Direct and indirect effects of mediated celebrity on young people's attitudes toward cosmetic surgery

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**Direct and Indirect Effects of Mediated Celebrity on
Young People's Attitudes toward Cosmetic Surgery**

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A thesis submitted to the Nanyang Technological University
in fulfillment of the requirement for the degree of
Doctor of Philosophy

2013

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ABSTRACT

There is a concern that young people are undertaking an increasing number of dangerous cosmetic surgeries today. Celebrity and media are regarded as two important factors that have impacts on young people's attitudes toward cosmetic surgery. In this dissertation, I first conceptualize celebrity involvement as a multi-dimensional construct comprised of four elements—capture, affinity, parasocial relationship and identification. I then propose a theoretical model that includes both direct and indirect associations between celebrity involvement and attitudes toward cosmetic surgery. Research was conducted in two phases. In phase one, nine in-depth interviews were conducted with fans of celebrity of the same sex or recipients of cosmetic surgery. In the second phase, 555 university students completed either a paper-and-pencil or an online survey. Results generally supported the proposed conceptualization of celebrity involvement and direct and indirect associations between celebrity involvement and attitudes toward cosmetic surgery. The indirect model showed that young people's existing level of involvement with same-sex celebrities (hereafter, *celebrity involvement*) motivated them to be exposed to the celebrity content on the media. The media consumption of the celebrity would then propel young people to make appearance-wise comparisons with the celebrity. Such comparisons would lead them to develop positive attitudes toward cosmetic surgery and intention to undergo cosmetic surgery. Implications of the findings, limitations of the study and directions for future research were also discussed.

CHAPTER ONE INTRODUCTION

1.1 Concerns about the Prevalence of Cosmetic Surgery among Young People

Young people's demand for cosmetic surgery has drastically increased worldwide in recent years. Statistics showed that about 20% of the over 9 million surgical and nonsurgical cosmetic procedures performed in the United States were operated on adolescents and young adults below 34 years old (American Society for Aesthetic Plastic Surgery [ASAPS], 2011). In Britain, a survey found an increase of 500% of teenagers getting cosmetic surgery during the past years (The Liposuction Resource Center, 2009). This craze for cosmetic surgery also sweeps among youths in Asia. In South Korea, about 50% of women in their 20s were estimated to have had some form of cosmetic surgery (Scanlon, 2005). About 35% of men in their 20s also said they would undergo plastic surgery (Kwon, 2009). In Taiwan and China, the number of cosmetic surgery patients soared up in summer because students like to take summer vacation to undergo cosmetic surgeries (Chan, 2009; Tian, 2004). More recently, college students in China who were about to graduate and start job-hunting also resorted to cosmetic surgery to bolster their job prospects (He, 2009).

Young people's craving for cosmetic surgery deserves attention from social scientists and health workers. The cosmetic surgery that young people opt for takes on a variety of surgical and non-surgical forms. These procedures, however, are inherent with risks—it usually starts with a healthy patient, but the surgery itself may cause scars, numbness, nerve damage, necrosis, arthritis, muscle pains, and even death (Marcus, 2007; Ryan, 2005). Cosmetic surgery may cause other damages to young people, whose bodies are still growing. For example, many changes seen with liposuction may be reversed as young patients become older. Patients who undergo breast augmentation at an early age may end with humongous breasts as their bodies continuously deposit weight through and after puberty. The dangers of cosmetic surgery not only lie in the medical risks involved, but also in the psychiatric complications following the procedures, including psychopathic disorder, personality disorder, and body dysmorphic disorder (Vargel & Ulusahin, 2001). Therefore, it is important to study the factors that contribute to the increasing tendency of undergoing cosmetic surgery for this particular age group.

1.2 Factors that Affect Young People's Attitudes toward Cosmetic Surgery

Several factors are likely to affect young people's attitudes toward cosmetic surgery, such as culture, gender, and age. In addition to these factors, media critics and social scientists attribute the increasing tendency of undergoing cosmetic surgery among young people to celebrity involvement and media in recent years (Nabi, 2009; Slevec & Tiggemann, 2010; Swami, Taylor, & Carvalho, 2009). However, the underlying theoretical explanations are unclear. This dissertation project is designed to specifically study the influences of celebrity and media on young people's attitudes toward cosmetic surgery.

1.2.1 Celebrity

The term "celebrity" can find its root in the classical Latin word "celebrum," which refers to a combination of having fame and being thronged by a crowd (Rojek, 2001). In recent years, social scientists and scholars define a celebrity as an individual who receives public recognition and praise in a wide variety of fields like science, politics, and entertainment (McCutcheon, Lange, & Houran, 2002). However, compared to celebrities in other fields, celebrities in the entertainment arena seem to receive the greatest popularity among young people around the world. One study in the United States revealed that nearly 54% of the celebrities admired by adolescents were from the entertainment fields like motion pictures or pop music (White & O'Brien, 1999). Similarly, 76.3% of the surveyed high school students in Hong Kong indicated singers or actors as their favorite idols (Yue & Cheung, 2000).

Among all the reasons why young people get involved with entertainment celebrities, physical appearance is an important determinant. For example, college students in Singapore ranked physical attractiveness as the second most important quality that made them admire a celebrity (Poo, 2007). Adolescents in Hong Kong also indicated that attractiveness was the most important criterion in choosing their celebrity idols (Yue, 2007). Audiences, through such admiration of celebrities' appearance, can develop involvement with celebrities. For example, Hoffner (1996) found that female children formed an imagined intimacy with media characters when they found the media characters attractive. Biskup and Pfister (1999) also found that adolescents, especially adolescent girls, chose "role models" on the grounds of physical appearance and wished to become like their role models.

Involvement with celebrities on the basis of appearance can be a critical factor that influences young people's attitudes toward cosmetic surgery. Swami, Taylor, and

Carvalho (2009) found that how female undergraduate students were attracted to, absorbed with, or addicted to celebrity idols was an important predictor of their acceptance of cosmetic surgery and intention to undergo cosmetic surgery in the future. Although there are evidences for the association between involvement with celebrities and young people's favorable attitudes toward cosmetic surgery, theoretical explanations for this association are lacking. One main reason for this lack of theoretical exploration is the unclear definition for celebrity involvement. Some studies call this phenomenon *celebrity worship* (McCutcheon, Lange, & Houran, 2002), but others call it *celebrity idolization* (Engle & Kasser, 2005). Despite different terminologies describing this phenomenon, a common feature they all highlight is the concept of "involvement". A clear definition for celebrity involvement is thus important when one examines the association between celebrity involvement and attitudes toward cosmetic surgery.

In this dissertation, I refer to a number of psychological theories and arguments to divide the construct of celebrity involvement into four dimensions—parasocial relationship, identification, affinity, and capture. *Celebrity involvement* describes how audience members relate to celebrity figures in the media (Brown, & de Matviuk, 2010). *Parasocial relationship* is an intimate relationship that an individual perceives to have with the celebrities (Horton & Wohl, 1956; Horton & Strauss, 1957; Hartmann & Goldhoorn, 2011). *Identification* depicts a psychological process through which an individual strives to become like another person (Kelman, 1958). *Affinity* is a general liking toward the celebrities, without forming any parasocial or identificatory relationship (Giles, 2002). In addition, *capture* describes how an individual is captivated by certain features of the celebrities (Rosengren & Windahl, 1972). Each component of celebrity involvement is likely to lead young people to hope to look like the celebrities. The desire to look like the celebrities would, in turn, motivate young people to develop positive attitudes toward cosmetic surgery.

1.2.2 Mass Media

In addition to the direct association, there is an indirect association between celebrity involvement and young people's attitudes toward cosmetic surgery. This indirect association is mediated by exposure to mass media, because audiences rarely have personal contact with the celebrities in real life, and they usually rely on media to acquire information about the celebrities and get involved with the celebrities. Audiences are likely to compare the self with the ideal images portrayed by celebrities

in the media. Social comparison theory (Festinger, 1954) can explain how young people compare the self with media personas, and how the comparison would influence their attitudes toward cosmetic surgery. Social comparison theory (Festinger, 1954) argues that people are motivated to make cognitive judgments about their own attributes in comparison to others. Comparisons with the ideal images of celebrities usually create self-other discrepancy, which may make the audiences feel dissatisfied with their own appearance. The self dissatisfaction would in turn cause positive attitudes toward cosmetic surgery for the audiences. Based on social comparison theory, I herewith propose a model that integrates the influence of celebrity involvement into the research of media effects on young people's attitudes toward cosmetic surgery.

