the psychological problems of these patients. Sarwer and Crerand (2004) tentatively concluded from their extensive literature review that patients seeking elective aesthetic surgery present a range of psychological symptoms, from mild conditions to severe psychopathology. Others have suggested that such a group, at the very least, differs psychologically from the general population in terms of motivation, expectation and emotional fitness for elective aesthetic surgery (e.g., Grossbart & Sarwer, 2003; Lyne et al., 2010).

The psychological literature on patients seeking elective aesthetic surgery reflects the researchers' interest in identifying patients that are psychologically inappropriate for elective aesthetic procedures. These researchers, including psychologists, psychiatrists and surgeons, are also interested in exploring the association between specific procedures and psychopathology (Sarwer et al., 1998a). Perhaps the development and administration of psychological screening could be more efficient if associations between specific procedures and psychopathology have been identified.

The association between specific procedures and psychopathology.

Focusing on the association between specific elective aesthetic procedures and psychopathology, Sarwer and colleagues (1998a) first reviewed the relevant clinical literature on studies that relied primarily on clinical interviews. They reported there was some uncertainty as to whether a patient's psychological problems differed between different aesthetic procedures. They also reviewed relevant studies that used standard psychometric measures for psychopathology and found that there appears to be no clear association between a given aesthetic surgery and a specific form of

psychopathology. Although Sarwer and colleagues (1998a) noted one of the reviewed articles (Hay, 1970) had found patients seeking rhinoplasty to be more neurotic and obsessive compared to the control group, they stated that, overall, the psychometric measurements used in these studies were not designed to detect psychopathology specific to these patients, thus making it difficult to draw conclusions from the findings. Similarly, a later review found mixed results among relevant studies indicating no relationship between specific procedures and psychopathology (Honigman et al., 2004).

However, more recent studies investigating psychological problems among specific surgical procedures have found that patients presented for bariatric procedures are at a higher risk of experiencing psychological disturbance compared to other procedures (Kalarchian et al., 2007; Sarwer & Crerand, 2004). A recent study reported 66.4% of the bariatric applicants had a lifetime history of at least one DSM-IV Axis I disorder, 38% of whom met the diagnostic criteria during the preoperative evaluation (Kalarchian et al., 2007). In addition, Sarwer and Crerand (2004) examined the psychiatric histories of 90 bariatric candidates and found that more than half of the participants (64.4%) had had at least one psychiatric diagnosis. These findings are consistent and support previous bariatric research in which approximately 50% of bariatric candidates were found to suffer from psychiatric disorders including major depressive disorder, eating disorders and substance disorders (Glinski, Wetzler, & Goodman, 2002; Guisado, Vaz, Lopez-Ibor, & Rubio, 2001).

Although bariatric surgery is not considered a type of elective aesthetic surgery, bariatric surgery patients typically require lipoplasty (liposuction) and abdominoplasty (tummy tuck) for further body contouring sometime after bariatric surgery (Waterhouse, 2008), thus plastic surgeons are more likely to perform surgeries on bariatric patients. Both liposuction and abdominoplasty are very popular procedures, yet little empirical attention has been given to this area with regard to the psychological well-being of patients undergoing these surgeries (Sarwer & Crerand, 2004).

Another important procedure in terms of its association with specific psychopathology is breast augmentation. A series of breast augmentation studies over the past few years have yielded consistent findings and suggested an increased risk of

suicide among women who had undergone breast augmentation surgery. For example, a retrospective cohort study of more than 13,000 women receiving breast implants for an average of 13 years follow-up found that these implant patients experienced significant excess risks of suicide and death compared to the general population (Brinton, Lubin, Burich, Colton, & Hoover, 2001). The subsequent study examining these participants after approximately five years found an elevated risk of suicide (Brinton, Lubin, Murray, Colton, & Hoover, 2006). Another retrospective study, which was considered the largest epidemiological study so far, found an increased rate of suicide compared to the general population among Canadian women who underwent breast implant surgery and other aesthetic surgery (Villeneuve et al., 2006). These studies did not include women who received breast implants after a diagnosis of breast cancer in their sample, thus the sample population were women who received breast implants for aesthetic reasons. In addition, the findings of these studies suggest that the rate of suicide was greater for women who received breast augmentation at a greater age (i.e., after age 40) and for women who had surgery over long periods.

Moreover, Lipworth and colleagues (2007) found that the excess of deaths and suicide among breast implant patients were mainly associated with mental illnesses caused by substance and alcohol abuse or dependence, which suggested significant underlying psychiatric morbidity. In addition, Sarwer and colleagues (2003) reported that breast augmentation candidates were more likely to have used psychotherapy the year before the surgery compared to a control group, indicating the prevalence of preoperative psychological disturbance of the surgery candidates. A recent review noted that numerous studies came to the same conclusion despite the variations of methodology, limitations (e.g., limited psychosocial information for both implant and control groups) and research group among them: the rate of suicide among breast implant patients is higher than expected compared to the general population (Sansone & Sansone, 2007).

Sarwer, Brown, & Evans (2007) provided several possible explanations for the association between women with breast implants and a higher rate of suicide. In their recent review of the literature, they suggested that such association may be influenced by factors such as preoperative personality characteristics (e.g., smoking and drinking

habits) and psychopathology (e.g., eating disorders and depression), potential unrealistic motivations and expectations for breast implants, and the impact of complications after the surgery (e.g., surgical complications). Due to the complex nature of suicide, it is unrealistic and ineffective to predetermine suicide factors among these women, thus many researchers urge the necessity of psychological screening procedures for potential psychological disorders before breast augmentation surgery and other elective aesthetic procedures for every prospective surgery patient (Figueroa-Haas, 2009; Sarwer et al., 2007).

The potential associations between different elective aesthetic procedures and psychopathology raise questions about the effectiveness of treatment and the benefits expected to be provided by elective aesthetic surgery. Psychological benefits are particularly important as that is the main purpose of these surgeries.

The psychological benefits for elective aesthetic surgery patients. The most important aims for elective aesthetic procedures are to achieve psychological benefits such as increased self-esteem and body image satisfaction. Despite several studies demonstrating the psychopathology of elective aesthetic patients, other studies found that these patients are not as psychologically disturbed as previously reported, and most patients showed psychological improvement after the surgery, such as decreased anxiety, neuroticism, obsessiveness and psychological symptoms (Goin & Rees, 1991; Honigman et al., 2004).

However, similar to the studies investigating the prevalence of psychopathology among patients, research looking at psychological improvements after surgery also seemed to depend on the assessment method used. Few findings from the early research (1950s and 1960s) that incorporated questionnaires as part of the assessment reported postoperative psychological improvement (e.g., Webb et al., 1965), whereas others based on interviews found exacerbation of psychological distress after elective aesthetic surgery (e.g., Edgerton et al., 1960). Subsequent studies in the 1970s and 1980s mostly used reliable and valid psychometric assessments with findings that implied improved psychological functioning after the surgery (e.g., Wengle, 1986), however, studies like the early ones that used

interviews, consistently report poor postoperative psychological outcomes (e.g., Knorr, 1972).

More recent studies with improved methodologies, again, seemed to produce findings related to the assessment method used. Many psychometric assessment studies continued to report postoperative benefits such as decreased depressive and anxiety symptoms (e.g., Cash, Duel, & Perkins, 2001; Ercolani, Baldaro, Rossi, & Trombini, 1999; Rankin, Borah, Perry, & Wey, 1998). Several studies also found that patients seeking elective aesthetic procedures who had high levels of body image dissatisfaction experienced body image improvement after the surgery (Crerand et al., 2006). Vargel and Ulusahun (2001) reported similar findings with a small sample of 20 elective aesthetic surgery patients and 20 participants in the control group. Although four participants in the surgery group (20%) were found to meet criteria of body dysmorphic disorder, there were no significant differences between the control group and the surgery group in terms of psychopathology, and more than half of the surgery group participants reported that they were happy with their general appearance, thus the authors suggested that the elective aesthetic surgery patients merely desired to improve their looks.

Despite the increased findings that tentatively suggest the potential positive psychological outcomes for most patients undergoing elective aesthetic procedures, particularly for those patients with mild and non-clinical distress before the surgery (Hasan, 2000), the majority of the studies suffer from methodological limitations. Apart from limitations previously discussed for the early studies, there are also low response rates, as well as a lack of clear and explicit construct definition of the variables investigated in the studies (Crerand et al., 2006; Honigman et al., 2004). For example, Crerand and colleagues (2006) pointed out that none of the research they reviewed clearly defined the psychological and psychosocial domains of functioning under investigation, nor the use of vague terms such as “self image” and “self confidence”, which made replication of the studies almost impossible.

Moreover, although the findings seemed to be related to the methodologies (Sarwer & Crerand, 2004), Crerand and colleagues (2006) later pointed out that it was not necessarily the case. For instance, studies that used either clinical interviews or standardised assessments all reported inconsistent findings despite different

assessment methods — some reported psychological improvement (e.g., Edgerton, Webb, Slaughter, & Meyer, 1964; Goin & Rees, 1991; Marcus, 1984), while others found adverse psychological outcomes (e.g., Meyer, Jacobson, Edgerton, & Canter, 1960), no change in patients' psychological status (e.g., Wright & Wright, 1975) or had mixed results (e.g., Goin, Burgoyne, Goin, & Staples, 1980). The methodological limitations and the contradictory findings led the authors tentatively to conclude that there is so far not enough empirical evidence to confidently conclude that the majority of patients experienced psychological benefit and improvement after an elective aesthetic procedure (Crerand et al., 2006; Sarwer & Crerand, 2004; Sarwer, Pertschuk, Wadden, & Whitaker, 1998).

In addition, a recent prospective study found a greater increase in depressive and anxiety symptoms, as well as eating problems in patients after elective aesthetic surgery compared to those who did not undergo surgery, and no psychological improvement was found among patients who underwent the surgery (von Soest et al., 2012). The patients' dissatisfaction with the surgical result and poor quality of life after surgery suggests that elective aesthetic surgery does not seem to alleviate pre-existing psychological conditions. Although the authors noted that breast augmentation surgery can result in increased satisfaction with the specific body feature (i.e., breasts), it does not change the patients' overall body image dissatisfaction and psychological functioning.

The psychological benefit of elective aesthetic surgery remains debateable, not only for patients with psychopathology (e.g., depression or BDD), but also among patients with minor to severe body disfigurement (i.e., individuals not necessarily with psychopathology), which is considered to be one of the top reasons for people to seek elective aesthetic surgical intervention. The biomedical model which implicitly suggested the simple positive causal relationship between elective aesthetic surgery (e.g., to improve body disfigurement) and improved body image (i.e., decreased psychological distress) has been criticised by many studies (e.g., Rumsey & Harcourt, 2004). A biomedical approach is adopted by Western medical and surgical services and Hansen & Butler (2012) stated that this approach may not be sufficient to resolve the patients' appearance concerns — in fact, it may compromise a full understanding of patients' dissatisfaction with the surgery result. They also stated that despite the

fact that surgery can produce an “improved” physical appearance, it does not necessarily change the individual’s appearance concerns, as these concerns are multifactorial, with many other factors involved in the process of changing appearance concerns. Sarwer (2002) further stated that elective aesthetic surgical intervention can decrease an individual’s psychological distress concerning the specific body part but does not change the individual’s overall body image. Another study looking at the effects of reconstructive surgery indicated that body image is more complex than a simple causal relationship and involves physical, psychological and social factors (Pruzinsky, 2002). Rumsey and Harcourt (2004) stated in their review that in subscribing to the biomedical model, physical appearance enhancement is necessary to improve quality of life — this can press patients to seek available surgical treatment to improve their appearance, yet the patient’s and surgeon’s understanding of ‘physical enhancement’ and outcome expectations can differ fundamentally, which may subsequently lead to undesirable consequences. Given the complex nature of body image, perception and physical appearance, it has been suggested that the biomedical model should be expanded and offer psychosocial support and treatment in addition, or as alternatives, to aesthetic surgical intervention (Rumsey & Harcourt, 2004).

In summary, although there may be some potential psychological benefits for patients undergoing elective aesthetic surgery to ‘improve’ their looks (i.e., increase satisfaction and self-esteem), this seemingly straightforward relationship is far more complicated, as body image satisfaction is also influenced by other factors. A number of related reviews and studies with respect to psychological aspects of elective aesthetic surgery patients have all concluded that despite most of these patients appearing to be satisfied with the surgical outcome, for those who are unsatisfied, particularly those with psychopathology, it can lead to undesirable and serious consequences with exacerbation of the symptoms (Borah et al., 1999; Crerand et al., 2006; Honigman et al., 2004; Mulkens et al., 2012). However, psychological influences are not restricted to the patients who seek elective aesthetic surgery but apply to the entire surgical practice, starting from the patients’ decision to seek surgery, interpreting contraindications for the surgery and the surgical outcome itself, such as wound recovery and patient compliance.

The Psychology of Surgical Practice

Elective aesthetic surgery differs fundamentally from other types of surgery as it includes a substantial number of psychological components. Beginning with the patient's motivation and reasons for seeking elective aesthetic treatment, it is not, unlike other general surgery, medically required but entirely driven by the patient's psychological needs (Sarwer et al., 1998a). Elective aesthetic surgery is also arguably one of the very few procedures that consider psychological illnesses as contraindications to the surgery (Veale, 2006). Moreover, as with general surgery, psychological components can be important determinants for the rate of surgical recovery and patients' postoperative compliance (Bunzel & Laederach-Hofmann, 2000; Steptoe, Hamer, & Chida, 2007). However, unlike other surgery, the success of elective aesthetic surgery depends on the patient's quality of life and body image satisfaction after the surgery, where pre-existing psychological conditions can be influential in the postoperative psychological outcome (Honigman, Jackson, & Dowling, 2011).

Psychology in the decision to seek surgery. Regardless of whether psychopathology is present in patients seeking elective aesthetic surgery, body image dissatisfaction is believed to be the fundamental motivation for people pursuing these procedures (Sarwer et al., 1998b). Although evidence suggests that elective aesthetic patients do not show greater dissatisfaction with their overall appearance than the normative values of the measurements (i.e., Multidimensional Body-Self Relations Questionnaire), the level of dissatisfaction with the specific body part undergoing surgery was significantly higher than the normative sample. The level of body image dissatisfaction is believed to be influenced by various psychological components, which in turn influence the decision to seek elective aesthetic surgery (Sarwer et al., 1998a).

A theoretical model of the relationship between body image and elective aesthetic surgery has been proposed by Sarwer and colleagues (1998a). It was developed from a number of psychological theories and is one of very few models developed to explain body image and the decision to seek surgery. The model consists of two main components — physical and psychological factors. The authors suggested that these are the main influences on the individual's body image and the decision to seek elective aesthetic surgery.

The first component, the physical aspect, refers to the physical reality of the individual (i.e., height, skin colour and body shape). These form the foundation for the individual's perception of body image and the psychological influences. Physical appearance is often the first source of information people have about the individual and in the first instance this guides social interaction. The physicality of the individual has an important impact on the decisions and evaluations the individual makes on his/her own body and about the bodies of others. Physical attractiveness is positively associated with favourable responses in social situations such as education, employment and partner selection; and it is also positively associated with others' perception of the individual, such as intelligence, competence and social desirability. (Alley, 1988; Bull & Rumsey, 1988; Hatfield & Sprecher, 1986). Based on these theories of body image, Sarwer and colleagues (1998a) suggested that the physical characteristics of the individual are an important determinant of the individual's beliefs and behaviours with regard to their own bodies, which in turn allow the psychological components to influence their perception of their own body image and the decision to seek elective aesthetic surgery.