1.3 Objective of Study

In summary, there are three primary objectives in this study: (1) to get a better understanding of the construct of celebrity involvement, (2) to explore the direct path with which involvement with celebrities influences young people's attitudes toward cosmetic surgery, and (3) to examine the indirect path between celebrity involvement and young people's attitudes toward cosmetic surgery within the context of mediation by the mass media. To reach these three objectives, this dissertation proposes a theoretical model that includes both the direct and indirect associations between celebrity involvement and attitudes toward cosmetic surgery. The model is largely theory-based. To explain the direct association between celebrity involvement and attitudes toward cosmetic surgery, I make use of a number of psychological theories and arguments including parasocial relationship (Horton & Wohl, 1956; Horton & Strauss, 1957; Hartmann & Goldhoorn, 2011) and identification (Kelman, 1958). To disentangle the indirect association between celebrity involvement and attitudes toward cosmetic surgery, I make use of social comparison theory (Festinger, 1954). The model will be tested both theoretically and empirically.

I select Singapore as the locale for this study. Cosmetic surgery has been commonplace in Singapore for quite some time, but only recently has Singapore become one of the most sought-after destinations for cosmetic surgery in the greater Asia region (Enhancement Network, 2010). More than 250,000 patients per year visit Singapore, and nearly half of them are from the Middle East (O'Reilly & Lamb, 2006). In particular, within the past few years, there was an increase of about 30% in the number of clients under the age of 21 over the past five years in Singapore (Xiong,

2011). Meanwhile, young people in this city state have demonstrated an increasingly high level of involvement with celebrities (Chia & Poo, 2009). Some (56.2%) of the celebrities are Western celebrities whose Caucasian features differ from young people in Singapore. I will examine the relationship between celebrity involvement, media exposure, and young people's attitudes toward cosmetic surgery in this context.

1.4 Overview of Chapters

Toward this goal, Chapter Two of this dissertation explicates the concept of cosmetic surgery and describes its culture-specific, gender-specific, and age-specific nature. Then, based on a review of existing measurements of cosmetic surgery attitudes, I propose a scale to measure young people's cosmetic surgery attitudes in the current research.

Chapter Three proposes a model that includes the direct and indirect associations of celebrity involvement and cosmetic surgery attitudes. To well explain the direct and indirect associations, I first conceptualize the construct of celebrity involvement. Then I propose theoretical explanations for each component of celebrity involvement and its association with attitudes toward cosmetic surgery. I also propose, based on social comparison theory, an indirect association between celebrity involvement and young people's attitudes toward cosmetic surgery.

Chapter Four and Five present the methods used in this dissertation and the research findings. This research consists of two phases—an interview and a survey. As the main purpose of this dissertation is to test the hypothetical model, the survey is the primary study, whereas the interview plays a prior, subordinate role for the survey. Such a mixed research design is chosen for three reasons. First, social interventions are complex phenomena so that one should adopt multiple methods to properly understand or evaluate them (Steckler, McLeroy, Goodman, Bird, & McCormick, 1992). Given the complexity of the phenomenon of cosmetic surgery, both qualitative and quantitative techniques were utilized in this dissertation project. Second, each methodology has its own inherent strengths and limitations (Jick, 1983). Results of using methods from both qualitative and quantitative paradigms can be complementary and enriching. Third, qualitative methods like in-depth interview could help improve and strengthen the reliability and validity of quantitative research instruments like survey questionnaires (Greene, Caracelli, & Graham, 1989). Previous studies showed that qualitative interviews which play a prior, subordinate role support the design and construction of survey instruments (Keele, 2009, 2011). In this

dissertation the qualitative phase precedes the quantitative phase. Data collected in the qualitative phase are expected to inform the design of the survey instruments. Following the interview, a survey is conducted at the second phase of this dissertation. Quantitative research seeks to understand how communication phenomena are different and how they are related by using descriptive and inferential statistics (Keyton, 2011). Findings of the survey are expected to help explicate the relationships between young people's celebrity involvement, media usage, and attitudes toward cosmetic surgery.

Finally, Chapter Six discusses the implications of the findings, limitations of the study and directions for future research.

CHAPTER TWO COSMETIC SURGERY

Cosmetic surgery is not necessarily a surgical procedure. It involves both surgical techniques and non-surgical/minimally-invasive techniques to aesthetically enhance normal appearance. People often mistakenly view cosmetic surgery as the same as plastic surgery and use the two terms interchangeably. As a matter of fact, plastic surgery is an overarching construct that composes both cosmetic surgery and reconstructive surgery. To better explicate the concept of cosmetic surgery, we need to first define the three terms—plastic surgery, reconstructive surgery and cosmetic surgery—separately. We also need to clarify the conceptual relationships among them. In addition, people's intention to have cosmetic surgery, and their choices of which types of cosmetic surgery to have, often vary upon their cultural background, gender and age. Therefore, in this chapter, I first conceptualize plastic surgery, reconstructive surgery and cosmetic surgery. I discuss the similarities and differences among the three terms. I then focus my discussion on cosmetic surgery and explain how this concept is shaped by culture, gender and age. Finally, I conclude the chapter with a scale that I develop to measure young people's attitudes toward cosmetic surgery in Singapore.

2.1 Cosmetic Surgery vs. Plastic Surgery and Reconstructive Surgery

As Figure 1 shows, plastic surgery is an umbrella term that includes both reconstructive surgery and cosmetic surgery. The word “plastic” originates from the Greek word *plastikos*, meaning “to mold or shape” (Epstein, 2000). People use the term “plastic surgery” to describe the combination of reconstructive surgical skills and techniques to attempt to restore normal, functional anatomy to the human body after illness or accident; it also includes aesthetic procedures to change the appearance by choice (British Association of Plastic, Reconstructive and Aesthetic Surgeons [BAPRAS], 2010). At early times, plastic surgeries were usually employed to close a wound, replace tissue loss, or rectify deformities, caused by punishment as well as congenital anomalies, accidents, and ravages of war and diseases (Sullivan, 2001). The earliest work of such surgery is recorded in the *Sushruta Samhita*, written in approximately 600 BC based on a Hindu hymn. The work appeared to contain surgical reconstruction of noses and ear lobes (Brown, 1986). In general, procedures for plastic surgery often involve formation of a skin flap to reshape or mold the defect so as to

approximate the original shape (American Society of Plastic Surgeons [ASPS], 2010a). The work ranges from treatment to rectify congenital craniofacial deformities to sexual reassignment surgery. As it is such a broad term, people often divide it into reconstructive surgery and cosmetic surgery according to the amount of work and the types of goals involved in the procedure. Below I describe the two in details.

Figure 1. Conceptual Relationship between Plastic Surgery, Reconstructive Surgery, and Cosmetic Surgery

2.1.1 Reconstructive Surgery

Reconstructive surgery represents medical operations that aim to fix abnormal or dysfunctional body parts, such as those abnormalities caused by congenital defects, developmental aberrations, traumas, burns, infection, tumors, cancers, and other diseases (Sullivan, 2001). Patients need this type of surgery when they suffer from objective congenital malformation or severe disfigurement and strive to restore normal functional skills such as speech, mastication, vision, hearing, and movement. Through the surgery, patients have relevant body parts repaired or created. In general, demands for reconstructive work are usually generated from patients' physical needs rather than marketing campaign efforts or cultural pressure. This type of operation is non-elective and non-commercial, and thus covered by health insurance (Sullivan, 2001). Physicians regard this type of work as a professional service.

Reconstructive surgery includes a variety of procedures, such as breast reconstruction, hand surgery, cleft lip and palate repair, and birth defect reconstruction. Some literature indicates that the oldest work of reconstructive surgery should be traced back to the 1500 BC when it was first conducted to reconstruct noses and ear lobes in India (Brown, 1986). The earliest procedure on record is harelip repair found in Europe in the 14th century (Rogers, 1988). In recent years, patients who sustain amputations to fingers or hands undergo replantation operations in order to return to as functional a lifestyle as possible. In addition, there is genital reconstruction surgery, also called sex reassignment surgery. It refers to surgical procedures that alter primary and secondary sex characteristics to resemble those of the other sex (Bockting & Fung, 2006). This procedure is most commonly performed to feminize or masculinize the appearance of intersex patients who are born with a discrepancy between their genetic, gonadal, hormonal, or genital sex (Cohen-Kettenis & Pfafflin, 2003; Money & Ehrhardt, 1972). As this procedure is always used as a part of a treatment for gender identity disorders¹, the surgery is considered medically necessary, rather than elective or cosmetic (Bockting & Fung, 2006).

2.1.2 Cosmetic Surgery

Different from reconstructive surgery, cosmetic surgery aims at reshaping healthy anatomical structures and appearance which fall within the normal range of variation. It can improve a patient's sense of psychological well-being and self-image by making the patient's appearance more closely approximate the contemporary ideal (Sullivan, 2001). It is an elective procedure without merit for physical health. Breast augmentation forms one example. Although some women do not suffer from malfunctioning or disease in their breasts, they are motivated to undergo breast augmentation. They anticipate that bigger breasts would improve the quality of their life, body image, and self-esteem, as well as their marital and sexual satisfaction (Birtchnell, Whitfield, & Lacey, 1990; Didie & Sarwer, 2003).

Cosmetic surgery began in the middle of the 19th century, when a small circle of individuals sought practitioners' help to surgically improve certain features of appearance (Sullivan, 2001). As such operations usually started with a healthy patient but the surgery itself might cause numbness, nerve damage, necrosis, and even death (Marcus, 2007), most surgeons regarded such operations as unnecessary and frivolous, and they were unwilling to make such attempts (Sullivan, 2001). Nevertheless, public views toward cosmetic surgery gradually started to change from distain and repulsion

to tolerance. By the 1960s, the specialty rooted in reconstructive surgery eventually acknowledged cosmetic surgery as legitimate work. Meanwhile, significant technical developments in cosmetic surgery took place, including new ways of facelift, chin implants, dermabrasion, chemical peels, thigh lifting, abdominoplasty, breast augmentation, liposuction, and other kinds of body-contouring surgery (Webster, 1984). Cosmetic surgery began to become popular.

As cosmetic surgery originates from reconstructive surgery, the basic techniques applied in cosmetic surgery are mostly developed within the specialty of reconstructive surgery. In general, cosmetic surgery is comprised of two categories—surgical procedures and non-surgical/minimally-invasive procedures, depending on the degree of invasiveness of surgical operations (American Society of Plastic Surgeons [ASPS], 2009, see Figure 1). The surgical procedures involve surgical operations such as cutting a body open and placing implants inside the body. Examples include breast augmentation, liposuction, and rhinoplasty (see Table 1 for a list of surgical procedures). Breast augmentation or mammoplasty is a procedure which places a bag of saline solution under the breast tissue or behind the muscle on which the breast lies to correct or enhance breast size through an incision (British Association of Aesthetic Plastic Surgeons [BAAPS], 2010). Liposuction is a procedure in which localized deposits of fat are removed to recontour one or more areas of the body (McGrath & Mukerji, 2000). Finally, rhinoplasty, a commonly practiced cosmetic operation today, is a procedure to reshape and improve the appearance of a flattened nose by introducing some additional framework made of bone, cartilage (gristle) and a range of manufactured materials underneath the skin to raise and straighten the bridge-line (BAAPS, 2010).

Compared to surgical procedures, non-surgical/minimally-invasive procedures are more popular and widely accepted by people. In 2008, non-surgical/minimally-invasive procedures accounted for 86 percent of all cosmetic interventions performed in the United States (ASPS, 2009). The minimally-invasive procedures do not involve surgical operations, but depend on injection of chemicals or fillers into muscles or penetration of laser light in order to inhibit or intervene with the growth of those body parts. Examples of non-surgical procedures include Botulinum toxin (i.e., Botox) injections, laser hair removal, and lip enhancement (see Table 1 for a list of non-surgical procedures). Some of these non-surgical treatments have a permanent effect,

but many others only last for a few months. For example, Botox is injected directly, using a very small needle, into the muscles that cause the wrinkles on a person's face.

Table 1

Categories of Cosmetic Surgery (ASPS, 2009)

Surgical cosmetic procedures	Minimally-invasive cosmetic procedures
Breast augmentation (Augmentation mammalasty)	Botox
Breast implant removals (Augmentation patients only)	Cellulite treatment
Breast lift (Mastopexy)	Chemical peel
Breast reduction in men (Gynecomastia)	Laser hair removal
Buttock implants	Laser skin resurfacing (ablative & non-ablative)
Buttock lift	Laser treatment of leg veins
Calf augmentation	Microdermabrasion
Cheek implant (Malar augmentation)	Sclerotherapy
Chin augmentation	Soft tissue fillers
Dermabrasion	Calcium hydroxylapatite
Ear surgery (Otoplasty)	Collagen
Eyelid surgery (Blepharoplasty)	Fat
Facelift (Rhytidectomy)	Hyaluronic acid
Forehead lift	Polylactic acid
Hair transplant	
Lip augmentation (other than injectable materials)	
Liposuction	
Lower body lift	
Nose reshaping (Rhinoplasty)	
Pectoral implants	
Thigh lift	
Tummy tuck (Abdominoplasty)	
Upper arm lift	

The objective of this injection is to give the face a more relaxed and smoother appearance (BAAPS, 2010). Its effects generally last for approximately three to four months. The laser hair removal is a procedure that applies laser for depilation purpose. The depilation laser delivers a particular wavelength of light which penetrates up to a millimeter beneath the skin where it is absorbed by the pigment in the hair root and it helps inhibit the growth of pigment in the hair root (BAAPS, 2010). The procedure, however, cannot remove hair permanently. The laser could effectively disable hair that is growing in an active phase, but barely affect hair that is in regressive or resting phase. Therefore, once new hair grows, additional treatment sessions are required monthly or annually.

In summary, cosmetic surgery shares the techniques of reconstructive surgery but its purpose is different from that of reconstructive surgery. As Harold Delf Gillies, a New Zealand-born surgeon, put, “reconstructive surgery as an attempt to return to normal; aesthetic surgery as an attempt to surpass the normal” (Gillies & Millard, 1957). Cosmetic surgery is not considered as a medical service that can cure people. Instead, it is deemed as a commercial venture that generates good profits by providing service to make people look nice (Sullivan, 2001). Therefore, it is not covered by national health schemes or private insurers. In addition, because people seek this type of surgical service in order to become better-looking, not to become healthy, they are treated as “clients” rather than patients (Parsons & Fox, 1967). To solicit clients, cosmetic surgeons often advertise their services in newspapers, magazines and on billboards, radio, television, and the Internet. Some practitioners even place their names with referral services, arrange interviews with reporters, and develop public relations campaigns, such as running public seminars to attract prospective clients or publishing consumer guidebooks.

Finally, one should note that reconstructive procedures and cosmetic procedures can be performed altogether on patients. Sometimes, patients may seek reconstructive treatment for functional habilitation of deformed body parts, and meanwhile request cosmetic surgery for aesthetic habilitation of the deformed body parts. For example, treatment performed on patients with congenital craniofacial conditions (CFCs) usually involves the closure of a unilateral or bilateral cleft lip and palate or release of cranial sutures in the presence of craniosynostosis and significant cranial deformity. Such treatment is generally considered reconstructive in nature as it is recognized as critical to a child’s long-term adjustment and functioning of speech.

Meanwhile, additional and multiple interventions are performed to achieve aesthetic quality for the patients (Kapp-Simon, 2006). The operations include surgical procedures that camouflage the scare lines after cleft repair and make them less conspicuous, nasal dorsum augmentation, nasal tip refinement, and rhinoplasty to give the nose a more natural and symmetric look (Ahmed & Ramadan, 2008; Onizuka, Hosaka, Sumiya, Satoh, & Haraguchi, 1987). Similarly, patients who seek orthognathic surgery can also receive an orthodontic surgery in the midst of or after the initial orthognathic surgery. Orthognathic treatment is a reconstructive procedure that is primarily intended to improve severe dentofacial malrelations and their impact on occlusion, mastication, and speech through surgical procedures. This operation involves the movement of the lower jaw or upper jaw in various directions, or the movement of the chin, which may be moved upward to shorten it, or downward to lengthen it (Sarver, 2000). In contrast, orthodontics is a branch of dentistry which specializes in the diagnosis, prevention, and treatment of problems in the alignment of teeth and jaws (Australian Society of Orthodontists [ASO], 2010). Orthodontic treatment involves the design and use of corrective appliances, such as braces, plates, and headgears, instead of surgical procedures, to bring the teeth and jaws into proper alignment. Usually, people who seek orthodontic operations have normal dentofacial function. The primary purpose of these operations is to improve the dental and facial appearance.