The second component in the model is the psychological influences on body image including perceptual, developmental, sociocultural, and self-esteem influences (Sarwer et al., 1998a). The perceptual influence is related to the individuals' perceptual ability to accurately evaluate their own physical characteristics such as the size and shape of their own body. Patients seeking elective aesthetic procedures often perceive their appearance (i.e., size and shape) as different to the objective reality, indicating that their perception of appearance changes is somewhat imprecise (Sarwer et al., 1998a; Sarwer & Crerand, 2004). However, the author pointed out that such a

perceptual inaccuracy theory has yet to be further investigated in the population seeking elective aesthetic surgery.

The existing developmental theories have suggested that developmental influences and experiences (i.e., being teased about one's appearance) can predispose individuals to body image dissatisfaction (e.g., Heinberg, 1996). The relationship between teasing and body image dissatisfaction has been identified and observed among elective aesthetic surgery patients in which they complain about the emotional pain of being teased with regard to their appearance even after a considerable period of time (Sarwer et al., 1998a; Sarwer & Crerand, 2004). As with the perceptual inaccuracy theory, the authors indicate that the developmental theory has yet to be further explored in individuals seeking elective aesthetic surgery.

The sociocultural influences are based on theories of social norms and expectations that influence and affect the etiology and maintenance of the individual's body image dissatisfaction (Heinberg, 1996). The cultural ideals of beauty, particularly exposed and emphasised by mass media, have become what people compare themselves with, and the discrepancy between one's actual appearance and societal ideals can result in body image disturbance (Heinberg, 1996). This is thought to be one of the most important and influential factors in the increasing demand for elective aesthetic surgery, and the most relevant in understanding the relation between body image and elective aesthetic surgery (Sarwer et al., 1998a).

Another psychological influence in the model is that of self-esteem. The structure and functions of the physical body are believed to be the representation of the self, and the correlation between body image and self-esteem has been identified in many studies (Davison & McCabe, 2005; Fisher, 1990; Sarwer, Wadden, & Foster, 1998). Based on these findings, a number of theoretical models, such as the cognitive-behavioural model and the cognitive schema model, were developed to explain the development of problems in self-esteem, which also explains the effect of body image on self-esteem (Beck, Freeman, Davis, & Associates, 2004; Cash & Labarge, 1996). The cognitive-schema model or the self-schema theory suggests that the individual's current experience is guided by past experience, which forms the schema or the cognitive structure within the individual, including an appearance-related or body image schema. Any given environmental stimuli about appearance (e.g., cannot fit

into jeans) can activate such a body image schema, which impacts on the individual's emotions and behaviour (e.g., feeling unhappy or seeking elective aesthetic surgery). Therefore, among people with negative body image schema, their self-esteem is believed to be affected by their physical appearance (Cash & Labarge, 1996). This would perhaps make them more likely to seek elective aesthetic surgery compared with others without such a schema.

The physical and psychological factors described above are thought to have influential effects on an individual's perception of their own appearance and body image (Sarwer et al., 1998a; Sarwer & Crerand, 2004). In addition, it has been suggested that the components of body image itself have two dimensions (Brown, Cash, & Mikulka, 1990; Cash, 2002). The first dimension is the importance of body image to self-esteem (the body image valence), followed by the degree of satisfaction with one's appearance (the body-image value). Sarwer and colleagues (1998a) believe that the interaction between body image valence and body image value leads to a patient's decision to seek elective aesthetic surgery, particularly in people with high body image valence whose body image is of significance to their self-esteem, and with high body image dissatisfaction. Heightened body image dissatisfaction in elective aesthetic surgery patients has been reported in a number of empirical studies (Bolton, Pruzinsky, Cash, & Persing, 2003; Didie & Sarwer, 2003; Sarwer et al., 2003).

Although elective aesthetic surgical intervention can improve an individual's body image dissatisfaction with the specific feature that has undergone the surgery, this does not necessarily affect or improve the individual's overall body image dissatisfaction (Sarwer et al., 1998b). In summary, given the findings, theories and models, it seems that various psychological components are involved in the patient's decision to seek elective aesthetic surgery. It is not only the decision-making process that distinguishes elective aesthetic surgery from general surgery, because the psychological condition of the patients can also be considered a contraindication for elective aesthetic surgery.

Psychological contraindications in elective aesthetic surgery. Patients with several physical health conditions can be contraindicated in all kinds of surgery that requires general anaesthesia, such as heart and lung diseases, diabetes, habits of smoking and drinking. Fortunately, patients with identified physical conditions are usually detected and screened out by surgeons using the standard medical examination which in turn avoids and/or minimises surgical complications that can be caused by these conditions (e.g., infections and haematoma) (Garcia-Miguel, Serrano-Aguilar, & Lopez-Bastida, 2003). In elective aesthetic surgery, there are several additional complications and contraindications to the surgery due to the purpose of the surgery. For example, liposuction may result in a range of undesirable complications, from skin dimpling, scars and sensory disturbance to a more serious surgical complication such as hematogenic shock and sepsis (Harth & Hermes, 2007). In terms of surgery contraindications, whilst medical conditions can be standard contraindications for general surgical procedures, elective aesthetic surgery is one of the few surgeries that also has psychological contraindications. The biopsychosocial aspects of the patients, including medical condition, psychological well-being and psychosocial background, are crucial for determining whether the patient is appropriate for elective aesthetic surgery (Harth & Hermes, 2007).

Veale (2006) identified three groups of patients who are typically contraindicated to elective aesthetic surgery. The first group are patients suffering from psychosis, mania symptoms or severe depression. For people in this group, their judgement of whether they require the surgery may be impaired or the decision to have the surgery may be related to delusions or hallucinations regarding the surgery. The second group who may be contraindicated are patients with eating disorders who typically seek procedures that contour the body shape, such as lipoplasty. Patients with eating disorders are typically contraindicated in general surgeries due to the potential surgical complications (e.g., electrolyte imbalance and cardiac arrhythmias). Not only that, Coughlin and colleagues (2012) further noted that elective aesthetic surgery patients with eating disorders were associated with purging behaviours and with greater use of laxative and diet pills. This is perhaps due to perceptual problems associated with these patients' body image (Sadock & Sadock, 2007), and that elective aesthetic treatment may be ineffective in symptom alleviation (e.g., reducing

binge eating and purging behaviours), or may even exacerbate the symptoms of these patients. In addition, patients with eating disorders have been reported to have a higher tendency to seek lipoplasty (Javo & Sorlie, 2010), and exacerbation of eating disorder symptoms was reported among patients who underwent elective aesthetic surgery in several case studies (McIntosh, Britt, & Bulik, 1994; Willard, McDermott, & Woodhouse, 1996). The third group of patients are those with BDD (Veale, 2006). Here Harth & Hermes (2007) have stated this is an absolute contraindication for elective aesthetic surgery due to the adverse surgical outcomes among patients with BDD. In addition, the surgeons are also more likely to receive undesired outcomes such as negative feedback of unreasonable dissatisfaction from BDD patients followed by unpleasant litigation (Harth & Hermes, 2007).

In summary, it would seem that screening for psychological contraindications in surgery patients is important to avoid or minimise undesired surgical outcomes and to achieve the purpose of elective aesthetic surgeries. In addition to psychological contraindications, there are also problems associated with psychological factors influencing surgical outcomes, such as wound healing and postoperative compliance, which may lead to unpleasant consequences. More importantly, the psychological condition of the patients may lead to dissatisfaction with surgical results and a poorer quality of life, which may in turn defeat the purpose of elective aesthetic surgery.

Psychology in surgical outcomes. Apart from the obvious, that the individual comes out of the surgery with a changed appearance, a number of other factors influence the optimal surgical outcome. These include psychological complications, surgical recovery, postsurgical compliance, satisfaction and quality of life after surgery (Borah et al., 1999; Broadbent, Petrie, Alley, & Booth, 2003; Murphy, Beckstrand, & Sarwer, 2009; Young, Watson, Centeno, & Boswell, 2004). Borah and colleagues (1999) reported psychological complications to be more common than surgical complications, such as infection or hematoma, in a sample of 281 plastic surgery patients. Postoperative depression, anxiety, and disappointment were the most observed psychological complications in the study. The authors reported that patients with pre-existing psychological conditions, and patients who experience physical

complications (e.g., infection) were much more likely to experience postoperative psychological complications. The authors noted that undertaking surgery can be a significant stressor to patients as it can lead to consequences including death, pain and disfigurement, economic losses, and possible changes in social role, and that psychological, rather than physical, complications can be most disturbing for both surgeons and patients. In addition, the authors stated that ineffective management of patients' psychological issues can lead to adverse consequences such as delayed recuperation, poor patient compliance, dissatisfaction with the result, and hostility toward the surgeon.

Some researchers have suggested that the psychological distress of the patients does not necessarily lead to adverse surgical outcomes in elective aesthetic surgery, particularly when there is sufficient support and understanding of the patients' motivation (Thomson, Knorr, & Edgerton, 1978). However, a large body of empirical evidence suggests that both preoperative and postoperative psychological distress in surgical patients can considerably impair surgical recovery, including wound healing, and increase hospitalisation time (Broadbent et al., 2003). Wound healing is critical in the surgery outcome as poor wound healing can lead to wound infection and complications, prolonged hospitalisation and increased patient discomfort, and delay a return to normal daily functioning and activities (Broadbent et al., 2003). Broadbent and colleagues (2003) conducted one of the first investigations into the effect of psychological stress on wound healing in a clinical setting and reported that higher preoperative psychological stress is associated with lower cellular wound repair in the early postoperative stage. These findings were significant and are consistent with previous laboratory studies. An impaired inflammatory process in the wound was found among surgery patients with greater preoperative stress, which subsequently influenced the physiology of wound repair. In addition, the authors reported that greater postoperative pain, poorer self-rated recovery, and longer period of recovery were found to be associated with the low wound remodelling process resulting from psychological stress, which further evidenced the ability of the psychological process to impair various elements of surgical recovery.

Later meta-analysis studies have also evidenced that psychological stress including acute psychological stress is associated with impaired wound healing, the

dysregulation of biomarkers associated with wound healing, and circulating inflammatory markers in both laboratory and clinical settings (Steptoe et al., 2007; Walburn, Vedhara, Hankins, Rixon, & Weinman, 2009). Due to mounting interest in this area, new findings of various psychological factors associated with wound healing are discussed in a recent review by Broadbent and Koschwanesz (2012). The known significant psychological influences on wound healing are not limited to psychological stress, as studies have also found individual coping styles, positive affect, environmental and social support to have a positive influence on wound healing. It has been consistently suggested that the severity of the underlying medical pathology is not correlated with the patient's psychological distress, for example, a person with a minor scar can still experience a high level of distress, thus a patient's level of psychological disturbance can often be overlooked or underestimated when presented for minor plastic surgery (Hansen & Butler, 2012; Rumsey & Harcourt, 2004). Finally, certain personality traits of the patients such as inadequate anger control and hostility, and coping styles such as in vigilant patients, have also been found to complicate surgical recovery, while dispositional optimism, religious beliefs and anger control have been found to promote recovery (Mavros et al., 2011).

Patients' postoperative compliance is another important factor influencing the surgical outcome. Psychological conditions such as depression, anxiety, poor social support and other psychopathology that lead to postoperative non-compliance is one of the major problems affecting surgical outcome as it can increase the risk of complications, reduce the effectiveness of surgical treatment and result in a waste of resources (Bunzel & Laederach-Hofmann, 2000). It is critical for patients to adhere to the surgeon's guidelines and instructions after elective aesthetic surgeries, particularly ones involving implants (e.g., breast augmentation) (Young et al., 2004). Although there is limited research that directly investigates psychological aspects of patient postoperative compliance specifically in elective aesthetic surgery, many studies have confirmed and documented that psychological variables are associated with postoperative non-compliance (e.g., Bunzel & Laederach-Hofmann, 2000). Of the many types of surgeries, it may be worthwhile to understand the association between psychological factors and postoperative non-compliance in bariatric surgery given the similarities in the purposes of bariatric and elective aesthetic surgery (i.e., to improve

appearance). Relevant findings in bariatric surgery may also have important implications for elective aesthetic surgery, given that bariatric patients typically require further body contouring procedures (Waterhouse, 2008).

Much attention has been paid to obese patients undergoing bariatric procedures where patient compliance is very important for both short-term and long-term surgical outcomes. Patient compliance in short-term outcomes is related to surgical complications, for example, refusing recommended supplementation can lead to malnutrition after bariatric surgery (Kushner, 2000). A study into complications after gastric banding procedures reported that patients' inadequate eating habits and non-compliance with alimentary recommendations were factors in progressive complications (i.e., pouch complications) (Lunca, Vix, Rikkers, Rubino, & Marescaux, 2005). In terms of long-term outcomes, a patient's failure to adhere to behavioural recommendations for diet and exercise after bariatric surgery can reduce the surgical treatment effectiveness (i.e., failing to lose weight) and lead to severe medical complications such as severe malnutrition, as well as psychological complications, such as increased depressive symptoms (Elkins et al., 2005). Some have suggested that these undesired complications result from psychosocial and behavioural factors such as poor adherence to diet recommendation and behaviours of overeating (Sarwer et al., 2004). Other preoperative psychological problems in bariatric surgery, such as a persistent negative body image, psychological disturbance and destructive eating behaviours, may also indicate postoperative non-compliance (Song & Fernstrom, 2008). In addition, a study reported that a patient's postoperative score on the Millon Clinical Multiaxial Inventory-III Schizoid scale indicating emotional needs and relationship attachment can be a useful predictor of bariatric surgery outcome (i.e., weight loss) as well as their adherence to postoperative behaviour recommendations for diet and exercise (Rowe, Downey, & Faust, 2000).

In elective aesthetic surgery the psychosocial outcomes are important. The success of elective aesthetic surgery essentially depends on psychosocial outcomes, such as the patient's satisfaction and quality of life after the surgery (Ferraro, Rossano, & D'Andrea, 2005). Many studies have reported increased self-esteem and quality of life, as well as increased body image satisfaction for patients who underwent various elective aesthetic procedures (e.g., Murphy et al., 2009; Sarwer et

al., 2008). Others report that patients with psychological conditions, such as psychiatric disturbance, depression, anxiety and high dissatisfaction with body areas before the surgery are at risk of reporting greater dissatisfaction with surgical outcomes (Honigman et al., 2011). Similarly, Hansen and Butler (2012) based on their clinical and surgical experiences, pointed out that while patient dissatisfaction is most likely to be associated with their expectation of the surgical result, patients often view their dissatisfaction with the surgical outcome as “surgery gone wrong” (p. 52). Therefore, performing surgery on patients with unrealistic expectations is also likely to lead to postoperative dissatisfaction. The literature tends to suggest that there is little or no psychological benefit for some elective aesthetic patients, particularly those with pre-existing psychiatric conditions, as it can result in high levels of patient dissatisfaction despite successful surgical outcome (e.g., Honigman et al., 2004). A recent prospective research reported that there were no indications of mental health improvement among patients with pre-existing depressive and anxiety symptoms after elective aesthetic surgery (von Soest et al., 2012). These results seemed to further support the notion that psychological variables can affect surgical outcomes, with patients with psychological conditions experiencing adverse psychosocial outcomes.

The association between psychological variables and psychosocial outcomes from surgery is particularly evident among patients with BDD. Such patients are likely to exhibit a greater dissatisfaction with surgery results regardless of the actual surgical outcome (Phillips, 2009). Potential adverse consequences for these patients reported in a number of studies include seeking multiple surgeries, DIY surgery, deliberate self-harm, suicide and exacerbating already impaired functioning (Honigman et al., 2004; Pavan et al., 2008, Phillips, 2009).

Surgeons operating on patients with BDD or other psychopathology are likely to face adverse consequences such as unreasonable complaints and threats from the patients, as well as legal threats and action (Phillips, 2009). Therefore, a large number of studies suggest that surgeons should be competent in screening and recognising a range of psychopathology and make appropriate referrals for the most optimal outcome for the patients (Kellett et al., 2008; Lyne et al., 2010; Vindigni et al., 2002).

However, the development of psychological screening tools for elective aesthetic surgery is easier said than done. Psychological evaluations for elective

aesthetic patients in the 80s and 90s relied mainly on clinical interviews and standard assessments of mental health to assess personality types and measure psychopathology with the purpose of identifying patients who are likely to be dissatisfied with the surgical results. For example, the Beck Depression Inventory has been used in several studies to measure patients' preoperative and postoperative depressive symptoms (Goin et al., 1980; Schlebusch & Mahrt, 1993). Personality assessments such as the Cesarec-Mark Personality Scheme and Minnesota Multiphasic Personality Inventory are commonly used to measure patients' personality and attitudes (Beale, Lambert, Lisper, Ohlsen, & Palm, 1984; Goin et al., 1980; Meyer & Ringberg, 1987; Wright & Wright, 1975). Although some of those assessments are still being used in elective aesthetic surgery practice, they are criticised, typically because they are not designed specifically for aesthetic surgery patients (Harris & Carr, 2001; Wildgoose, Scott, Pusic, Cano, & Klassen, 2013).

Given that aesthetic surgery patients do not exhibit specific types of personality, nor uniformly meet the diagnostic criteria for BDD, and only some show clinically significant anxiety or depression, Harris and Carr (2001) have recognised the complex nature of these patients, and developed a new psychometric scale (the Derriford Appearance Scale 59 (DAS59)) for evaluating elective aesthetic surgery outcomes. These authors stress the importance of a valid and reliable assessment specifically designed to tackle the spectrum of symptomatology relevant to aesthetic surgery.

More recently, Honigman and colleagues (2011) also argued that there is no brief and objective screening protocol to assist surgeons to recognise patients who are psychologically inappropriate for some types of aesthetic procedures. Therefore they focused on facial and dental aesthetic surgeries, and developed a preoperative psychosocial screening tool (the Preoperative FAcial Cosmetic surgery Evaluation, or PreFACE) based on pre-existing instruments for elective facial and dental surgery patients for the purpose of identifying patients prior to the surgery likely to report unreasonable dissatisfaction with surgical results.

Although recently developed screening tools are starting to target elective aesthetic surgery patients and specific aesthetic procedures, a recent review suggested these screening tools await validation with larger samples and greater recognition

from plastic surgeons (Wildgoose et al., 2013). Given that many studies stress the importance of preoperative psychological assessment, which should be used routinely in the practice to identify patients who need psychological intervention, or even may not need elective aesthetic surgery, this systematic review of contemporary psychological screening tools concluded there is a lack of self-report questionnaires developed specifically for aesthetic surgery patients that cover the main symptoms identified as important in preoperative screening (Wildgoose et al., 2013).

To summarise, although many psychological factors may not be considered contraindications to surgery, there is evidence to suggest they have considerable impact on surgery outcome in the elements of psychological complications, surgical recovery, patient compliance and psychosocial outcomes. Despite the literature examining and reporting the prevalence of psychopathology among these patients and the relevance of psychological factors in surgical practice, frequent suggestions to assess preoperative psychological well-being and to appropriately manage patients with psychological issues (e.g., make appropriate referral for mental health care), the plastic surgeons do not appear to be adopting these recommendations.

Chapter 4: The Surgeons' Attitudes, Practices and Management

It is important to explore the attitudes, practices and management of plastic surgeons with regard to their patients who may present with a range of psychological conditions. As discussed in previous chapters, early studies suggested that the majority of patients seeking elective aesthetic surgery meet criteria for psychiatric disorders including personality disorders and body dysmorphic disorder (BDD), with recent research suggesting less psychopathology is present than previously thought, but still identifying a range of psychopathologies among elective aesthetic surgery patients (Sarwer et al., 1998a; Sarwer & Crerand, 2004). As a result, the authors of these studies stressed the need for preoperative psychological assessment or psychiatric evaluation for patients seeking elective aesthetic procedures to ensure that the patients are psychologically appropriate for the procedures. However, given this apparent important role of psychology in surgical practice, little seems to be known about the amount of psychological training the surgeons receive during their medical training.

O'Connor and colleagues (1999) have conducted a study exploring the amount, format and content of psychiatric teaching and training in 12 Australian and New Zealand medical schools, including Auckland and Otago Universities. The total amount of teaching (i.e., lectures) ranged from 285 to 534 hours with an average of 416 hours throughout the medical degree; and the total amount of clinical training (including attachments to hospitals and clinics) ranged from 279 to 454 hours with an average of 353 hours. The authors noted that the training was somewhat inconsistent between institutions, with some offering up to six years of psychiatric teaching programmes during medical training, and others as little as two years. Such discrepancy in the amount of teaching and training was a major concern for the authors, as the standard of psychological knowledge and clinical experience could vary widely among otherwise well-trained and qualified surgeons. However, the findings only concern the quantity of the psychiatric training provided by the

institutions, and no comment was made on the quality of the programmes — one hour of high quality teaching may be preferable to several hours of unstructured lectures.

Another important concern raised in O'Connor and colleagues' (1999) study was that the majority of the psychiatric teaching and training took place during hospital attachments where most placements are in public adult inpatient units. This means that with a focus on public adult inpatient psychiatry, the students may not gain substantial exposure to the most common psychopathologies in the general public, such as mood and anxiety disorders. The joint committee of the Royal Australian and New Zealand College of Psychiatrists and the Royal Australian College of General Practitioners released a report addressing this concern and suggested the need for medical students to graduate with competent abilities in a range of psychiatric and psychological disorders (Joint Consultative Committee in Psychiatry, 1998).

O'Connor and colleagues (1999) concluded that the most worrying finding was the small number of hours spent in learning counselling skills and other psychological therapies. The students' communication skills gained from the medical training may not be sufficient for therapeutic discussions of a psychological nature when required. This research has important implications in the area of elective aesthetic surgery practices, as the literature suggests that the population seeking elective aesthetic surgery is different from the general population in terms of their psychological concerns, motivation and expectations (Grossbart & Sarwer, 2003; Lyne et al., 2010; Sarwer et al., 1998a). Thus surgeons who perform elective aesthetic surgeries may require more competencies in assessing psychological concerns than surgeons in other specialities (e.g., cardiothoracic surgeons).

On the other hand, it may be rather unreasonable to request that surgeons administer psychological screening tools and identify inappropriate surgical candidates given the somewhat inadequate amount of compulsory psychological training they received during their medical training. Given that these surgeons were not trained to diagnose psychiatric conditions in the same way as mental health professionals, some have suggested that a close cooperation between mental health professionals and surgeons would be able to efficiently recognise symptoms at an early stage, and to slow the progression of psychiatric symptoms (Bianchini et al., 2013). In addition, some countries have recognised the psychological consequences

and have increased relevant psychological input in elective aesthetic surgery practice. For instance, prospective plastic surgery patients receive preoperative psychiatric assessment in most North American countries, but this procedure has been reported to be uncommon in Europe (Bianchini et al., 2013; Hansen & Butler, 2012). Furthermore, the British All Party Parliamentary Group on Body Image (2012) released the Parliamentary Report 'Reflection on Body Image' with policy recommendations of "mandatory screening for patients undergoing cosmetic surgery" and "research to assess the long term impact that cosmetic surgery has on these patients" (p. 73), which has addressed the importance of psychological input within the practice. Similarly, Hanson & Butler (2012) stated that the National Health Service in the United Kingdom is facing the challenge to demonstrate that elective aesthetic surgery is "psychological surgery" and ensure that it has clear long-term psychosocial benefits for the patients.

However, the ultimate responsibility is most likely to lie with the surgeons, as they are responsible for selecting appropriate patients for the surgeries, if not screened by mental health professionals. They are also responsible for careful management and making appropriate arrangements for the patients when the patients present signs of mental health problems (Medical Council of New Zealand, 2011). Yet there seems to be very little attention paid by the literature to surgeons' attitudes, practices and management with regard to the psychological issues of their patients.

A cross-sectional study conducted by Pitak-Arnop and colleagues (2011) examined oral and maxillofacial surgeons' knowledge, attitudes and practices relating to psychological problems in facial injury patients across three countries (United States, United Kingdom and France). The survey consisted of five multiple-choice questions and two open-ended questions which were sent via email to the surgeons. Sixty percent of the respondents reported a moderate or high level of basic psychological knowledge relating to post-traumatic problems, and 95% of the surgeons reported that they have seen patients with psychological morbidities; in addition, apart from one surgeon, all of them reported that they were confident in diagnosing the relevant psychological problems in the patients. However, 58.3% of the French surgeons revealed that they lacked relevant psychological knowledge. This may be explained in part by the fact that psychological professionals were more

frequently present in French departments (44%) compared to the UK (27.8%) and the US (7.1%) ($p < .05$). Perhaps due to the participants' overall self-reported good psychological knowledge, around two thirds (67%) of the surgeons reported intra-service psychological personnel were unnecessary but access to psychological care should be available when needed. In addition, the most common reasons for referring patients to psychological care were depression, followed by BDD, suicidal ideation, anxiety and behavioural changes, with 19% of the surgeons reporting post-traumatic stress disorder and depression to be the only indication for referral.

Unfortunately, the study did not provide information with regard to the demographic background of the surgeons (e.g., gender, current level of practice and years of surgical experience) which may be influential factors determining knowledge and attitude to psychology. For example, the years of surgical experience may correlate with the level of self-reported psychological knowledge. It would also have been helpful if this study had indicated what methods the surgeons used to diagnose, and how they assessed the severity and the clinical significance of the psychological symptoms to determine whether they should make appropriate referrals to mental health care. For example, Ephros & Lyne (2008) have found that the majority of the surgeons used intuition and clinical judgement to screen the psychological status of their patients, which may have been insufficient for the surgeons to recognize or diagnose the patients' psychological conditions.

In addition, the authors seemed to have made conclusions based on a relatively small number of questions in the survey, where the evidence might be considered insufficient for these assumptions. For example, based on their findings that 88% of the surgeons reported that patient's non-compliance can cause practice difficulties and 58% of the surgeons had experienced such difficulty due to patient non-compliance, the authors concluded that the management of non-compliance was largely affected by patient factors — without additional data analysis to support such a statement. They also seemed to assume a potential treatment disparity based on the findings of five surgeons who reported problems in their referral system, and further suggested a violation of the principles of beneficence and non-maleficence. However, a larger sample and additional data analysis may be required for the validity and reliability of these findings, and the ability to generalise the results and the conclusions.

Lastly, this study is also limited by its relatively low response rate (28.1%, $n = 112$) with most of the surgeons being senior or head surgeons, so it may not be possible to generalise and apply the findings to all oral and maxillofacial surgeons with different levels of practice. The authors also noted that one of the main limitations was that self-assessment can be unreliable in assessing surgeons' psychological knowledge due to social desirability bias. In addition, the authors have used email communication, where anonymity can be difficult to conceal, causing the low response rate. An online survey was suggested as an alternative to increase the response rate.

Butler's (2009) presentation (as cited in Hansen & Butler, 2012) examining psychological management across all plastic surgery units in the United Kingdom reported that there is a wide variation in access to mental health care across surgery units. The telephone survey found that psychological care was provided in only 24% of the body contouring surgery units, and 76% of all surgery units had a physician with additional training in psychology who could refer patients to mental health care when required. Mental health professionals including clinical psychologists and clinical nurse specialists are most likely to be included in the surgery units, and psychiatrists are likely to be available within the hospital. Moreover, the psychological consultation time offered to the patients was described by the authors as having "significant variability" (p. 56). The mental health services offered ranged from less than half a day per week to a more unusual full-time basis, and some services were only available for patients with specific ailments, such as cancer or burns.

Given that plastic surgery patients can experience high levels of psychological distress, the authors were surprised to find that not every unit has an established clinical pathway on the access to mental health care. The authors therefore concluded that the main concern was a lack of structure in the United Kingdom to address the psychological needs of surgery patients with appearance concerns.

Another study incorporated both qualitative and quantitative research methods to identify patient factors that may have influenced patient selection in elective aesthetic surgery consultations (Cook, Rosser, James, Kaney, & Salmon, 2007). Six consultant plastic surgeons were included in the qualitative phase of the study to

identify the major factors surgeons considered in the patient selection process and 355 patients were included in the quantitative phase to see if the patient factors identified in the qualitative phase predicted the surgeon's patient selection. The decision model based on the qualitative findings suggested that surgeons considered factors relating to patients' economic and psychosocial concerns, as well as their quality of life, on top of the standard clinical factors such as surgical risks versus benefits, and the patients' potential level of satisfaction with the surgical outcome. The surgeons also seemed to consider their own ratings of the patient's physical abnormality and their physical quality of life when selecting patients for surgeries. However, it is unclear how the patients' quality of life influenced the surgeons' decision, as some indicated that patients with poor quality of life may benefit from the surgery and others implied that psychological distress (as it influences quality of life) may indicate psychological, rather than surgical needs. The authors stated a decision model was confirmed in the quantitative phase where minor surgeries (e.g., removal of moles) with relatively low surgical risk and cost were much likely to be offered to the patients compared to more major procedures (e.g., abdominoplasty).

Another significant predictor for surgeons to offer surgery was the physical abnormality rating given by the surgeons (i.e., surgeons' evaluation of whether the patients' physical appearance is normal or abnormal). However, the authors pointed out that the literature suggests that the surgeons' ratings of physical abnormalities do not highly correlate with the patients' subjective ratings of their own physical abnormality. This suggested that while the patients may consider themselves to look abnormal, the surgeons may not agree. Therefore, the surgeons' decisions based on their subjective ratings may not justify surgical intervention (Cook et al., 2007).

Furthermore, the authors suggest that surgeons exhibit reluctance in offering surgeries to patients with poorer physical quality of life. Given that physical dysfunction and psychosocial dysfunction are correlated, the authors suggest that such reluctance may not be entirely due to the actual physical quality of life, but the potential psychosocial dysfunction indicated by the poor physical quality of life. Therefore, in the absence of an objective indication and measurement of patients' psychosocial functioning (e.g., medical record of psychiatric history), the surgeons seemed to have used the patients' levels of physical quality of life as the most reliable

indicator for the patients' level of psychosocial functioning. The authors state that this is consistent with the literature where patients with psychological illness is a sign of contraindication to elective aesthetic surgery, in which case surgeons should be cautious when selecting patients.