2.2 Factors that Shape Cosmetic Surgery

In short, people undertake cosmetic surgery in order to acquire ideal beauty image. As what is beautiful is normally defined by culture, people's choices of which type of cosmetic surgery to take are usually shaped by their cultural background. In addition, people of different genders or different ages may have different concerns in terms of their body and beauty image. The reasons that motivate them to undertake cosmetic surgery and the possible risks that they need to bear for the surgical procedures may differ as well. Therefore, in this section, I discuss how culture, gender, and age may each shape the concept of cosmetic surgery.

2.2.1 *Cosmetic Surgery and Culture*

One of the determinants that spur people to undertake cosmetic surgery is to meet the society's beauty standards and cultural expectations (Fallon, 1990; Thompson, Heiberg, Altabe, & Tantleff-Dunn, 1999). The types of cosmetic surgery sought by people are thus racially specific. For Caucasian women in the West, beauty is usually

defined by body image. An ideally beautiful woman is usually slim, weighting 110-130 pounds, 5'7" tall, with large breasts, a small waist, and wide hips. However, in reality, only 5% of women actually look like the ideal (Jones, 2004). Majority women need to take drastic measures in order to acquire that ideal body image. Therefore, white women generally attach more attention to cosmetic surgeries that could shape their body image. Their favorite cosmetic procedures include breast augmentation that alters the size and shape of their breasts and liposuction that removes fatty areas of the body (ASPS, 2009; Kaw, 1993).

Black women are found to feel compelled to conform to White people's beauty paradigms (Henry, 2007). Since the slavery period, whiteness that privileges purity, delicacy, modesty, and physical frailty has been a dominant yardstick for beauty for centuries (Hobson, 2005). European facial and body features, such as white/light skin, and straight hair, concur with this white standard. However, black women usually appear to be opposite as they normally have curly hair, dark skin tone, and strong body. Black women tend to yield to this white embodiment of beauty due to their secondary standing in the slavery society (Tate, 2007). When comparing the self to White women's beauty standards, Black women often find that the self is overweight and that the self's breasts are oversized. They are also likely to think that their noses are broader than the ideal and that their skin tone is too dark (Henry, 2007; Hochschild, 2004). This can perhaps explain why the most commonly requested cosmetic procedures by African-Americans are liposuction, rhinoplasty, and breast reduction (ASPS, 2009). In addition, some black women are desperate for light skin color and straight hair. Many of them have bleached their skin and straightened their hair (Henry, 2007).

Compared to Caucasian women and black women, Hispanic Americans are relatively satisfied with their appearance and feel less compelled to change their appearance (Dove Report, 2005). However, the number of Hispanics opting for cosmetic surgery has increased recently when Hispanics are getting more wealthy and educated. According to updated statistics, cosmetic procedures sought by Hispanic Americans outnumbered cosmetic procedures sought by any other ethnic groups in America (ASPS, 2009). This growth shows that Hispanics, as they move up the socio-economic ladder, have adopted and adapted to the American cultural norms that reward ideal body image (Wells, 2005, as cited in Coda, 2005). Some of the most

popular procedures for Hispanics include liposuction, breast augmentation, and nose reshaping (ASPS, 2009).

For people of other ethnicities, including Jewish, Italian, Armenian, Greek, Iranian, and Lebanese, rhinoplasty is probably the most popular cosmetic procedure. For people of these ethnicities, their noses are of particular contours that are replicas or variations of an “Armenoid” nose—one characterized by considerable length and height, convexity of profile, a depressed tip with a downward sloping septum, and thick, flared alae or wings (Ernest, 1947, p. 158). This type of nose has become stereotyped and caricatured in Western society as a “Jewish nose”, in contrast to the mainstream Nordic looks. It has been selected as a symbol that differentiates Jews from non-Jews (Macgregor, 1967). Given by Jewish people’s tragic history, Jewish features are often associated with negative or stigmatic connotations. People who have these features are likely to take surgery to eliminate the traits and meanwhile achieve an appearance that would conform to the Nordic looks.

Different from Westerners, Easterners give more limelight to cosmetic surgery that changes facial features than surgery that changes body image. In particular, Asians often find their noses “flat” and their eyes “small and narrow” when they compare the self to Caucasians. The two features, unfortunately, are often stereotypically inherent with dull, passive, and non-sociable personalities (Lessing, 1984). Therefore, Asians often seek cosmetic surgeries like double-eyelid surgery and nose-shaping surgery to change the two features. Double-eyelid surgery involves excision of folds of skin from across upper eyelids to create a crease above each eye. It can make eyes look wider and the involving risk in the surgical procedure is not high. Therefore, it is the most common procedure undergone by Asians in America and other places like Singapore and China (Chua, 1982; Kaw, 1993). Nose-shaping, on the other hand, is a surgical procedure that sculpts the nose tip to create a more chiseled appearance, or implant silicone or cartilage bridge in the nose for a more prominent appearance. Asians request this surgery quite often as well. In addition, other types of surgery are getting increasingly popular in Asian societies. An eight-year review from 1959 to 1966 of five common cosmetic surgical operations done in a clinic in Singapore showed that plastic construction of superior palpebral fold and rhinoplasty augmentation were the most commonly desired procedures among Orientals (Khoo, 1969). Some Asian women also opt for procedures such as jaw reshaping and breast enlargement in an attempt to approximate the Western ideals of beauty (Watts, 2004).

Moreover, Chinese are driven by cosmetic motivations to receive leg-lengthening operations, in part because being tall is deemed socially desirable in China. Several job positions even list height as one of the criteria (Watts, 2004).

2.2.2 Cosmetic Surgery and Gender

In general, both women and men seek cosmetic surgery to change their appearance. However, people seem to pay more attention to women rather than men. The popularity of cosmetic surgery for women may stem from the fact that women have been under immense pressure to meet social expectations of beauty (Bartky, 1990). For women, beauty and social lives are often intertwined. Research suggests that attractive women are found to date more, fall in love more, have more sexual experiences, and have better marital prospects than women of average or less attractiveness (Hatfield & Sprecher, 1995). Women usually choose the types of cosmetic surgeries that could help them approximate the societal ideals—those with lean figures, large breasts, oblong faces, and large eyes (Guterl et al., 2003). For example, they seek nose reshaping surgery and eyelid surgery in order to obtain a more symmetric, attractive, and youthful face. In addition, they undertake breast augmentation and liposuction to obtain ideal body image (ASPS, 2009). Liposuction assists women to get rid of extra body fat and obtain thinner body shape, whereas breast augmentation brings women larger breast size and better breast shape.

In recent years, cosmetic surgery for men has started to gain popularity too. Daniel (1991) suggested that men usually sought cosmetic surgery to minimize serious deformities that prevent them from getting professional careers or love partners. Flowers (1991) called these “functional reasons”. For example, some men believe that being overweight is being inherent with a lazy, unhealthy, and powerless image, and that baldness indicates a chauvinist. These men undergo liposuction and hair transplant to shore up those stereotypical images (Atkinson, 2008). In addition, in an effort of improving their prospects of professional advancement, some men would go through nose reshaping, eyelid surgery, and hair transplant (Flowers, 1991). Finally, some men resort to new cosmetic technologies, such as pectoral implant, thigh lift, and upper arm lift, etc. to acquire bulging biceps, well-defined pecs, and washboard stomachs. They believe that these cosmetic surgeries could enhance their sexual desirability. After all, men with these attractive features are more likely than men with no attractive features to have more sexual partners or to marry attractive women (Bogaert & Fisher, 1995; Udry & Eckland, 1984).

2.2.3 Cosmetic Surgery and Age

People's age is related to their interests in undertaking cosmetic surgery and their choices of which types of cosmetic surgery to have. For elderly², the main reason to have cosmetic surgery is to look younger. As people grow old, anatomical changes occur in both their face and body. For example, the attenuation of facial ligaments and the loss of dermal elastin jointly contribute to the stigmata of an aging face—including deepening nasolabial folds, accumulated jowls, skin of dermal elastosis, and wrinkled neck (Allen, 2003). These characteristics have long been seen as unaesthetic, unerotic, and even pathological in human history. Therefore, old persons are likely to resort to medicine or cosmetic surgery in order to return to a firm, youthful, and healthy face that is always associated with erotic charms (Adamson & Moran, 1993; Gilman, 1999). Old women are particularly likely to experience this pressure to receive appearance-altering surgery because they feel they are competing with young women for the attention of their current or potential romantic partners (Gilman, 1999).