One of the authors' major concerns and the reason for conducting the study was that the guidelines developed for plastic surgeons to facilitate elective aesthetic surgery lacked clarity and there were other important concerns, such as the psychological factors identified in the study. The authors concluded that, though their findings were that factors influencing surgeons' decisions can be identified and quantified, those factors were not addressed in the existing guidelines. Therefore, surgeons are often required to make decisions without assistance from the decision protocols. However, although many of the factors identified in the study are related to the patients' psychological condition, little has been addressed with regard to the psychological concerns of the patients in the conclusions and the implications of the study. Given that the ambiguous surgical guidelines were the authors' greatest concern, it would be helpful if more attention were given to the psychological assessment aspects in the surgeons' decision-making process. For instance, Hansen and Butler (2012) argued that despite the National Institute for Health and Clinical Excellence guidelines for BDD stressing the necessity of screening and having access to mental health care available when symptoms are presented, many patients can experience significant distress without meeting the criteria for BDD. Therefore, Hansen and Butler (2012) suggest the physicians increase their awareness beyond the somewhat limited guidelines that any individual with appearance concerns can experience significant psychological distress. In addition, the psychological assessment and criteria for selecting appropriate surgery candidates is a contemporary concern where more research evidence is required to develop effective criteria in this area (i.e., patients' psychological condition) of the guidelines (e.g., the British All Party Parliamentary Group on Body Image, 2012).

Nevertheless, the authors have addressed a few limitations in their study. They reported that the study was focused on the patients' characteristics only rather than the surgeons' broader judgements with regard to clinical variables that the surgeons considered to be important in their decision-making process. Therefore, the decision

model from the study can only demonstrate a partial view of the patient selection process, although it does, importantly, focus on psychological variables. Another methodological limitation was that the majority of the patients in the study were seeking minor skin procedures, therefore the study failed to detect the identified association with other smaller surgical groups when the minor skin procedure group is removed from the analysis. Perhaps due to the very small sample size in other minor surgical groups compared to minor skin procedure groups, where statistical power is limited when attempting to detect small effects. In addition, the six surgeons were recruited from the same single surgical unit, thus the decision model needs to be further verified among other surgeons in different surgical units.

Sarwer (2002), who has made a large contribution in investigating relevant psychological issues among elective aesthetic surgery patients, conducted a survey examining surgeons' knowledge and experiences of BDD. Results showed that 80% to 93% of the respondents reported that they had observed patients with many of the typical behaviours of BDD such as excessive concern with non-existent appearance features, dissatisfaction with previous elective aesthetic surgery and unusual requests for aesthetic procedures. Among all the patients in the initial consultation, an estimate of 2% was believed by the surgeons to suffer from BDD. This is consistent with the estimated prevalence of BDD in the general population, but it is lower than the prevalence of 7% to 15% reported in previous studies which were specifically designed to investigate BDD patients undergoing elective aesthetic surgery. Sarwer (2002) then concluded that the surgeons are aware that BDD can occur among the elective aesthetic population, but they may have underestimated the prevalence of BDD, as has been found in previous studies.

Another important finding in this study was that 80% of the respondents revealed that they did not realize they were operating on BDD patients until after the surgery. Given that literature has suggested that BDD patients are likely to hide their symptoms (Phillips, 2009), it is perhaps not surprising to see a high percentage of surgeons under-recognized the BDD symptoms of their patients. So it would perhaps be helpful and interesting to find out what methods the surgeons use to identify the psychological symptoms of their patients before surgery, and the result may reveal the reason why surgeons are likely to under-recognize BDD.

Furthermore, 43% of the surgeons reported that BDD patients, after surgery, were more concerned with their perceived defects (i.e., the body part that undergone the surgery) than before the surgery, and 39% reported that postoperative BDD patients developed a new concern with a different perceived defect. This result confirmed previous findings (e.g., Pavan et al., 2008; Phillips, 2009) that few BDD patients report improvement after elective aesthetic surgery. In addition, almost one in three surgeons reported that they have been legally and physically threatened by patients with BDD, which indicated the potential risk of performing surgeries on these patients. Despite these findings, only 30% of the surgeons believed BDD was always a contraindication to elective aesthetic surgery.

Two main limitations were identified by the author of this study (Sarwer, 2002). The first was the low response that may limit generalizing the findings from the study to all surgeons regarding their knowledge, attitude and experience of BDD. The second limitation was the small number of questions in the survey, as the author stated that additional questions in a more detailed survey may provide further valuable information, such as demographic details and descriptive information about the surgeons' practice, which may allow further investigations of other factors that may influence the surgeons' treatment of BDD patients.

Another recent article, based on Ephros & Lynes' (2008) findings, concluded that due to the lack of protocols for psychological assessment, the majority of surgeons rely on professional judgement and intuition to evaluate patients' psychological well-being (Lyne et al., 2010). This situation seemed to occur not only with plastic surgeons, but also among general physicians who are not mental health professionals, where the majority of the sample reported that they rarely use objective criteria for diagnosing major depressive disorders (Zimmerman & Galione, 2010). Ephros & Lyne (2008) surveyed 200 randomly selected plastic, reconstructive and oral and maxillofacial surgeons in the United States with regard to surgeons' current practices relating to their patients' psychological issues. Although the response rate was relatively low, the majority of the 30 respondents claimed to use their intuition to conduct psychological assessment as well as screening for potential psychological risks after the surgery. Furthermore, almost all the respondents reported that they seldom or never make referrals to mental health professionals. In addition, one third

of the surgeons revealed that they had had at least one patient experience an adverse psychological outcome despite an acceptable surgical result. Notwithstanding these results, 80% of the surgeons stated that if a psychological screening tool was available, they would be likely to administer it in their practice.

Similarly to Sarwer (2002), the survey by Ephros & Lyne (2008) consisted of only a small number of questions where the findings were limited to descriptive statistics. However, the authors indicated the lack of assessment specifically developed for assessing surgery patients, yet there is an urgent need for preoperative psychological evaluation. In addition, the aim and notion of this particular study (Ephros & Lyne, 2008) is very similar to the current study, and many aspects of the current study are based on their work in which the items in their survey were incorporated into the survey of the current study.

Together the findings from these studies relating to surgeons' practice, attitude and management with regard to their patients' psychological status seemed somewhat inconsistent. The surgeons seemed to have adopted different standards with respect to referring patients for mental health care, perhaps due to the different criteria used for diagnosing and referring among different regions and countries. The psychological screening method most often used by the surgeons seemed to be their intuition and professional judgement as there were no other psychological assessments identified in these studies. In addition, BDD is commonly under-recognized by surgeons. The findings also indicated that there is a lack of clear guidelines, protocols and assessments that may be of value to assist the surgeons in dealing with relevant issues in the practice. However, the small sample sizes in the studies have been considered to be the main limitation where generalisation of the findings to other surgeons is difficult. Another limitation in these studies seems to be the small number of questions in the survey which might have limited further investigations with regard to other potential influential factors to the surgeons' practice and attitude. Nevertheless, the majority of relevant findings indicate the importance of screening the psychological condition of the patients undergoing elective aesthetic surgery and more research is required for investigating and providing relevant evidence and for developing reliable and valid psychological assessments specifically for elective aesthetic surgery patient.

The Current Study

Rationale

The increasing awareness of many important psychological aspects in elective aesthetic surgery has indicated a need for psychological evaluation to be conducted for those seeking elective aesthetic surgery. As plastic surgeons are often the first health professional that the patient sees, this puts the surgeons in a unique position to identify and refer the patient for appropriate mental health care if required. However, little is known about surgeons' knowledge and understanding of psychological factors, and until this is known and understood, it is difficult to make recommendations as to how this psychological assessment and referral process could be effective.

Little in the literature has examined relevant issues from the surgeons' point of view, and there appears to be no relevant research in New Zealand. The current study intends to address this gap in the literature and hopes to encourage further investigation in this important area.

Aims

The overall aim of this study is to explore the current practices, management and experience of the surgeons with respect to psychological issues in their patients seeking elective aesthetic surgery requiring anaesthesia.

The current study was fortunate to have the support of Dr Hillel Ephros, who provided data from the study he and his colleagues conducted in the USA (Ephros & Lyne, 2008). Therefore, the second aim of this study is to compare New Zealand data with that from the USA (Ephros & Lyne, 2008) to see whether surgeons differ with regard to their attitudes, management and experience of psychological assessment and management.

Chapter 5: Method

Survey Development

An online survey was developed based on the existing literature on psychological factors in elective aesthetic surgery, with the majority using Likert scales, 0-5 (e.g., from “not important” to “extremely important”). Most of the questions also had an optional comment box, where the participants could express further comments or thoughts on the questions if desired.

The first section of the survey included broadly demographic information, such as gender, vocational scope of practice, current level of training (e.g., registrars or consultants), location of practice (e.g., private or public hospitals) and years of surgical experience. The second section consisted of items investigating the methods of and the reasons for psychological assessment used by the participants, as well as the frequency of assessment administration. This was followed by lists of some psychological symptoms and disorders that are commonly seen among elective aesthetic surgery patients, where the participants rate how often they have seen patients with these symptoms and disorders.

The third section consisted of items exploring the participants’ management with regard to their patients presenting with psychological conditions. This includes how they manage these patients (i.e., prescribe medication or refer for mental health care) and the participants’ level of access to mental health care, given the location of the participants’ practice. The last section concerns the participants’ beliefs about the role of psychological factors in surgery.

In addition, five questions from Ephros & Lynes’ (2008) USA study were rearranged into seven questions and were included in the current survey (Questions 5, 8, 9, 10, 16, 21 and 22) in order to make a direct comparison with their findings. Minimal changes were made. These consisted of changing the American spelling of “esthetic” to New Zealand English “aesthetic” and changing American usage from “grade the significance” to “rate the significance.” Three questions were altered

slightly to improve comprehension. One question was changed from “do you refer orthognathic and/or esthetic surgery patients for preoperative psychological evaluation by a mental health professional?” to “how often do you refer aesthetic surgery patients for preoperative psychological evaluation by a mental health professional?” The items provided for this question remained the same from “always” to “never.” The other questions (Questions 8 and 21) were changed from first-person narrative to second-person narrative (i.e. from “I routinely use an objective method to identify potentially troublesome psychological problems in patients undergoing orthognathic or esthetic surgery” to “do you use an objective method to identify potentially troublesome psychological problems in patients undergoing aesthetic surgery,” and from “I have had one or more patients who experiences an adverse psychological outcome after orthognathic or esthetic surgery despite an acceptable surgical result” to “have you had one or more patients who experiences an adverse psychological outcome after aesthetic surgery despite an acceptable result”). The items provided for these two questions remained the same in “yes” or “no”. Apart from these minor changes to the USA survey items, the rest of the items, including the terms used for measurements, remained identical in both studies.

Ethics

The study was identified as low-risk research involving human participants where the low-risk notification of the study was recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees. An assurance of confidentiality of the participants, the anonymity of the data collected, and the informed consent statement, were given at the beginning of the online survey, where participants needed to tick “agree” before participating in the survey.

Pilot Test

Five participants were included in the pilot test, four men and one woman. There was one consultant, one senior registrar, two junior registrars from public hospitals and one consultant from a private clinic. The participants were asked to complete hard copies of the survey. The time to complete the survey was taken for each participant in order to estimate the time required by future participants to complete the survey. In addition, several questions were asked after the completion of the survey, about the language and terms used in the survey, the clarity of the questions and whether they had any recommendations for changes to the survey.

One question in the survey related to the psychological assessment was removed, as the responses from the participants were not what the question intended to ask, perhaps due to lack of clarity in the question. The author believed that other questions in the same section of the survey would answer the question that was removed. An extra question about access to mental health care was added to the survey in order to collect more structural information.

Apart from the changes described, the result of the pilot test suggested that the survey had appropriate usage of medical terms and language, the questions were easy to understand and respond to on their respective scales and the survey would take approximately six minutes to complete. The survey was then converted into an online survey on Survey Monkey by the researcher, where the question format remained identical to the hard copies. The final version of the survey items in PDF format is in Appendix A.

Data Collection

Several organisations with members who perform elective aesthetic surgery were approached with a request to distribute the survey to their members. Permission was granted by the presidents or the chair of the following organisations: the New Zealand Association of Plastic Surgeons (NZAPS), the New Zealand Dermatological

Society (NZDS), the Royal Australian and New Zealand College of Ophthalmologists (RANZCO), the New Zealand Society of Otolaryngology, Head and Neck Surgery (NZSOHNS), and the Australian and New Zealand Association of Oral & Maxillofacial Surgeons (ANZAOMS).

The online survey information sheet outlining the research was sent to the secretaries of these associations. The information sheet included the aims of the study, the assurance of confidentiality and a link to the survey (see Appendix B for a detailed example). The information sheet was forwarded by the secretaries of NZAPS, NZDS and RANZCO to their New Zealand members in February and early March 2013. In addition, the information sheet was posted on the NZSOHNS website at the same time. Lastly, the president of ANZAOMS presented the aims of the study and indicated the survey location at the council meeting of the association in late February.

The survey was available online till late March, during which a reminder email was sent to the members (approximately three weeks after the initial information sheet was sent).

Participants

A total of 28 participants responded to the online survey, 22 men and six women. Of these 28 participants, two were excluded from the data analysis as they did not complete the entire survey. In addition, one participant who completed the survey was also excluded from the analysis as the participant indicated very limited experience in elective aesthetic surgery practice. The final sample of 25 consisted of 21 men and four women.

The participants' vocational scope of practice included ophthalmology, otolaryngology, plastic and/or reconstructive surgery and dermatology. The majority of the participants were plastic and/or reconstructive surgeons (48%), followed by otolaryngologists (24%), ophthalmologists (20%) and dermatologists (8%). No participants indicated they were oral and/or maxillofacial surgeons.

Data Analysis

SPSS Statistics 19 was used for analysing data in this study. Due to the exploratory nature of this study, as well as the small sample size and the data scales (nominal and Likert categories), Chi-square was used to explore potential meaningful associations between the variables. In addition, an independent sample t-test was also used to explore potential significant differences between different groups of participants (e.g., participants with different vocational scope of practice), as well as to examine whether New Zealand data is different to that from the USA. The statistical significance in these analyses was tested at a $p < .05$ level. Spearman's Rank Order correlation was also used to explore potential relationships between variables. Invalid data (e.g., an incomplete survey) were filtered out by the author before data entry.

The majority of the data in this study employed Likert scales. The current study assumes that there are equal intervals between the items on the scale. Although such an assumption can be controversial (Jamieson, 2004), many have argued that the distances between items in Likert scales are equivalent, and that parametric tests are extremely robust to violations of assumptions such as highly skewed distribution, therefore parametric tests can be used with Likert data (Norman, 2010).

The Method of USA Study

The method of Ephros & Lynes' (2008) USA study was briefly presented in their subsequent article (Lyne et al., 2010). The survey consisted of five questions which were developed to identify different types of surgeries the surgeons perform (e.g., involving the face), as well as to explore the method used for identifying patients with psychological problems, and the surgeons experience and beliefs with regard to psychological factors relating to elective aesthetic surgery (H. Ephros, personal communication, September 30, 2012). Four questions were in the Likert

scale, 0-5 (e.g., from “always” to “never”) and one question in nominal scale (i.e., “yes” or “no”).

The survey was approved by an Institution Review Board and was sent to 200 randomly selected surgeons (plastic and reconstructive surgeons, and oral and maxillofacial surgeons) in United States (Lyne et al., 2010). Thirty surveys were completed and returned by the participants and the data were analysed (Lyne et al., 2010).

Chapter 6: Results

The result section is divided into two subsections, whereby the New Zealand descriptive data and statistically significant findings are presented first, followed by the comparison with the available USA data.

New Zealand Data

The main aim of the study was to explore the current practice of elective aesthetic surgeons in New Zealand with regard to the psychological issues of their patients. Descriptive statistics are helpful to explore this aim.

Response rate. The NZAPS has 52 surgeons in total (C. Stanyon, personal communication, January 31, 2013) and there were 25 participants in the study who were qualified to perform elective aesthetic surgery. The response rate is almost 50% and, although other associations were also targeted, the NZAPS has indicated that most surgeons eligible to perform elective aesthetic surgery in New Zealand are members of their association (C. Stanyon, personal communication, January 30, 2013), thus contributions from other disciplines are likely to be minimal.

Medical background and practice details. The majority of the participants were consultants (88%), followed by senior registrars (8%) and medical officers of specialist scale (4%). In terms of their years of elective aesthetic surgical experience, 32% were between 0-5 years, 20% were 6-10 years, 16% were 10-15 years, and 32% were 16 or more years. Eighty four percent of the participants perform most of the elective aesthetic surgeries in private settings (64% in private clinics and 20% in private hospitals), and 16% in public hospitals. Additionally, 92% of the participants

indicated that they perform facial aesthetic surgery, 56% reported that they perform aesthetic surgery not involving the face, followed by 4% who perform orthognathic surgery.

Preoperative consultation time. In terms of how long, on average, the participants spend on preoperative consultations, no participant reported that their preoperative consultation time is less than 15 minutes, 36% of the participants reported that the average time for preoperative consultation for patients seeking elective aesthetic surgery was between 15-30 minutes, 28% reported the average consultation time was 30-45 minutes, and the rest (36%) reported it to be more than 45 minutes.

In addition, a chi-square test of independence was performed to examine the relationship between the participants' vocational scope of practice and the average time of the preoperative consultation. Due to the small sample size of this study, the variables were initially reduced from four levels to two levels for the chi-square test of independence. Therefore, the two groups of different vocational scope of practices were plastic and/or reconstructive surgeons and others (i.e., ophthalmologists, otolaryngologists and dermatologists); the two levels of preoperative consultation time were less than 45 minutes and more than 45 minutes. The relationship between these two variables were statistically significant, $\chi^2 (2, N = 25) = 9.42, p < .05$, where plastic and/or reconstructive surgeons were more likely to have preoperative consultation times over 45 minutes compared to surgeons from other disciplines. Although the chi-square assumption of an expected count of five for each cell was violated, as two cells (50%) have an expected count of less than five, the Fisher's exact test was conducted and confirmed the statistical significance and result remained ($p < .05$).

The consultation time differences between plastic and/or reconstructive surgeons and surgeons in other disciplines were further explored by an independent samples t-test. The plastic and/or reconstructive surgeons had an overall higher mean consultation time ($\mu = 3.58, SD = .67, N = 12$) compared to surgeons from other

practices ($\mu = 2.46$, $SD = .66$, $N = 13$), $t(23) = 4.22$, $p < .05$. Given that the sample size of this study is relatively small, the results must be interpreted with caution.

Chi-square tests also showed that the surgeons who only perform surgeries involving the face are likely to have preoperative consultation time less than 45 minutes compared to surgeons who perform surgeries not involving the face or involving both face and body, $\chi^2 (2, N = 25) = 6.17$, $p < .05$. Similar to the previous analysis, one (25%) cell has an expected count less than five, but Fisher's exact test similarly returned a statistically significant result ($p < .05$). The independent sample t-test further explored this finding, where surgeons who only perform facial surgeries ($\mu = 2.45$, $SD = .69$, $N = 11$) have significantly lower mean preoperative consultation times compared to other surgeons ($\mu = 3.43$, $SD = .76$, $N = 14$), $t(23) = 3.33$, $p < .05$.

Spearman's Rank Order correlation was used to identify relationships between the preoperative consultation time and the frequency of psychological symptoms and disorders seen by the surgeons among their patients seeking elective aesthetic surgery. There was a moderate negative correlation between preoperative consultation time and the frequency of patients with anxiety disorders observed by the surgeons ($r_s (24) = -.387$), in which 15% of the variance in anxiety disorders was explained by preoperative consultation time ($r^2 = .15$), with a p -value slightly exceeding 0.05. Similarly, there was a moderate negative relationship between preoperative consultation time and body dysmorphic disorder ($r_s (22) = -.412$) where 17% of the variance in observed body dysmorphic disorder was explained by preoperative consultation time ($r^2 = 0.17$), with a p -value just over 0.05.

No association between the years of surgical experience and preoperative consultation time was found. Apart from these findings, the current study did not identify other stronger correlations between the average preoperative consultation time and the frequency of other psychological symptoms and disorders seen by the surgeons.

Methods of and reasons for psychological assessment. Almost all the participants (92%) revealed that they do not use an objective method (e.g., psychometric tests) to identify potentially troublesome psychological problems in

patients undergoing elective aesthetic surgeries, with only two participants (8%) using objective methods. One of the two participants stated in the comment box that the objective method used was seeking an assessment by psychiatrist or psychologist if there is concern regarding the patient's psychological fitness for surgery. The other participant, however, seemed to have a different understanding of the meaning of "objective method" as the comment stated that he/she would use the clinical history obtained from the patient or the patient's care giver.

Given the above finding, it is perhaps not surprising to see that almost all participants (96%) reported that they always or often use personal experience, intuition and/or clinical judgement to identify patients with potential psychological concerns. Most of the participants have seldom (4%) or never (84%) administered psychological screening tools, with 12% reporting that they sometimes administer psychological screening tools. One participant has stated that the screening tool he/she uses is "SADAFACES," which is an acronym for recalling the nine diagnostic symptoms of depression in DSM-IV.

In terms of referring patients for preoperative psychological evaluation, 32% reported that they sometimes refer, 48% seldom refer, and the remaining 20% never refer patients for preoperative psychological screening. When asked about their level of confidence in recognising or detecting the psychological diagnostic symptoms of the patients, only 32% reported being very confident, 60% were moderately confident, followed by 8% somewhat or not confident.

However, the majority of the participants considered that psychological factors of their patients are either extremely (36%) or very important (48%), with 12% stating that psychological factors are moderately important; just 4% considered them to be only somewhat important. None considered psychological factors of their patients to be unimportant. In addition, a moderate negative correlation was identified between years of surgical experience and how important the surgeons think psychological factors of their patients are ($r_s(25) = -.413, p < .05$), in which 17% of the variance in the importance of psychological factors was explained by the surgeons' years of surgical experience ($r^2 = 0.17$).

The participants were also asked to rate the significance of various patient factors in preoperative evaluation for aesthetic surgery. Table 1 displays the

percentage of participants rating each patient factor from “absolutely critical” to “of no significance.” As indicated by the table, the majority of participants rated the factors within the range of absolutely critical to somewhat significant, with a few ratings in the not very significant and of no significance categories. History of suicide attempts, consultations with multiple surgeons, poor family support and the presence of current significant life stressor have been considered as not very significant by few participants, with one participant (4%) rating the current use of psychoactive medication as of no significance. However, both “current use of psychoactive medication” and “poor family support” had the lowest percentage (8%) rating it “absolutely critical.”

Table 1
Significance Ratings of Various Patient Factors

Patient Factors	Absolutely Critical (%)	Very Significant (%)	Somewhat Significant (%)	Not Very Significant (%)	Of No Significance (%)
Current use of psychoactive medications	8	48	40	0	4
History of suicide attempt	28	52	16	4	0
Currently under the care of a psychologist	20	56	24	0	0
Has consulted with multiple surgeons	24	68	4	4	0
Complains about results of prior surgery	24	72	4	0	0
Expectations are unrealistic	72	28	0	0	0
Has discordant self-image	56	44	0	0	0
Significant psychopathology	44	40	16	0	0
Poor family support or large amount of family conflict	8	28	52	12	0
Current significant life stressors	20	52	24	4	0

Psychological symptoms and disorders. Of the conditions seen frequently, 40% of participants reported that they had often seen anxiety symptoms among their patients seeking elective aesthetic surgery, followed by stress (36%), depressed mood (16%) and sleep disturbance (8%). At the other end of the spectrum, several

symptoms were reported as being seen less frequently. Sixty percent reported that they have never seen symptoms of psychosis, patients with suicidal ideation or attempts, flight of ideas (48%), manic symptoms (32%), grandiosity (20%), substance abuse (16%), anger or hostility (12%), sleep disturbance (8%) or depressed mood (4%). However, some participants reported that they were not sure whether their patients had some of these symptoms. For example, 16% were unsure if they had seen sleep disturbance, followed by substance abuse (12%), flight of ideas (4%), psychosis (4%) and manic symptoms (4%). Table 2 displays the total percentages reported for various psychological symptoms.

Table 2

Percentages of Observed Psychological Symptoms among Patients

Symptoms	Not Sure ² (%)	Not Familiar ³ (%)	Always (%)	Often (%)	Some- times (%)	Seldom (%)	Never (%)
Depressed mood	0	0	0	16	64	16	4
Anxiety	0	0	0	40	60	0	0
Grandiosity	0	0	0	0	28	52	20
Stress	0	0	0	36	60	4	0
Flight of ideas	4	0	0	4	0	44	48
Psychosis	4	0	0	0	0	36	60
Sleep Disturbance	16	0	0	8	40	28	8
Manic Symptoms	4	0	0	0	8	56	32
Anger/Hostility	0	0	0	0	36	52	12
Suicidal ideation/attempts	0	0	0	0	0	40	60
Substance abuse	12	0	0	0	24	48	16

In terms of psychological disorders, 8% of participants reported that they have often seen patients with anxiety disorders and body dysmorphic disorder. In addition, apart from delusional disorders, psychotic disorder and somatoform disorders, other disorders have been sometimes observed by a considerable amount of participants,

² Participants were asked to tick “not sure” when they were not sure whether their patients had the symptom/disorder

³ Participants were asked to tick “not familiar” when they were not familiar with the symptom/disorder

including histrionic and narcissistic personality disorders. This finding, however, was not correlated with the participants' years of surgical experience.

The overall percentages for psychological disorders observed among patients were lower than those for symptoms. However, the percentages for “not sure” were much higher in psychological disorders compared with symptoms. Twenty-four percent of participants reported that they were not sure whether their patients had histrionic and narcissistic personality disorders, followed by somatoform disorders (20%), 16% for delusional, eating, psychotic disorders and schizophrenia, and 12% for body dysmorphic disorder and borderline personality disorder.

However, while 36% of participants reported that they have sometimes seen patients with bipolar disorders, only 8% reported that they have sometimes seen manic symptoms, which is one of the main diagnostic criteria for bipolar disorders. Table 3 provides the overall percentages of various psychological disorders seen among the patients.

Table 3

Percentages of Observed Psychological Disorders among Patients.

Disorders	Not Sure (%)	Not Familiar (%)	Always (%)	Often (%)	Some-times (%)	Seldom (%)	Never (%)
Anxiety Disorders	4	0	0	8	64	20	4
Bipolar Disorders	4	0	0	0	36	52	8
Body Dysmorphic Disorders	12	0	0	8	44	28	8
Borderline Personality Disorder	12	0	0	0	36	44	8
Delusional Disorders	16	0	0	0	4	40	40
Eating Disorders	16	0	0	0	24	40	20
Histrionic Personality Disorder	24	4	0	0	8	40	24
Major Depressive Disorders	8	0	0	0	36	36	20
Narcissistic Personality Disorder	24	0	0	0	20	28	28
Psychotic Disorder	16	0	0	0	0	44	40
Schizophrenia	16	0	0	0	8	36	40
Somatoform Disorders	20	0	0	0	0	44	36

Psychological management. Three options were available for surgeons to indicate how they go about managing psychological problems: prescribe medication, refer to psychologists and refer to psychiatrists, with a rating range from “always” to

“never.” The majority of the participants (92%) reported that they never prescribe medication, with the remaining 8% of the participants seldom prescribing medication. Eight percent reported that they always (4%) or often (4%) refer patients with psychological problems to a psychologist, and 4% reported they often refer to a psychiatrist. Just over a third (36%) of participants reported that they sometimes refer to a psychologist or a psychiatrist, however, that leaves more than 50% reported that they seldom or never refer to either mental health professional. Table 4 provides the overall percentages of different methods used in managing patients with psychological problems.

Table 4
Percentages of Management Method used by Participants

Management Methods	Always (%)	Often (%)	Sometimes (%)	Seldom (%)	Never (%)
Prescribe Medication	0	0	0	8	92
Refer to psychologist	4	4	36	48	8
Refer to psychiatrist	0	4	36	44	16

In terms of their level of access to psychological care, 8% reported full access to within-service psychological personnel and 20% with full access outside the work setting. However, 60% revealed they had limited access to psychological care and 12% have difficult or no access to psychological care. Of those who have access to mental health care, 30% indicated that the psychologists accept referrals with regard to all psychological conditions, and 57% indicated that the psychologists accept a wide range of psychological conditions. However, 13% of participants revealed that the psychologists only accept referrals related to limited or specific psychological conditions and over half the participants (60%) admitted that they would like to have better or more access to psychological care.

Just under half (44%) the participants revealed that they have had one or more patients with adverse psychological outcomes after surgery despite an acceptable surgical result. In addition, the statistical analysis suggested that this finding is not related to the frequency of psychological symptoms or disorders observed among patients.

Given the experience the participants had in patients with adverse psychological outcomes, it is perhaps then reasonable to find that the majority of the participants indicated that they are very likely (44%) or somewhat likely (40%) to use preoperative psychological risk assessment if a simple and reliable tool were available, while only 16% indicated that they are not sure whether they would use it.

Surgeons’ view on psychological factors and benefits of surgical outcome.

Several surgical outcomes relating to psychological factors were available for surgeons to indicate why they might think psychological factors of their patients are important. All of the participants (100%) agreed that psychological factors are important for patient satisfaction, and 96% agreed that it is to avoid patients’ unrealistic expectations from surgery, as well as to avoid unreasonable complaints (76%). Most of the participants (76%) believed that psychological factors are important because it indicates patients’ compliance, followed by reasons of medical ethics (60%). Less than half the participants (44%) think it is also related to surgeons’ satisfaction, as well as surgical recovery, while only 20% think psychological factors are important in wound healing. Table 5 provides the percentages reported by the participants indicating the reasons why psychological factors are important.