The surgical procedures elderly seek in an attempt of overcoming aging include eyelid surgery, facelift, dermabrasion, forehead lift, Botox, chemical peel, and laser skin resurfacing (ASPS, 2009). All these procedures aim to bring old people a younger look. For example, the eyelid surgery, also known as blepharoplasty, improves the appearance of the upper eyelids, lower eyelids, or both. It gives a rejuvenated appearance to the surrounding area of eyes (ASPS, 2010b). In addition, dermabrasion is used to refinish the skin's top layers through a method of controlled surgical scraping, improving the look of facial skin scarred by accidents or previous surgery, or smoothing out fine facial wrinkles that are brought by aging (ASPS, 2010c).

The elderly also experience age-related accumulation of body fat. As they progress from the third to the seventh or eighth decades of life, the subcutaneous fat decreases, intra-abdominal fat and infiltration of fat into and between muscles increases, and lean body mass declines. For example, an average 1.82-meter tall man would gain 1.37 kilograms and add 1.2 centimeter to his waistline for every decade of life after the age of 20 (Matarasso, 2000). In addition, after menopause, women begin to acquire the male pattern of weight gain in the abdomen, resulting in a loss of waistline definition. Therefore, people with the advanced age often resort to liposuction to surgically remove regional body fat. According to ASPS (2009), liposuction is among the top five surgical procedures that are most requested by senior patients.

Compared to the elderly, adults who are 30-65 years old are more interested in cosmetic surgery. Statistics show that in 2008, about 70% of cosmetic surgery procedures performed in the United States were for adults of this age group (ASAP, 2009). Adults undergo cosmetic surgery mainly to improve their self image. People who have received cosmetic surgery reported higher levels of self-esteem and lower levels of stress and shyness (Blomqvist, Eriksson, & Brandberg, 2000; Figueroa, 2003). In addition, adults sometimes have cosmetic surgery to improve their social life, including dating and marriage. They also undertake cosmetic surgeries for work-related purposes. Ample evidence shows that attractiveness is of merits in the workplace. More attractive people are assumed to be more competent and professional (Deshields, Kara, Kaynak, 1996; Harris & Busby, 1998; Lewis & Bierly, 1990; Reingen & Kernan, 1993).

According to the recent statistics of ASAPS (2011), liposuction, breast augmentation, abdominoplasty, blepharoplasty, and breast lift are the most popular cosmetic surgical procedures among adults. Female adults seek breast augmentation as they recognize that full breasts, associated with sexuality, femininity, maturity, are a powerful symbol which earns them male attention (Fowler, 2008). Abdominoplasty, also known as tummy tuck, gains popularity among women because it removes excessive fat and skin and gives abdomen firmer looks. In most cases, it also restores weakened or separated muscles that create smooth and firm abdominal profile (ASPS, 2010d). At the same time, it helps lose weight and simultaneously renovate postoperative folds of skin and fat. Adults who have lost weight through abdominoplasty report improvement in body image satisfaction, abdominal satisfaction, and sexual self-esteem (Bolton, Pruzinsky, Cash, & Persing, 2003).

Not only elderly and adults seek cosmetic surgery, an increasing number of adolescents and young adults also start to be interested in cosmetic surgery. Adolescents and young adults seek cosmetic surgery mainly for two reasons. The first one is to counteract the weight that comes with puberty. Puberty is usually associated with adipose weight gain in the hips, abdomen, and breasts; some of these physical changes can continue after the age of 18 (Feldman, 2007). Youngsters are quite conscious about these physical changes in body and appearance and they would seek body sculpture (Rosenblum & Lewis, 1999; Williams & Currie, 2000). In particular, those who fall outside the arbitrary standard ranges, such as overweight or obese adolescents and young adults, often struggle with issues of body image and social

acceptance (Sarwer, Thompson, & Cash, 2005; Schwartz & Brownell, 2004). Cosmetic surgery thus becomes a plausible choice for them (Attie & Brooks-Gunn, 1989; McKinley & Hyde, 1996).

The second reason for youngsters to seek cosmetic surgery is that they are readily to gain social rewards for better appearance. According to research, attractive children tend to receive more positive evaluation from teachers and wider popularity from peers (Dion, 1972; Lerner, Delaney, Hess, & Jovanovic, 1990; Lerner, Lerner, Hess, & Schwab, 1991; Ritts, Patterson, & Tubbs, 1992). Parents and even unacquainted child-care providers tend to be more attentive and affectionate with attractive infants and children than with unattractive ones (Casey & Ritter, 1996; Langlois, Ritter, & Casey, 1995). Adolescents and young adults are fully aware of this advantage of being attractive. Cosmetic surgery provides them with an opportunity to take that advantage.

In order to obtain ideal body and beauty images that can bring positive self-concept and high social acceptance, adolescents and young adults are likely to undertake a number of cosmetic surgeries. For example, one of the physical features that most concern youngsters is weight. To offset the weight increased by puberty, adolescents and young adults are likely to seek surgical procedures like liposuction and abdominoplasty (ASPS, 2009). Also, to have ideal body image, adolescent girls and young women may consider certain breast-related surgeries. Adolescents usually undergo unilateral breast augmentation primarily to fix asymmetric breasts, whereas young adults start to seek bilateral breast augmentation to enhance their breast size or repair their breast shape (McGrath & Mukerji, 2000).

In comparison, young men usually seek cosmetic surgery to surgically remove excessive breast. Gynecomastia is the development of abnormal breasts similar to female shape in males. It affects an estimated 40 to 50 percent of young men (McGrath & Mukerji, 2000). Certain drugs such as marijuana and medical problems have been linked with male breast overdevelopment (McGrath, 1990). For most adolescent males, the process resolves spontaneously, and a cosmetic surgery is not necessary unless the gynecomastia has been persistent for more than two years (McGrath & Mukerji, 2000). Surgical removal of excessive breast tissue remains the primary method for correcting gynecomastia. Some discomfort, swelling and bruising may last for a few days or a few weeks after the surgery. The most common complications are seroma or hematoma collections under the skin flaps. Other

complications include infection, skin injury, noticeable scares, temporary loss of breast sensation or numbness, permanent pigment changes in the breast area, or slightly mismatched breasts or nipples (McGrath & Mukerji, 2000). A secondary procedure should be performed if asymmetry is significant.

Adolescents and young adults are concerned about not only their body image but also their facial appearance. They often turn to cosmetic surgery for better looks. Two types of cosmetic surgeries—rhinoplasty and otoplasty (i.e., ear surgery) are often sought by adolescents aged between 13 and 21 years old. Rhinoplasty is a popular cosmetic surgical procedure among adolescents aged 13-20 years old and young adults aged 21-29 years. Nasal imbalance is the most common and traditional problem that affects youngsters in the aesthetic arena. A number of youngsters resort to rhinoplasty to correct nasal imbalance as nose is in the center of the face and plays a major role in defining the face aesthetically. Young patients whose noses are with humps, bumps, or hooks and those whose noses are too big or too high, or with a poor angle between the nose and upper lip are candidates for rhinoplasty (McGrath & Mukerji, 2000). Cosmetic surgeons usually advise their clients to have this surgery only when they are older than 14 or 15 because human beings' nose should have been fully grown by then (Sheen, 1996).

Otoplasty is also popular among adolescents and young adults. This surgical procedure is usually performed on patients with protruding ears with a gap of at least 2 cm between the helix (rim) of the ear and the head (McGrath & Mukerji, 2000). The gap usually exists for both ears, but the degree may be asymmetric. The goal of otoplasty is to acquire symmetrical ears that look naturally appearing, with a smooth and regular rim. The surgery consists of an incision placed behind the ear, where it is less conspicuous. The lateral surface of the ear cartilage is scored or partially incised to allow it to bend, and sutures are used to hold the ear in a folded-back position (Caouette-Laberge et al., 2000). An occasional complication is recurrence of protrusion within 2 to 6 months after surgery. Few changes occur in the long term.

2.3 Measures for Attitudes toward Cosmetic Surgery

In summary, cosmetic surgery varies upon culture, gender and age. Therefore, measures for people's attitudes toward cosmetic surgery should be culture-specific, gender-specific, and age-specific. In this section, I will first review existing measures for attitudes toward cosmetic surgery. Then based on the review, I will explain the

rationale with which I plan to develop a scale that is particularly useful to measure young people's attitudes toward cosmetic surgery in Singapore.