Table 5
Percentage of Participants Reporting Importance of Psychology in Various Outcomes

Surgical outcome related to psychological factors ⁴	(%)
Wound healing	20
Surgical recovery	44
Surgeon’s satisfaction	44
Medical Ethics	60
Patient’s compliance	76
To avoid the patient’s unreasonable complaint	76
To avoid the patient’s unrealistic expectation of the surgery result	96
Patient’s satisfaction	100

⁴ The factors are listed in ascending order according to the response percentages

Lastly, 92% of participants believed that increased self-esteem is an important benefit of elective aesthetic surgery for their patients, followed by an improved quality of life (88%), and enhanced physical appearance (72%). However, less than half the participants (48%) believed that the surgical benefits include improved physical functioning, and 32% believed it increased individual productivity. Table 6 provides the percentages reported by the participants indicating benefits of the surgery.

Table 6

Percentage of Participants Reporting Various Benefits of the Surgery

Benefits of elective aesthetic surgery ⁵	(%)
Increased individual productivity	32
Improved physical functioning	48
Enhanced physical appearance	72
Improved quality of life	88
Increased self-esteem	92

New Zealand vs. USA

The data from the five questions in the USA study (Ephros & Lyne, 2008) were compared to the data from the current study. Although the current study has obtained demographic information about the participants, the USA study did not obtain this information from their participants, thus comparison of the demographic backgrounds of the participants is not possible.

Independent sample t-tests were used to examine whether surgeons from New Zealand differ from the surgeons in the USA. In terms of surgeons' reported frequency of using personal experience, intuition and/or clinical judgement to identify patients with emotional issues of potential concern, surgeons in New Zealand ($\mu = 4.68$, $SD = .557$, $N = 25$) reported statistically significantly higher use of these means than surgeons in the USA ($\mu = 4.13$, $SD = .819$, $N = 30$), $t(53) = -2.833$, $p < .05$.

⁵ The benefits are listed in ascending order according to the response percentages

When exploring psychological factors, a statistically significant difference was found between surgeons' ratings of "history of suicide attempt" in the preoperative evaluation for elective aesthetic surgery. Surgeons in the USA ($\mu = 4.83$, $SD = .468$, $N = 29$) rated this factor as more significant compared to surgeons in New Zealand ($\mu = 4.04$, $SD = .790$, $N = 25$), $t(52) = 4.531$, $p < .05$. The comparison between New Zealand and USA surgeons with respect to the ratings of other psychological factors in the preoperative evaluation for elective aesthetic surgery was not statistically significant.

No other significant differences were found between New Zealand and USA surgeons, including the types of surgeries the surgeons perform (i.e., orthognathic surgery, facial surgery, and aesthetic surgery not involving the face); whether the surgeons routinely use an objective method to identify psychological problems in patients; whether the surgeons have had one of more patients with adverse psychological outcomes; the frequency of referring patients for preoperative psychological evaluation; and the surgeons' likelihood of using a psychological risk assessment if a simple and reliable tool were available.

Chapter 7: Discussion

The overall aim of the current study was to explore New Zealand plastic surgeons' practices, attitudes and experience with regard to the psychological well-being of their patients. Given the higher prevalence of psychopathology among patients seeking elective aesthetic surgery than in the general population, it is important to examine whether New Zealand surgeons are aware of this prevalence, and whether they have experienced patients with psychological problems. Given that literature suggests some patients may require psychological intervention before, or perhaps instead of surgical intervention, the surgeons' management of patients with psychological problems was also examined.

Ephros & Lyne (2008) revealed that there is a need for preoperative psychological risk assessment, as they found that the majority of surgeons in the USA do not use objective methods to examine patients' psychological well-being. Therefore, the second aim in the study was to compare the findings of the current study to those of Ephros & Lyne (2008) in their USA-based research to see whether New Zealand surgeons are different to those in the USA.

To the best of the author's knowledge, little attention has been given to this area of interest in the literature. This is the first study to explore surgeons' perspectives in a more detailed survey in New Zealand. The findings of the current study are discussed in detail in the following sections.

Plastic Surgeons in New Zealand

Individuals who conduct elective aesthetic surgeries come from a number of different disciplines, including ophthalmology, otolaryngology, plastic and/or reconstructive surgery, and dermatology. The levels of training for these surgeons, as well as their years of surgical experience and the types of surgery they perform, vary. The surgeons in this study consisted of senior registrars, consultants and medical

officers with a wide range of surgical experience, from 0-5 years to over 16 years. Many perform either elective facial aesthetic surgery, elective surgeries not involving the face, orthognathic surgeries, or a combination of these surgeries. They also perform these surgeries in different work settings, including private clinics and both private and public hospitals.

Given that elective aesthetic patients have been suggested to be psychologically different from the general population in term of their levels of psychopathology (Sarwer et al., 1998a), the author expected that surgeons would be aware of the implication of psychological factors in their practice. In addition, despite the variations among surgeons' practice backgrounds, the procedure for carrying out elective aesthetic surgery, including preoperative consultation time and additional attention in psychological screening process, were anticipated to be similar between surgeons. The findings with regard to New Zealand surgeons, including the time spent in preoperative consultation, methods of and reasons for psychological assessment, observed psychological symptoms and disorders, psychological management, and the surgeons' beliefs concerning psychological factors and benefits, are discussed below.

Preoperative consultation time. The findings of this study suggest that the average preoperative consultation time for a patient seeking an elective aesthetic procedure requiring anaesthesia was somewhat inconsistent across surgeons, with times ranging from 15 – 30 minutes to more than 45 minutes. Although this variation may be due to the different types of surgeries requested by the patients, as with general surgeries requiring anaesthesia that may have risks and complications (Garcia-Miguel et al, 2003), a consultation time of less than 45 minutes may seem insufficient for the administration of standard medical assessments, as well as psychological screening and a general discussion with the patient. However, it is possible that, for a consultation time of less than 45 minutes, some part of the medical assessment may have already been carried out by the anaesthetist in the surgical team (Garcia-Miguel et al., 2003), and thus the plastic surgeon may require less time for preoperative consultation.

Further analysis exploring consultation time found that the average consultation time plastic and/or reconstructive surgeons spent with patients was more than that of surgeons from other practices (i.e., ophthalmologists, otolaryngologists and dermatologists). Given that a considerable number of plastic and/or reconstructive surgeons perform most of their elective aesthetic surgeries in private clinics, it is possible that these surgeons have further specialised in cosmetic surgery compared to surgeons in other practices. Thus their preoperative consultation may involve additional components specifically designed for elective aesthetic surgery patients which may require longer consultation. Furthermore, it is unlikely that ophthalmologists, otolaryngologists and dermatologists might perform major body surgery such as lipoplasty, abdominoplasty and breast reconstruction. These major surgeries are usually performed by plastic or reconstructive surgeons and may require longer consultation to ensure that the patients are appropriate candidates and have reasonable expectations of surgical results.

The study also found that surgeons who only perform facial surgeries had less preoperative consultation time compared to surgeons who only perform body surgeries, or both body and facial surgeries. This consultation time difference could, again, be due to the different length of consultation that is required for different surgical procedures. It must be noted that this finding needs to be interpreted with care as the sample was relatively small. The surgeons who reported performing only facial surgeries were more likely to be either ophthalmologists, dermatologists or otolaryngologists, rather than plastic or reconstructive surgeons. As a result, elective aesthetic surgery may not contribute to the majority of work they perform. Less experience in elective aesthetic surgery may be another possible explanation for the consultation time differences. Although the author failed to detect a statistical correlation between years of surgical experience and consultation time, it is possible that years of surgical experience do not necessarily represent surgical experience (i.e., number of surgery cases received) in elective aesthetic surgery.

Another finding with regard to preoperative consultation time was that the less time the surgeons spent on consultation, the more likely they were to have observed patients with anxiety disorders and body dysmorphic disorder. This finding is somewhat difficult to explain, and seems counterintuitive. It would seem that

surgeons are capable of making quick evaluations about underlying psychopathology in their patients; however, unfortunately, there is no way of determining whether or not their evaluations are ‘accurate’. Since anxiety disorders and body dysmorphic disorder are some of the disorders seen most frequently among the elective aesthetic surgery population (Borah et al., 1999; Phillips, 2009), it may be that the surgeons would not require lengthy consultation to identify these disorders among their patients. Given the complex nature of these disorders, additional psychiatric consultation and assessment may be required to warrant these diagnoses or it seems likely that, at worst, more time would be needed. However, it is also possible that perhaps the diagnostic symptoms of these disorders are fairly prominent and easily detected, and little time was needed to evaluate them.

Methods of and reasons for psychological assessment. With regard to the methods of psychological assessment used by the surgeons, the findings showed that almost all the surgeons used intuition and clinical judgement to screen the psychological conditions of their patients. The majority of surgeons also reported that they do not administer objective methods to identify the potential psychological issues in their patients, consistent with the findings of Ephros & Lynes’ (2008). Together, these findings suggest that the current practice in elective aesthetic surgery was to be somewhat reluctant to increase the use of psychological screening tools recommended by many researchers (e.g., Borah et al., 1999; Lyne et al., 2010). A possible explanation for this could be the busy schedules surgeons typically have — that they may perceive that they do not have enough time to screen patients with psychological assessments. Two participants offered thoughts in the comment section about the objective method they employed. One indicated referral to mental health professionals, and the other to examine the patient’s clinical history. This seemed to suggest that surgeons may have different understandings with regard to the meaning of objective method than anticipated by the researcher, which was more akin to a valid and reliable psychological screening tool. Although the term “objective method” may have been somewhat misleading for the surgeons, this term has been used by other

authors on similar groups to refer to psychometric tests and psychological risk assessments (Ephros & Lyne, 2008).

Given the above findings, it is perhaps not surprising that almost all the surgeons reported that they do not administer psychological screening tools. The only screening tool indicated by a surgeon in the comment section was an acronym of DSM-IV diagnostic criteria for Major Depressive Disorder — “SADAFACES”. However, this is, strictly speaking, only part of the criteria for only one disorder, in which further criteria are required to be met to warrant the diagnosis. Therefore, it may be insufficient for diagnosing depression and, of course, is not designed to evaluate other disorders, such as body dysmorphic disorder and personality disorders which have been suggested to be prevalent in elective aesthetic surgery patients (Ishigooka et al., 1998; Phillips, 2009; Shridharani et al., 2010).

These findings with respect to psychological assessment are consistent with results from Zimmerman & Galione (2010), where the majority of the “non-psychiatric” physicians in their study reported that they rarely use objective criteria to identify Major Depressive Disorder among their patients, which the authors indicated was possibly due to deficits in the knowledge and application of the objective criteria. Another possible explanation for the low rate of psychological assessment administration may be due to the lack of an appropriate psychological screening tool available that specifically targets the elective aesthetic surgery population, as suggested by the contemporary literature (e.g., Ephros & Lyne, 2008; Wildgoose et al., 2013).

There are a considerable number of surgeons who revealed that they seldom or never refer patients for preoperative psychological evaluation. Most of the patients seeking elective aesthetic surgery in North America typically receive preoperative psychiatric evaluation with the purpose of identifying any underlying psychological conditions that may influence their decision to undergo the surgery (Bianchini et al., 2013). Therefore, it would seem that the surgeons in this study appear fairly confident in recognising psychopathology among their patients, yet only one third of them reported being very confident in detecting psychological symptoms in their patients. This leaves more than half the surgeons who may be somewhat unsure of the underlying psychopathology of their patients. However, most of the surgeons in this

study refer their patients to mental health professionals after identification of patients' psychological problems, and their referral practices will be examined in more depth later in this chapter. Given the prevalence of psychopathology among the elective aesthetic surgery population (e.g., Ishigooka et al., 1998), this finding seems to suggest that there may be a portion of patients who underwent the surgery with psychological symptoms unrecognised. This could be an important concern, as past research has suggested that patients with psychopathology may require psychological intervention before, or perhaps instead of, elective aesthetic surgery (Wildgoose et al., 2013). In addition, in previous research, elective aesthetic surgery seemed to have only minimal psychological benefit for some patients, particularly for patients with psychopathology (Sarwer & Crerand, 2004; von Soest et al., 2012).

Surgeons rated the significance of several psychological factors that may influence surgical outcomes for patients. The results suggested that most of the surgeons showed an awareness of the importance of the psychological factors in their patients, and rated most of the psychological factors as absolutely critical or very significant, with only a very few considering psychological factors to be only somewhat important in their practice. Some surgeons in this study did not appear to recognise the patient factors that the literature has identified as impacting on surgical outcome. These include patients with poor family support or a large amount of family conflict, as well as current use of psychoactive medication, history of suicide attempt and consultation with multiple surgeons, which were rated as not very significant or of no significance by some surgeons. Consultation with multiple surgeons, in particular, may be an indication of body dysmorphic disorder (Phillips, 2009) where some have suggested it to be an absolute contraindication to elective aesthetic surgery (Harth & Hermes, 2007). In addition, suicide ideation and attempts are an important concern specifically among patients seeking breast augmentation (e.g., Lipworth et al., 2007). These particular patient factors are some of the most common psychological reasons for delaying or denying bariatric surgery, as it tends to indicate potential psychopathology and current significant life stressors which may be influencing the patient's decision to seek surgery (Walfish, Vance, & Fabricatore, 2007). This finding perhaps indicates that surgeons in New Zealand may need to take into account the known psychological factors that impact on surgical outcomes when selecting

candidates for surgery. However, given less than half of the surgeons reported having patients with adverse psychological outcomes, it would be difficult for them to take these ideas on board as they may be inconsistent with their own clinical experience.

In addition, the surgeons' years of surgical experience seemed to be related to how important the surgeons rated the psychological factors of their patients. Surgeons with less experience tended to rate the psychological factors as more important than those with more experience. While some association between the number of psychological disorders observed by the surgeons and their years of surgical experience could have helped explain this relationship, as it might also influence surgeons' rating for psychological factors, no such association was detected here. It may be reasonable that surgeons with more years of experience have become more focused on the physical outcomes, rather than psychological outcome, as altering physical appearance is their speciality more than identifying patients with psychological concerns. Another reason may be the somewhat inconsistent psychological training in the medical curriculum of New Zealand and Australia in the 1990s, where some institutions appeared to have less psychological training (O'Connor et al., 1999), meaning that for some surgeons less emphasis was placed on psychology. However, although changes and improvements in psychological training may be expected, it is difficult to evaluate this association without access to the contemporary curriculum.

Observed psychological symptoms and disorders. Whilst the findings indicate that all psychological symptoms of the patients listed in the survey have been observed by at least a small portion of surgeons, the surgeons reported that the most often observed symptoms are those of anxiety, stress and depressed mood, of which anxiety symptoms have been observed by all the surgeons. This is consistent with past findings in which anxiety and stress are most likely to be experienced by patients seeking elective aesthetic surgery, followed by depressed mood (Borah et al., 1999; von Soest et al., 2012). However, nearly half the surgeons reported that they had never seen patients with delusional symptoms and more than half reported that they had never seen patients with psychosis and suicidal ideation or attempts. This is

somewhat inconsistent with previous findings where these symptoms and their prevalence were also identified among the study samples of patients seeking elective aesthetic surgery (e.g., Ishigooka et al, 1998). Surgeons reporting that they have never seen patients with suicidal ideation or attempts, in particular, may be the most concerning finding, as past research suggests that women seeking breast augmentation experienced significant increased risk of suicide and death compared to the general population (Brinton et al., 2006; Villeneuve et al., 2006). Although it may be understandable that surgeons under-recognise their patients' suicidal ideation, as the patients would not necessarily report such ideation to the surgeons, the surgeons could increase their alertness to the patient's potential suicidal thoughts and ideas, particularly among patients seeking breast augmentation, and offer appropriate referral and care when required.

None of the surgeons in this study ticked the "not familiar" option for the psychological symptoms listed. While the surgeons seemed to be relatively familiar with all the psychological symptoms listed in the survey, a small portion of surgeons revealed that they were not sure whether their patients had some of these symptoms. Sleep disturbance and substance abuse were the most "not sure" symptoms ticked by the surgeons. Sleep disturbance has been suggested to be a common psychological problem among these patients (Borah et al., 1998) and substance abuse is frequently seen among breast augmentation patients that may lead to suicide attempts (Lipworth et al., 2007). Together, these findings may suggest that the surgeons are aware that psychological symptoms can occur among their patients, however, some surgeons may have underestimated the prevalence of these symptoms and might not have taken them into account when working with the patients.

In terms of observed psychological disorders among the patients, all the disorders listed in the survey have been observed by some surgeons. The most often observed disorders were anxiety disorders and body dysmorphic disorder, followed by major depressive disorders, narcissistic and histrionic personality disorders. This finding seems to support previous research suggesting a high prevalence of these disorders (Borah et al., 1998; Crerand et al., 2006; Ishigooka et al., 1998; Shridharani et al., 2010). This finding also suggests that the surgeons are aware that psychological disorders can be present among patients seeking elective aesthetic surgery. However,

some surgeons reported that they have never seen the disorders described above as the most often observed disorders in the study. This is a noteworthy finding given that past research specifically investigating the rate of psychopathology among these patients reported a higher rate of these disorders compared to the general population (e.g., Ishigooka et al., 1998). A possible explanation is that some surgeons in New Zealand may have, again, underestimated the prevalence of these disorders among their patients, thus they may have not screened to assess the relevant symptoms. Another reason could be that they had only encountered healthy functioning patients so far, perhaps because of fewer years of surgical experience, where they had not yet had experience of individuals with psychopathology.

The overall number of surgeons who indicated that they were not sure whether their patients had these psychological disorders was higher than those who were not sure about psychological symptoms. This in turn may indicate that some patients may have received surgery without their psychopathology being accurately diagnosed and treated, which may lead to undesirable results for both the patients and the surgeons (Harth & Hermes, 2007; Sarwer, 2002). The patients may also experience adverse or worsened psychological consequences after the surgery (Borah et al., 1998; Honigman et al., 2004; Malick et al., 2008; Mulkens et al., 2012).

Histrionic personality disorder and narcissistic personality disorder were the disorders the surgeons were most unsure about. Perhaps personality disorders are more complicated and difficult to recognise and diagnose (Sarwer & Whitaker, 2011), where the surgeons cannot be certain whether their patients are suffering from the disorders. However, given that past studies have suggested histrionic personality disorder and narcissistic personality disorder are the most common personality disorders seen among these patients (Shridharani et al., 2010), surgeons in New Zealand may need to increase their awareness of diagnostic criteria with patients who exhibit relevant symptoms.

A finding of note is that the number of surgeons who indicated that they had seen patients with bipolar disorder appeared to be considerably higher than those who indicated that they had seen patients with manic symptoms. This finding has a range of possible explanations. Given that manic symptoms are one of the main diagnostic criteria for bipolar disorders (American Psychiatric Association, 2000), it is possible

that the surgeons' understanding and knowledge about bipolar disorder is somewhat insufficient. However, a better explanation, or what is more likely to have occurred, could be the surgeons have only seen the patients who are in the major depressive phase of a Bipolar presentation, thus reporting less incidence of observing patients with manic symptoms. However, given the important role of psychology in the patients and in the elective aesthetic surgical practices, surgeons eligible to perform these surgeries should be expected to have sufficient psychological knowledge.

Psychological management. The majority of the surgeons revealed that they would be likely to use preoperative psychological risk assessment if a simple and reliable tool were available. Possible reasons may be the wide range of various psychological symptoms and disorders the surgeons reported seeing among their patients in this study, where the surgeons may wish to identify those patients with potential troublesome psychological problems, and to improve their management of these patients. However, the lack of a psychological screening tool targeting elective aesthetic patients is one of the contemporary concerns within the practice (Wildgoose et al., 2013). The alternative option, as suggested by others, is a close cooperation between mental health professionals and surgeons which would be able to efficiently diagnose patients with psychopathology and provide the appropriate treatment before, or instead of, elective aesthetic surgery (Bianchini et al., 2013).

While a mental health professional may not be included in a surgical team in New Zealand, when patients have been identified with psychological problems the surgeons seemed to prefer to manage these patients by making referrals to mental health professionals rather than prescribing medication. However, more than half the surgeons reported that they seldom or never refer patients with psychological issues to a mental health professional, nor do they prescribe medication to manage these patients. An important question arises – what exactly do they do when their patients present with psychological problems? Given that few surgeons reported that they have never seen patients with some of the psychological symptoms and disorders, it may be understandable for this small number of surgeons to indicate they do not refer patients to mental health professionals, as they have had no experience with patients with

psychological problems. Other potential explanations are that the surgeons may have refused to perform surgery on these patients, or referred the patients elsewhere, or they did not manage the patients' psychological problems.

Another finding that may, in part, explain the seemingly inadequate psychological management described above is that more than half the surgeons reported limited access to mental health care and, for some, access was difficult or non-existent. Some surgeons reported full-time access to mental health care, but a considerable number revealed that they had only limited access for restricted hours or no access at all. This is consistent with what Butler (2009) found (as cited in Hansen & Butler, 2012), which was a wide variability in the psychological management of all surgery units across the United Kingdom and some units had difficult access to mental health care. This could be a very important concern, as the surgeons could be required to have adequate access to appropriate mental health care in order to manage patients with psychological conditions (Hansen & Butler, 2012). The importance of this topic has been acknowledged in New Zealand medical ethics (Medical Council of New Zealand, 2011).

Nearly half the surgeons reported that they had one or more patients with adverse psychological outcomes after surgery, despite an acceptable surgical result, further suggesting the importance for surgeons of having adequate access to mental health care. This finding based on the existing literature (Harth & Hermes, 2007; Honigman et al., 2011; Pavan et al., 2008) suggests that these patients may have had various degrees of preoperative psychological conditions that were perhaps under-recognised by the surgeons. The finding also suggests that the surgeons' experience with patients presenting adverse psychological outcomes was not associated with the number of psychological symptoms or disorders observed in the patients. Given that a pre-existing psychiatric condition is associated with postoperative psychological complications (Borah et al., 1999), this finding seems to suggest the possibility that psychological symptoms in some patients have been overlooked or under-recognised by the surgeons, suggesting a need for preoperative psychological evaluation (Lyne et al., 2010). In addition, it seems to support the notion that psychological benefits for some patients receiving elective aesthetic surgery appeared to be minimal or non-existent (Sarwer & Crerand, 2004; von Soest et al., 2012). Although, on the other

hand, just over half the surgeons reported that they had not had patients with adverse psychological outcomes, which may support other studies that suggested potential psychological benefits from elective aesthetic surgery (e.g., Cash et al., 2001; Hasan, 2000). Unfortunately, there is no way of determining whether these patients have indeed received long-term positive psychological outcomes after the surgery.

A small number of surgeons revealed that the psychologists they had access to only accepted referrals related to limited or specific psychological conditions. This is consistent with Butler's (2009) finding (as cited in Hasen & Butler, 2012) where some mental health services available for plastic surgery patients only accept specific groups of patients (e.g., burns or cancer). As other findings of this study suggest that surgeons had seen a wide range of psychological symptoms and disorders among their patients, referring patients to psychologists who accept limited psychological conditions may be somewhat inadequate. In addition, more than half the surgeons admitted that they would like to have better access to psychological care. This would suggest that the surgeons also understand the limitations in their access to mental health care and that better access would increase the quality of their service and the surgical outcome.

In summary, these findings suggest that there is variability in psychological management among New Zealand surgeons, ranging from full access to mental health care to difficult or no access to these services. Most of the mental health care available for the surgeons accepts a wide range of psychological conditions, and many of the surgeons manage their patients presenting with psychological problems by making appropriate referrals to the mental health professionals. However, there appear to be a considerable number of surgeons who seem not to manage their patients' psychological problems either by prescribing medication or referring them to mental health professionals.

Surgeons' view with regard to psychological factors and benefits. Apart from the above findings that suggest the majority of the surgeons in the study considered psychological factors to be important, a majority also indicated the importance of additional surgical outcomes related to psychological factors. The

surgeons believed that psychological factors are important because they influence patient satisfaction, their unreasonable complaints and unrealistic expectations, and patient compliance, along with medical ethics and the surgeons' satisfaction. This perhaps demonstrated that the surgeons have a reasonable understanding of the association between psychological factors and many of the important aspects in the surgical outcomes of elective aesthetic surgery. However, only a small number of surgeons believed that psychological factors are important due to their association with surgical recovery and wound healing. Despite much research demonstrating the association between psychological distress and impaired wound healing (Broadbent et al., 2003; Steptoe et al., 2007; Walburn et al., 2009), this finding perhaps indicates that a considerable number of New Zealand surgeons may have overlooked the significant association between psychology and surgical recovery.

Nevertheless, almost all the surgeons believed that surgical benefits consist of psychological improvements, such as increased self-esteem, quality of life and enhanced physical appearance. This is in accordance with the purpose and the definition of elective aesthetic surgery, in which the surgery is carried out solely to improve the individual's psychological satisfaction (Lusted, 2009; Waterhouse, 2008).

New Zealand Surgeons and USA Surgeons

The second aim of the study was to compare New Zealand and USA data (Ephros & Lyne, 2008). The findings suggest that New Zealand surgeons report a higher frequency of using personal experience, intuition and clinical judgement to identify patients with emotional issues of potential concern than surgeons in the USA. Although the levels of training of surgeons in the USA study are unknown, this small difference between the two studies may be due to the fact that most of the surgeons in the New Zealand study were consultants with sufficient surgical experience, perhaps, to make them more confident in their personal experience and intuition in patient consultations.

Surgeons in the USA seemed to report the patient factor "history of suicide attempt" as more significant than New Zealand surgeons. This finding may reflect

differences between the health systems the surgeons work within — where injury and malpractice is covered under the Accident Compensation Corporation in New Zealand (New Zealand Legislation, 2013), as opposed to the health system in the USA, where there is a higher rate of litigation and more personal responsibility placed on the surgeons themselves (Svider et al., 2013). It is possible that surgeons in the USA may be more thorough and cautious in order to minimize liability and litigation compared to the New Zealand surgeons. In addition, a New Zealand participant indicated in the comment box that this patient factor involves many other aspects, such as the circumstances around the event and when the event occurred. Perhaps this indicates that the question was not precise enough to capture responses anticipated by the author. This particular finding may also be, in part, explained by the high suicide rates in USA. It has been reported by the American Association of Suicidology (2012) that the suicide rate in the USA in 2010 was 12.4 deaths per 100,000 population (age-adjusted death rate). This is higher than the suicide rate in New Zealand, which was 11.5 deaths per 100,000 population in 2010 (New Zealand Ministry of Health, 2012). The higher suicide rate in the USA may have increased awareness among physicians in the USA, including plastic surgeons, of the significance of a history of suicide attempts among their patients. However, despite New Zealand having a lower suicide rate than the USA, patients with a history of suicide attempts should be assessed thoroughly for the patients' safety and future risk as these patients are at greater risk of future self-harm (Capron, Cogle, Ribeiro, Joiner, & Schmidt, 2012; Lewinsohn, Rohde, & Seeley, 1994).

Despite the small differences between the two studies, both suggest that the majority of surgeons seemed to rely on personal experience, intuition and clinical judgement to identify patients with potential psychological concerns. In addition, the overall findings in New Zealand seemed to be consistent with the USA study and there were no other statistically significant differences found between the two sets of data — both studies included surgeons who perform different types of surgery, with the majority indicating that they do not tend to refer their patients for preoperative psychological evaluation by mental health professionals and do not routinely use an objective method to identify psychological problems in patients. Some surgeons have had one or more patients who experiences an adverse psychological outcome, and

they would be likely to use psychological risk assessments if a simple and reliable tool were available.

Together, these findings suggest that surgeons who are qualified to perform elective aesthetic surgery may come from a number of different disciplines and may have different practice backgrounds. Despite the slight variations in the surgeons' responses to the questions, the overall findings suggest that the surgeons' current practice, management and experience with regard to their patients with psychological problems, seem to be consistent, but somewhat inadequate in New Zealand, and the findings between New Zealand and the USA are consistent. In addition, the average preoperative consultation time among surgeons seem to be an important factor that is associated with various aspects of their surgical practice.

Strengths and Limitations

Despite some valuable new findings, there are several limitations in the study that need to be addressed. This is a preliminary study where questions in the survey were designed to examine the overall practice with a broad view; therefore there is a lack of questions that investigate specific issues in depth. Future research may benefit from additional questions to expand on other variables, such as participants' levels of psychological knowledge that may be influential in current elective aesthetic surgical practices.

Since oral and maxillofacial surgeons were included in the USA study (Ephros & Lyne, 2008), the lack of oral and maxillofacial surgeons in the current study may limit the validity of the comparison between the two studies. However, both studies aimed to examine surgeons who are eligible to perform elective aesthetic surgery, in which the influence of this limitation may be minimal.

The majority of the participants were consultants, so the findings may not apply to surgeons at other levels of training (e.g., junior or senior registrars). Given

that some surgeries are commonly performed by registrars under a consultant's supervision, it may also be helpful to explore the registrars' point of view with regard to their practices and experience of patients presenting with psychological issues.

Two of the questions may have been misleading to the surgeons. Preoperative consultation time was categorised as 5 to 15 minutes, 15 to 30 minutes, 30 to 45 minutes, and more than 45 minutes, and the years of surgical experience was categorised as 0-5 years, 6 -10 years, 10-15 years, and 16 or more years. The overlapping options (i.e., 15, 30, 45 minutes, and 10 years) may have led to confusion in selecting the appropriate response, and therefore affect the validity of the data. Future research may need to clarify the consultation time, as well as years of surgical experience to avoid this error.

Another limitation was the lower response rate and small sample size. The low response rate may limit the reliability of the data and the ability to generalise findings to the population. However, given that there are 52 plastic surgeons registered with the NZAPS in New Zealand (with which the majority of plastic surgeons in New Zealand are registered), this study achieved an estimated response rate of 50%. Therefore, this can be considered a reasonable number captured from the population of plastic surgeons in New Zealand. The small sample size may also limit the statistical power in detecting smaller effects, which may in turn influence interpretation of the results. However, given the relatively low response rates and small sample sizes from other studies that also examined surgeons (e.g., Ephros & Lyne, 2008; Sarwer, 2002), the response rate in this study was considered to have more statistical power than others.