In general, people's attitudes toward cosmetic surgery can be divided into two dimensions: attitudinal dimension and behavioral dimension (see Figure 2). The attitudinal dimension refers to individuals' approval or acceptance of cosmetic surgery, whereas the behavioral dimension includes individuals' past experience with cosmetic surgery and future behavior to undertake cosmetic surgery (i.e., intention, see Figure 2). Some existing measures include both dimensions (e.g., Cosmetic Surgery Attitudes Questionnaire [CSAQ], Sarwer et al., 2005) and a few others include only one dimension (e.g., Chen et al., 2010; Henderson-King & Henderson-King, 2005). Details of the two dimensions are below:

Figure 2. Dimensions of Cosmetic Surgery Attitudes

2.3.1 Attitudinal Dimension

The attitudinal dimension comprises items that measure personal approval/evaluation of cosmetic surgery and psychological rating of cosmetic surgery patients. First, personal approval/evaluation of cosmetic surgery refers to individuals' general perception and assessment of cosmetic surgery. For example, Sarwer et al. (2005) examined undergraduate women's acceptance of cosmetic surgery by asking them to respond to the following items: (1) I approve of persons undergoing cosmetic surgery to increase their self-esteem; (2) I think cosmetic surgery is a waste of money

(reversely coded); (3) If I had cosmetic surgery, I would be embarrassed to tell people other than family and close friends (reversely coded); and (4) I approve of people surgically changing their appearance to feel better about themselves. Women responded to these items on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). Sarwer and colleagues reported good reliability (Cronbach's $\alpha = .85$) and some evidence of validity. They also found positive relationships between attitudes toward cosmetic surgery and variables such as investment in appearance, physical comparisons to others, and mass media's influence on body image. Similar items were developed by Delinsky (2005), who asked respondents to report explicit approval of cosmetic surgery (e.g., "Do you approve of cosmetic surgery that is elective; that is, not reconstructive to alter disfigurement/deformity caused by injury, illness or birth defect?").

Henderson-King and Henderson-King's (2005) Acceptance of Cosmetic Surgery Scale (ACSS) also pertains to the personal approval/evaluation of cosmetic surgery. The scale includes five items that represent attitudes related to the self-oriented benefits of cosmetic surgery: (1) It makes sense to have minor cosmetic surgery rather than spending years feeling bad about the way you look; (2) Cosmetic surgery is a good thing because it can help people feel better about themselves; (3) People who are very unhappy with their physical appearance should consider cosmetic surgery as one option; (4) If cosmetic surgery can make someone happier with the way they look, then they should try it; and (5) Cosmetic surgery can be a big benefit to people's self-image.

The personal approval/evaluation component also includes people's perceived risks and benefits of cosmetic surgery. Nabi (2009) asked people to indicate their agreement level to each statement that described the risks or benefits of cosmetic. The items included "Cosmetic surgery can be dangerous to one's health", "There are serious psychological risks associated with having cosmetic surgery", "Cosmetic surgery can improve professional and social life", and "Cosmetic surgery can increase romantic opportunities".

Finally, Delinsky (2005) suggested that one should also assess how people perceive someone who undertakes cosmetic surgery. She employed items that examined respondents' psychological adjustment ratings of cosmetic-surgery patients ("How psychologically adjusted—mentally healthy—do you believe individuals who undergo elective cosmetic surgery tend to be?"), and their stereotypes about cosmetic

surgery patients. She also asked participants to choose positive, neutral, or negative adjectives (e.g. *conceited*, *perfectionistic*, *self-conscious*, *materialistic*, *bold*, and *rebellious*) to describe cosmetic surgery patients. She attempted to infer participants' acceptance of cosmetic surgery from their chosen words. Her method is different from many other studies in the field, and is rarely adopted by other researchers.

2.3.2 Behavioral Dimension

The behavioral dimension measures individuals' prior behavior of having cosmetic surgery or intention to have cosmetic surgery in the future. To measure individuals' prior behavior of cosmetic surgery, Sarwer and his colleagues (2005) asked respondents to report if they had undergone cosmetic surgery. Similarly, Delinsky's scale (2005) includes the following items: "Have you ever had cosmetic surgery?" (1 = *yes*, 2 = *no*), and "Which procedure(s)". These researchers also suggest including respondents' vicarious experiences of having cosmetic surgery by asking them to indicate the family members or friends who had cosmetic surgery before, though these measures are related to social influence.

There are several ways to measure individuals' future behaviour of having cosmetic surgery. Some scholars treated cosmetic surgery as an overall term and they asked participants to report the likelihood for them to have cosmetic surgery. For example, Chen and colleagues (2010) asked people: "How likely are you to go ahead with cosmetic surgery?" Participants were asked to give their responses on a 5-point Likert scale ranging from 1 ("very unlikely") to 5 ("very likely"). Similarly, Delinsky (2005) measured people's intention to undergo cosmetic surgery by asking participants to report (1) the possibility of future personal surgery ("Would you have elective cosmetic surgery if you were dissatisfied with your physical appearance and cost was not a consideration?"), and (2) future plans to have surgery ("Do you plan to have elective cosmetic surgery in the future?"). Such measures are advantageous because they are simple and straightforward. However, their validity is compromised because they fail to differentiate people's varying intention to undergo different types of surgery under different circumstances or at different life stages.

To remedy the aforementioned disadvantage, some scholars asked respondents to report their likelihood of having cosmetic surgery at specific time points in life or in certain conditions. For example, Sarwer and colleagues (2005) employed the following item: "I think I might have cosmetic surgery when I reach middle-age". They asked female college students to respond to this item on a five-point scale ranged

from “strongly disagree” to “strongly agree”. They also asked the women to report the procedures they would consider undergoing in the near future, in middle age, and in their 60s respectively. In addition, Sarwer and colleagues (2005) asked participants whether they would have cosmetic surgery if their partners wanted them to, and if they had an “unlimited amount of money”. Brown and her colleagues (2007) designed the Likelihood of Having Cosmetic Surgery Scale (LHCSS), whereby participants were instructed to imagine they had been awarded unlimited funds for cosmetic surgery procedures performed by highly regarded experts. Nabi (2009) also asked participants how likely they were to have cosmetic surgery “if cost were not an issue”.

Henderson-King and Henderson-King’s ACSS scale (2005) goes into more details and examines people’s intention to undertake cosmetic surgery under certain conditions and how likely it is for people to consider cosmetic surgery for social reasons. There are five items to measure people’s intention: (1) I have sometimes thought about having cosmetic surgery; (2) In the future, I could end up having some kind of cosmetic surgery; (3) If I could have a surgical procedure done for free, I would consider trying cosmetic surgery; (4) If I knew there would be no negative side effects or pain, I would like to try cosmetic surgery; and (5) I would never have any kind of plastic surgery. Henderson-King and Henderson-King utilized samples that included both women and men, as well as people from across a wide span of ages. There are also five items to measure the likelihood for people to consider cosmetic surgery for social reasons. The items include (1) I would seriously consider having cosmetic surgery if my partner thought it was a good idea; (2) I would think about having cosmetic surgery in order to keep looking young; (3) If it would benefit my career I would think about having cosmetic surgery; (4) I would seriously consider having cosmetic surgery if I thought my partner would find me more attractive; and (5) If a simple cosmetic surgery procedure would make me more attractive to others, I would think about trying it. All items were rated on a 7-point Likert scale ranging from “strongly disagree” to “strongly agree.” Results show that the ACSS has high internal consistency, good test-retest reliability, good convergent and discriminant validity (Calogero, Pina, Park, & Rahemtulla, 2010; Henderson-King & Henderson-King, 2005; Slevic & Tiggemann, 2010; Swami, Taylor, & Carvalho, 2009).

Instead of asking people’s intention to have cosmetic surgery in certain conditions, some scholars divide cosmetic surgery procedures into sub-categories and ask respondents to report their intention to have each specific surgery separately. They

distinguish and focus on only one specific type of cosmetic surgery procedure from the others. For example, Frederick and colleagues (2007) distinguished liposuction from general cosmetic surgery. He asked the participants, “If you could afford it, would you ever consider getting cosmetic surgery or liposuction to improve your looks or body?” The response options included: “cosmetic only”, “liposuction only”, “both”, “maybe”, or “not interested”. Similarly, Jongh and colleagues (2008) focused their study on individuals’ intention to have cosmetic dental treatment in the Netherlands. Their measures contained items pertaining to history of cosmetic dental treatments (i.e., jaw correction operations, orthodontic treatments, crowns, facings, whitening, and combinations of these treatments), and intentions to undergo these treatments.

In addition, Harrison (2003) listed leg-length surgery, rib removal, liposuction, breast reduction surgery, and breast augmentation surgery. She asked the participants, “If cost were not an issue, how likely would you be to do each of the following to improve your appearance?” Response options ranged from 0 (*highly unlikely*) to 5 (*I have already done this*). Nabi (2009) followed Harrison’s (2003) technique and included 15 appearance-enhancing behaviors. The procedures ranged from noninvasive, health-oriented behaviors (diet and exercise), minimally invasive procedures (hair coloring, appearance-improving skin lotion, teeth bleaching, laser hair removal, and dermabrasion/sin peel), to invasive procedures (Botox injection, nose job, face lift, cheek implants, tummy tuck, liposuction, breast implants, LASIK eye surgery, and collagen injections). The scale reported good reliability for both minimally invasive measures (coefficient alpha = .65) and invasive measures (coefficient alpha = .84). Finally, the Likelihood of Having Cosmetic Surgery Scale designed by Brown and her colleagues (2007) included a list of 49 of the most popular cosmetic procedures (e.g., brow or forehead lift, cheek implants, overall weight loss through liposuction, breast enlargement for women, and pectoral implants for men, etc., culled from reputable cosmetic surgery clinics). The participants were asked to rate their likeliness of undergoing each procedure. Likelihood of predisposition was reported on an 8-point scale (0 = *no change under any circumstance*, 7 = *perform procedure*). The scale demonstrated a strong internal consistency (coefficient alpha = .95).

In view of the multi-dimensional nature of people’s attitudes toward cosmetic surgery, I plan to use a multi-item scale in this dissertation to capture the two dimensions of young people’s attitudes toward cosmetic surgery: attitudinal dimension

and behavioral dimension. To measure the attitudinal dimension, I plan to use Sarwer and colleagues' scale (2005) and Henderson-King and Henderson-King's scale (2005), which measured respondents' acceptance of cosmetic surgery. To measure the behavioral dimension, I plan to employ Sarwer and colleagues' scale (2005), Henderson-King and Henderson-King's scale (2005), and Nabi's scale (2009). Sarwer and colleagues' scale (2005) and Henderson-King and Henderson-King's scale (2005) measured intention of having general cosmetic surgery under a variety of circumstances, such as when they reach middle-age or if the procedure is done for free. Nabi's scale (2009) examined intention of having particular procedures, such as eyelid surgery and breast augmentation. To obtain a list of procedures which are particularly relevant to young people in Singapore in this dissertation project, I referred to Brown and her colleagues' list of 49 popular procedures (2007) and the procedures instructed by the Singapore Association of Plastic Surgeons³. Eventually, I included 16 procedures in the current study (see Table 2). These procedures vary upon respondents' gender. For example, I included two types of breast surgery, one for women—breast augmentation, and the other for men—breast reduction. More details about the measures are discussed in Chapter Five.

In summary, Chapter Two first distinguished the concepts of plastic surgery, reconstructive surgery and cosmetic surgery. Next, this chapter focused on a discussion of cosmetic surgery and explained how it was shaped by culture, gender and age. Last, this chapter proposed a scale to measure young people's attitudes toward cosmetic surgery in Singapore.

Table 2

Cosmetic Surgery Procedures for College Students of Different Gender Groups in Singapore

	Female	Male
1. Orthodontics	√	√
2. Laser hair removal	√	√
3. Dermabrasion/skin peel	√	√
4. Botox injection	√	√
5. Collagen injection	√	√
6. Eyelid surgery	√	√
7. Nose reshaping	√	√
8. Face lift	√	√
9. Cheek implants	√	√
10. Ear surgery	√	√
11. Tummy tuck	√	√
12. Liposuction	√	√
13. LASIK eye surgery	√	√
14. Breast augmentation in women	√	
15. Breast reduction in men		√
16. Pectoral implants in men		√

CHAPTER THREE CELEBRITY INVOLVEMENT, MEDIA CONSUMPTION, AND YOUNG PEOPLE'S ATTITUDES TOWARD COSMETIC SURGERY

Celebrity involvement and mass media are believed to be two critical factors that lead to the increasing popularity of cosmetic surgery among young people (Nabi, 2009; Slevec & Tiggemann, 2010; Swami, Taylor, & Carvalho, 2009). As stated in Chapter One, the major goal of this dissertation project is to create a model that includes the direct and indirect associations between celebrity involvement and attitudes toward cosmetic surgery. To explain the direct association between celebrity involvement and attitudes toward cosmetic surgery, I first explicate the concept of celebrity involvement. Then based on the concept explication, I provide theoretical explanations for the direct association between celebrity involvement and attitudes toward cosmetic surgery. Subsequently, to explain the indirect association between celebrity involvement and attitudes toward cosmetic surgery, I propose that mass media are mediators in this process. That is, young people get involved with celebrities through their exposure to celebrities in the media. They would compare the self appearance with the idealized images portrayed by celebrities in the media. The perceived self-other discrepancy would then make young people feel dissatisfied with their own appearance. The self-dissatisfaction would, in turn, result in their favorable attitudes toward cosmetic surgery.

3.1 Concept Explication of Celebrity Involvement

Celebrity involvement refers to a psychological attachment through which audience members relate to individuals depicted in and through the mass media (Brown & de Matviuk, 2010). Involvement is a psychological process in which audience members attentively interact with media content and provide meanings with media messages (Levy & Windahl, 1984). The concept highlights that media consumers are active seekers rather than passive receivers of information. Therefore, celebrity involvement can be defined as the psychological process with which audience members think, feel about, and react to celebrities to whom they have exposure through the media. It is a multi-dimensional concept that can be divided into four dimensions (see Figure 3): (1) parasocial relationships with media celebrities (Brown, Basil, & Bocarnea, 2003a, b), (2) identification with media celebrities (Brown,

Basil, & Bocarnea, 2003a, b), (3) affinity (Giles, 2002), and (4) capture (Rosengren, Windahl, Hakansson, & Johnsson-Smaragdi, 1976). Details are described below:

Figure 3. Components of Celebrity Involvement

3.1.1 Parasocial Relationship

Parasocial relationship is a false and imaginary friendship that media audiences develop with media characters, accompanied by a feeling of intimacy incurred by this relationship (Horton & Wohl, 1956). The term *parasocial interaction* (PSI) was first used by Horton and Wohl (1956) to describe viewers' responses to media personae during media consumption. Horton and Strauss (1957) further provided systematic descriptions and observations of PSI and raised another relevant concept *parasocial relationship* (PSR) to describe long-term responses to personae. Although the two terms have been used interchangeably in previous research (e.g., Kassing & Sanderson), they should be distinguished. Schramm and Wirth (2010) elaborated that PSI specifically describes the one-sided communication and interaction between media users and media personae during media exposure, whereas PSR stands for the cross-situational relationship a viewer or user holds with a media persona, which includes specific cognitive and affective components. In other words, while PSI is restricted to the duration of media exposure, PSR can endure beyond the single exposure sequence. Parasocial interaction leads to the establishments of parasocial relationships.

Parasocial relationship that audiences have with media celebrities resembles a typical social interpersonal relationship, but it is based on vicarious interaction—such as media consumption (Perse & Rubin, 1989)—rather than a direct social interaction. Through exposure to celebrities in the media, audiences experience the illusion of a face-to-face, primary relation with remote media celebrities, while the media

celebrities are unaware of the existence of the audiences. Recent research has identified three sub-dimensions of parasocial relationship (Papa, Singhal, Law, Pant, Sood, Rogers, & Shefner-Rogers, 2000; Schramm & Hartmann, 2008; Schramm & Wirth, 2010; Sood, 2002): (1) cognitively oriented parasocial relationship, which involves audience's thinking about the media content regarding the celebrities; (2) affectively oriented parasocial relationship, which describes audience members' desire to become intimately involved with celebrities' lives; and (3) behaviorally oriented parasocial relationship, which includes discussing the celebrities or relevant media content with other audience members or adjusting media consumption behavior.

3.1.2 Identification

Different from parasocial relationship, identification is a process that occurs when an individual voluntarily believes that he or she shares the perspectives of a celebrity or when the individual imitates the celebrity to ensure a desired relationship with the celebrity (Kelman, 1958). Through the process of identification, an audience member can claim that the self and the celebrity have something in common or that the self is like the celebrity (Cheney, 1983). There are two types of identification—similarity identification and wishful identification. Similarity identification describes media audiences' beliefs in sharing something in common with the celebrities, whereas wishful identification is a psychological process through which an individual desires or attempts to become like the celebrities (Feilitzen & Linne, 1975).

Parasocial relationship and identification are similar in two aspects. One, parasocial relationship—particularly affective parasocial relationship—and identification both describe audience members' desire to be intimately involved with celebrities. Two, both parasocial relationship and identification are unidirectional relationships that a person develops with celebrities. That is, media consumers are voluntarily involved in a fantasized relationship with a celebrity, whereas the celebrity is unaware of the existence of the audiences (Chia & Poo, 2009). Therefore, an audience member's parasocial relationship with a media celebrity often increases when the audience member's identification with the celebrity increases (Brown et al., 2003a; Brown & de Matviuk, 2010).