Despite these limitations, this study does have its strengths. To the best of the author's knowledge, this is the first study examining surgeons in elective aesthetic surgery practice in New Zealand, in which the findings may be helpful in contributing to future improvements in practice and research. The current study has also attempted to address the limitations presented in the previous studies (e.g., Sarwer, 2002) by developing additional questions examining the surgeons' demographic and practice backgrounds. Preoperative consultation time in particular appeared to be an important variable associated with the surgeons' practice and experience with regard to patients presenting psychological symptoms and disorders. The comparatively large amount of

descriptive data has given a valuable view of plastic surgeons in elective aesthetic surgery practice in New Zealand.

This study attempted to include all the surgeons who are qualified to perform elective aesthetic surgery by including surgeons from other disciplines (i.e., ophthalmologists, otolaryngologists and dermatologists). Therefore, the findings demonstrate that elective aesthetic surgery can be performed not only by plastic and cosmetic surgeons, but also surgeons in other specialties. The implications of the findings are therefore not limited to plastic surgeons, but to all surgeons who perform elective aesthetic surgery.

Recommendations for Future Research

The findings of this study suggest that almost all the surgeons in the sample used personal experience, intuition and clinical judgement to examine their patients' psychological status. Given that past research has also suggested that surgeons can under-recognise psychopathology in their patients, such as patients with BDD (Sarwer, 2002), this can result in adverse consequences if left untreated. Therefore, it is important to further examine the reliability and the validity of these methods in screening for potential underlying psychopathology among patients seeking elective aesthetic surgery — perhaps measuring the surgeons' clinical judgement against the standard diagnostic criteria could be helpful. Future research in this area may be able to make appropriate recommendations for the surgeons in identifying signs of underlying psychopathology of their patients, and may therefore increase the surgeons' quality of service and surgical outcomes.

This study reveals preoperative consultation time to be an important factor associated with many other aspects of psychological factors in elective aesthetic practice. Preoperative consultation is of importance in elective aesthetic practices in terms of understanding the patient's needs and circumstances, as well as for the surgeons to make sure that the patient understands the surgery and the possible outcomes. Most importantly, one of the main reasons for sufficient preoperative consultation is to rule out all possible contraindications the patient might have for the

surgery, including psychological contraindications. Insufficient or low quality preoperative consultation can lead to misunderstanding between the surgeon and the patient, in which the patient may also be likely to develop unrealistic expectations. Given that psychological evaluation for patients is not a standard process in contemporary elective aesthetic practices, inadequate preoperative consultation may also result in surgeons under-recognising the psychological contraindications in the patient. Further research is recommended to explore this area of preoperative consultation time and quality, as the findings of this study also indicate that average preoperative consultation time for some surgeons may be insufficient for the necessary examinations, including psychological assessments.

The findings also suggest a need for preoperative psychological assessments in elective aesthetic surgery practice, and most of the surgeons indicated they would be willing to administer them if a screening tool were available. Therefore, research on the development of a psychological screening tool for surgeons to use for elective aesthetic surgery patients is encouraged, as it may efficiently assist surgeons to better decide whether the patient is an appropriate surgery candidate, who may benefit from the surgery, as well as to adequately detect relevant psychological symptoms among their patients. Early detection of psychopathology in patients can also contribute to surgeons avoiding or minimising an unnecessary waste of time, resources, and money.

There are some surgeons in New Zealand who seem to have underestimated the prevalence of psychological symptoms and disorders among their patients, and may have overlooked some important psychological factors in their patients. Given that psychology has a substantial role in elective aesthetic practices, plastic surgeons may deliver a considerably higher quality of service and surgical outcomes for their patients if they have adequate and sufficient understanding in the prevalence of psychopathology, as well as relevant psychological factors that are influential throughout surgical practices. Therefore, further research is recommended to examine surgeons' knowledge of psychological factors in elective aesthetic practice, as well as evaluating their relevant medical curriculum, and make appropriate suggestions for future improvement within the practices.

Conclusions

Surgeons in New Zealand appear to rely mostly on personal experience, intuition and clinical judgement to determine a patient's psychological status and they rarely administer a preoperative psychological screening tool or refer patients for preoperative psychological evaluation. However, all the surgeons have had at least some experience with patients presenting with psychological symptoms and disorders and some have had experience with patients presenting adverse psychological outcomes after the surgery. The findings suggest the surgeons are aware of psychological conditions in patients but may underestimate the prevalence of psychopathology. This suggests that there may be a need for preoperative psychological evaluation in patients seeking elective aesthetic surgery. Most of the surgeons manage patients presenting psychological conditions by referring to mental health professionals; however a number of surgeons may have difficulty accessing mental health care for their patients. Future improvements and further research into the relevant issues in surgeons' practices and psychological problems of patients will provide the most optimal outcomes for both the surgeons and their patients in the long run.

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Appendices

Appendix A



MASSEY UNIVERSITY
COLLEGE OF HUMANITIES
AND SOCIAL SCIENCES
TE KURA PŪKENGĀ TANGATA

Survey of the Psychological Practices of Surgeons who perform Elective Aesthetic Plastic Surgery

About this study

You are invited to participate in a research project on the current psychological practices of surgeons who perform elective aesthetic plastic surgery in New Zealand.

My name is Mindy Hung and I am a Masters student at Massey University, and this study is part of my Masters' thesis and I would be grateful for your assistance.

The survey will take approximately 6 minutes of your time to complete, and your participation in this project is entirely voluntary. You have the right to withdraw from the study at any time without penalty simply by closing your browser.

Your information will be confidential and the survey will not contain information that will personally identify you. This study has been determined by the Massey University Human Ethics Committees to be low risk, meaning there are no risks to participants beyond those that exist in daily life.

Should you wish to discuss this survey further, please contact me by email mindy.m.hung@gmail.com. Or should you wish to discuss this project with my thesis supervisor, please contact Dr Angela McNaught on a.mcnaught@massey.ac.nz.

By clicking the "next" button below you are indicating that:

1. You have read and understand the above
2. You are qualified to perform elective aesthetic surgery in New Zealand (with or without supervision)
3. You are consenting to participate in this project

Thank you.

Next

Please fill in the items below based on your past experience and personal thoughts on the psychological issues of your **ADULT** patients seeking **elective aesthetic plastic surgery with general anaesthesia**.

Please note that for the purposes of this survey the term aesthetic surgery refers to orthognathic, facial aesthetic, and aesthetic surgery not involving the face.

Medical background and practice details													
1.	Please indicate your gender: <input type="checkbox"/> Male <input type="checkbox"/> Female												
2.	Please indicate your vocational scope of practice: <input type="checkbox"/> Ophthalmology <input type="checkbox"/> Otolaryngology <input type="checkbox"/> Plastic and/or Reconstructive <input type="checkbox"/> Dermatology <input type="checkbox"/> Oral and/or Maxillofacial surgery												
3.	Please indicate your current level of training: <input type="checkbox"/> Junior Registrar <input type="checkbox"/> Senior Registrar <input type="checkbox"/> Consultant <input type="checkbox"/> Medical Officer of Specialist Scale (MOSS)												
4.	Please indicate your years of elective aesthetic surgical experience: <input type="checkbox"/> 0 - 5 years <input type="checkbox"/> 6 - 10 years <input type="checkbox"/> 10 - 15 years <input type="checkbox"/> 16 or more years												
5	For each of the statements below regarding your practice, please circle yes or no: <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">a) I perform orthognathic surgery</td> <td style="width: 10%; text-align: center;">Yes</td> <td style="width: 10%; text-align: center;">No</td> <td style="width: 10%;"></td> </tr> <tr> <td>b) I perform facial aesthetic surgery</td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td></td> </tr> <tr> <td>c) I perform aesthetic surgery not involving the face</td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td></td> </tr> </table>	a) I perform orthognathic surgery	Yes	No		b) I perform facial aesthetic surgery	Yes	No		c) I perform aesthetic surgery not involving the face	Yes	No	
a) I perform orthognathic surgery	Yes	No											
b) I perform facial aesthetic surgery	Yes	No											
c) I perform aesthetic surgery not involving the face	Yes	No											
6	In which of the following settings do you perform the most elective aesthetic plastic surgery? <input type="checkbox"/> Private clinic <input type="checkbox"/> Public Hospital <input type="checkbox"/> Other, please specify _____												
** Please answer the remainder of survey on the basis of your selected work setting in this answer.													
7.	How long, on average, is your preoperative consultation with patient seeking elective aesthetic surgery? <input type="checkbox"/> 5-15 minutes <input type="checkbox"/> 15-30 minutes <input type="checkbox"/> 30-45 minutes <input type="checkbox"/> More than 45 minutes												

Methods of Psychological Assessment					
8.	Do you routinely use an objective method to identify potentially troublesome psychological problems in patients undergoing aesthetic surgery? If yes, please specify the objective methods you use _____.			Yes	No
9.	Do you use personal experience, intuition and/or clinical judgement to identify patients with emotional issues of potential concern?	Always	Often	Sometimes	Seldom Never
10.	How often do you refer aesthetic surgery patients for preoperative psychological evaluation by a mental health professional?	Always	Often	Sometimes	Seldom Never
11.	How important, to you are the psychological factors of your patients who present for aesthetic surgery?	Extremely Important	Very Important	Moderately Important	Somewhat Important Not Important
12.	How confident are you in recognising or detecting the psychological diagnostic symptoms of your patients?	Extremely Confident	Very Confident	Moderately Confident	Somewhat Confident Not Confident
13.	How often do you administer psychological screening tools? Please specify the psychological screening tools you use _____.	Always	Often	Sometimes	Seldom Never

****Please tick "Not Familiar" if you are not familiar with the symptom/disorder, or "Not Sure" if you are not sure whether your patient had the symptom/disorder.**

Potential Psychological Problems							
14. How often have you seen the following SYMPTOMS with your patients since you started performing elective aesthetic surgery in New Zealand?							
	Not Sure	Not Familiar	Always	Often	Sometimes	Seldom	Never
a) Depressed Mood							
b) Anxiety							
c) Grandiosity							
d) Stress							
e) Flight of ideas							
f) Psychosis							
g) Sleep Disturbance							
h) Manic Symptoms							
i) Anger/Hostility							
j) Suicidal ideation / attempts							
k) Substance abuse							
l) Other psychological symptoms you have seen in your patients (Please indicate the frequency in your answer) _____.							

15. How often have you seen the following DISORDERS with your patients since you started performing elective aesthetic surgery in New Zealand?							
	Not Sure	Not Familiar	Always	Often	Sometimes	Seldom	Never
a) Anxiety Disorders							
b) Bipolar Disorders							
c) Body Dysmorphic Disorder							
d) Borderline Personality Disorder							
e) Delusional Disorders							
f) Eating Disorders							
g) Histrionic Personality Disorder							
h) Major Depressive Disorders							
i) Narcissistic Personality Disorder							
j) Psychotic Disorders							
k) Schizophrenia							
l) Somatoform Disorders							
m) Other psychological disorders you have seen in your patients (Please indicate the frequency in your answer) _____.							

Reasons for Psychological Assessment					
16. Please rate the significance of each of these patient factors in the preoperative evaluation for aesthetic surgery.					
	Absolutely critical	Very Significant	Somewhat Significant	Not Very Significant	Of No Significance
a) Current use of psychoactive medications					
b) History of suicide attempt					
c) Currently under the care of a psychologist					
d) Has consulted with multiple surgeons					
e) Complains about results of prior surgery					
f) Expectations are unrealistic					
g) Has discordant self-image					
h) Significant psychopathology					
i) Poor family support or large amount of family conflict					
j) Current significant life stressors					
k) Other patient factors, please specify _____.					
l) Please specify other patient factors that are of significance _____.					

Psychological Management						
17. How often do you manage patients with psychological problems by using the following options:						
	Always	Often	Sometimes	Seldom	Never	
a) Prescribe medication (e.g. Antidepressant)						
b) Refer to psychologist						
c) Refer to psychiatrist						
d) Other, please specify _____.						
18. Do you have access to psychological care for your patients if required? (Please tick the one most applicable)						
<input type="checkbox"/> Full access to within-service psychological personnel <input type="checkbox"/> Full access to psychological personnel outside the work setting (e.g. available fulltime basis) <input type="checkbox"/> Limited access to psychological care (e.g. restricted hours during the week) <input type="checkbox"/> Difficult or no access to psychological care						
19. Would you like to have better or more access to psychological care?				Yes	No	
20. If you DO have access to psychological care, please indicate the range of psychological conditions the psychologist accepts. (If you do not have access, please skip this question)						
<input type="checkbox"/> All psychological conditions <input type="checkbox"/> Wide range of psychological conditions <input type="checkbox"/> Limited/ specific psychological conditions						
21. Have you had one or more patients who experienced an adverse psychological outcome after aesthetic surgery despite an acceptable surgical result?				Yes	No	
Please briefly state the nature of any adverse psychological outcome of your patients. _____.						
22. If a simple, reliable tool were available to assist surgeons in psychological risk assessment of preoperative patients, how likely would you be to use it for your aesthetic surgery patients?		Very likely	Somewhat likely	Not sure	Not very likely	Highly unlikely

Psychological Benefits of Surgery

23. Why do you think the psychological factors of your patients are important?
(Please tick all boxes that apply)

- Wound healing
- Surgical recovery
- Patient's compliance
- Patient's satisfaction
- Surgeon's satisfaction
- To avoid the patient's unreasonable complaint
- To avoid the patient's unrealistic expectation of the surgery result
- Medical ethics
- Other (please specify) _____.

24. What do you believe are the benefits of elective aesthetic surgery for your patients? (Please tick all boxes that apply)

- Increased self-esteem
- Enhanced physical appearance
- Increased individual productivity
- Improved physical functioning
- Improved quality of life
- Other (please specify) _____.

Thank you very much for your time in completing this survey today. I very much appreciate it and look forward to providing you with a summary of the results at some time in the near future.

Last but not least!

25. Please feel free to leave any comments you have with regard to the nature or content of the survey

_____.

26. Should you wish to receive a summary of the results of this survey, please leave your email address below. The summary will be forwarded to you around August 2013.

_____.

Should you wish to discuss this survey further, please contact me by email mindy.m.hung@gmail.com. Or should you wish to discuss this survey with the thesis supervisor, please contact Dr Angela McNaught on a.mcnaught@massey.ac.nz. THANK YOU!

Appendix B

The Information Sheet Example

Dear NZAPS Member

My name is Mindy Hung and I'm a Masters student at Massey University, Albany. I am conducting research that is looking at the experiences and current practices of surgeons who are qualified to perform elective aesthetic surgery requiring general anaesthesia with regard to the psychological presentation of their patients. Overseas research suggests that surgeons performing elective aesthetic surgery experience some barriers to psychological assessment and treatment for their patients, and I am interested to determine if this is similar in New Zealand.

I am therefore inviting members of NZAPS to participate a short online survey about your experiences, that will take around 6 minutes to complete. All the information collected is anonymous, however, should you wish to receive a summary of the outcome of the study, you can simply leave your email address on the last page of the survey. I will also be providing a summary of the study to NZAPS as a matter of course.

The survey will be available to be completed until Sunday, 3 March, and the results are expected to be available in July.

The survey can be accessed at:

https://www.surveymonkey.com/s/Survey_for_Surgeons

Further information about this research (including my supervisor's contact details) can be found on the front page of the survey, or if you have any further questions please do not hesitate to contact me (details below).

I would be most grateful for your participation in this project.

Thank you.

Mindy Hung

Email: mindy.m.hung@gmail.com