Although sharing some similarities, parasocial relationship and identification are two distinct concepts. An audience member can have parasocial relationship with a media figure, but does not identify with the figure (Rosengren & Windahl, 1972).

Specifically, parasocial relationship is a necessary condition for identification, but it is not a sufficient condition for identification (Brown et al., 2003a). Having a parasocial relationship with a celebrity does not guarantee an adoption of the celebrity's attitudes, values, or behavior. Moreover, an individual's identification with a celebrity does not necessarily come from the individual's parasocial relationships with the celebrity either. An individual may imitate and emulate celebrities merely through observational learning without forming any real or illusionary friendship with the celebrities (Bandura, 1986).

3.1.3 Affinity

Affinity is a general fondness or liking of media characters by viewers, without forming a parasocial or identificatory relationship (Giles, 2002). McCroskey and Wheelless (1976) suggested that gaining liking from others was often the primary reason for which people engaged in interpersonal communication. Liking also determines whether a relationship will progress to the next stage (Bell, Tremblay, & Buerkel-Rothfuss, 1987). Therefore, affinity forms an important factor especially at the initial stage in a relationship.

Affinity is usually resulted from an interaction between an affinity seeker and the affinity target through a dyadic social-communicative process (Bell & Daly, 1984). Several static characteristics could influence the levels of affinity generated from this process. These characteristics include affinity seekers' physical attractiveness (Berscheid & Walster, 1974), credibility (Berscheid & Walster, 1978), and the attitudinal similarity, background similarity, or proximity between the affinity seeker and target (Byrne, 1971). In addition, a number of elements of the affinity-seeking process can also affect the levels of affinity generated. These elements include (1) antecedent factors, including the goals of the affinity seekers and targets, the motives of the affinity-seekers, and the level of consciousness with which affinity is sought; (2) constraints, referring to the personal and contextual characteristics involved in the affinity seeking process, including affinity seekers and targets' dispositions, social skills, and past experiences; (3) strategic activities in which affinity seekers and targets engage during the process, including selection, integration, sequencing, and actual enactment of certain strategies; and (4) target's affective, behavioral, and cognitive responses (see Bell & Daly, 1984).

Celebrity involvement usually features one-sided interactions whereby it is always the audience who initiates and develops an affinity or liking toward media

celebrities, not the other way round. In view of this unidirectional relationship between audiences and celebrities, the determinants of the affinity-seeking process can be grouped into two categories—one pertaining to the characteristics of the celebrity figures, the other regarding the audiences. Certain personal traits of media celebrities, such as the afore-mentioned physical attractiveness, credibility, and similarity, may provoke affinity from the audience. Audience's goals, motivations, disposition, and past experiences may also influence the levels of affinity that the audience develops toward the celebrities.

Rubin, Perse, and Powell (1985) found that affinity was positively correlated with parasocial relationship. They suggested that affinity could be a complimentary measure to parasocial relationship (also see Giles, 2002). However, Cohen (2001) argued that affinity and identification were different. Affinity usually occurs when an individual possesses self-awareness and retention of identity in making evaluative and comparative judgments of media characters. On the contrary, audiences' self-awareness and self-identity often diminish when they develop identification with celebrities.

3.1.4 Capture

Capture is originally a psychological concept suggesting that a salient visual stimulus can cause shifts in people's attention toward the location of the stimulus. Yantis and his colleagues (1993a, b) used it to describe the process through which audiences select information from visual displays, and they suggested that there were two types of attentional capture—stimulus-driven attentional capture and goal-directed attentional capture (Yantis, 1993a, b). Stimulus-driven attentional capture occurs when certain attributes of salient stimuli capture an observer's attention independently of the observer's endogenous goals and beliefs. Goal-directed attentional capture, on the contrary, occurs when an observer deliberately seeks and selects information that satisfies the observer's goal-oriented criterion. Rosengren and Windahl (1972) applied the concept of capture in communication scholarship for the typology of viewer relations to TV content.

These two processes may occur in consecutive order—namely, audiences usually develop stimulus-driven attentional capture, which leads to goal-directed attentional capture. At first, media audiences' attention is accidentally drawn to celebrities for certain features of the celebrities, in the absence of the audience's personal goals or expectations. Subsequently, the audience may establish an

involvement with the celebrities and they pay attention to the celebrities for purposeful intentions, such as companionship and imitation (Levy, 1979). Nevertheless, one should note that the stimulus-driven attentional capture and goal-directed attentional capture could also be independent processes. They may separately occur without contingencies of each other.

In summary, celebrity involvement is a multidimensional construct which encompasses four components—parasocial relationship, identification, affinity and capture. The four components depict how a fan's involvement with celebrities gets to develop. A fan's encounter with a celebrity usually starts with stimulus-driven attentional capture. At this stage, the fan turns his or her attention to a celebrity, but does not necessarily develop any feelings or liking for the celebrity. The stimulus-driven attentional capture would transit to goal-directed attentional capture when the fan is motivated to seek information about the celebrity. After some exposure to the celebrity, the fan may gradually move to the affinity stage and develop a general liking for the celebrity. As the liking gradually intensifies, the fan's involvement upgrades to the next level, parasocial relationship with the celebrity, through which the fan would be likely to desire for a closer relationship with the celebrity, such as a friendship or even a romantic relationship. Meanwhile, the fan would find some similarities between the self and the celebrity. The fan would also identify the celebrity as a role model and eventually wish to become like the celebrity. The four dimensions of celebrity involvement are not mutually exclusive. Rather, as the intensity of celebrity involvement grows, the four components may occur progressively or simultaneously.

During the past years, several scholars have demonstrated that people develop involvement with different types of celebrities in a variety of contexts. For example, Brown and his colleagues indicate that sports fans develop parasocial relationships with athletes through their attendance at sports events and through exposure to televised sports, movies, talk show interviews, and commercial featuring sports celebrities (Brown & Basil, 1995; Brown, Basil, & Bocarnea, 2003a; Brown & de Matviuk, 2010). Bae, Brown and Kang (2011) showed that people developed parasocial relationship and identification with religious leaders, such as Cardinal Stephen Kim, South Korea's first Roman Catholic cardinal, through consumption of news related to the religious celebrities. Greenwood (2009) suggested that young women formed affinity and identification toward female action heroes when watching action programs.

Audiences' involvement with celebrities predicts a variety of outcomes. Parasocial relationship with celebrity figures influences peoples' perception of risk (Brown & Basil, 1995), media credibility (Rubin & Step, 2000), and minority group (Schiappa, Gregg, & Hewes, 2005), as well as changes in media consumption and interpersonal communication (Papa et al., 2000; Sood, 2002). For example, education-entertainment programs promote positive social and behavioral change as audience is motivated to emulate media characters with whom they have developed close relationships (Brown & Cody, 1991; Papa et al., 2000). While most of the consequences of parasocial relationship are positive, the potentially negative outcomes are not addressed yet. For example, as Brown and colleagues (2003b) suggest, it is likely that the fans who have a parasocial relationship with Mark McGwire, a popular sports star and positive role model for young people, could be influenced by his steroid use and choose to use such performance enhancing drugs or believe the usage is acceptable. Identification with media figures is also associated with particular affective, cognitive, and behavioral consequences. Audiences are reported to make changes in their appearance, attitudes, values, activities, and other characteristics to become more like their admired celebrities (Caughey, 1986; Boone & Lomore, 2001; Murray, 1999). Identification with media characters is also related to expectancies of alcohol use, which in turn is associated with actual drinking behavior (Austin, Pinkelton, & Fujioka, 2000), levels of disordered eating behaviors (Harrison, 1997), occupational aspirations (King & Multon, 1996), and personal concerns about AIDS and intentions to change high-risk sexual behavior (Basil, 1996).

An examination of the consequences of various types of celebrity involvement lends support to the possibility that a relatively low and normal level of celebrity involvement does not pertain to pathological attitudes and behaviors as much as higher levels do. A low level of involvement, such as attraction or attention to celebrities for their perceived entertaining ability and social focus, usually highlights motivations that underlie a fan's active seeking of exposure to celebrities (Chia & Poo, 2009). Fans are motivated to consume celebrity related content out of desires for companionship (e.g., "I like hearing the voices of the newscasters in my house") or reference groups (e.g., "I like to compare my own ideas with what the commentators say"). However, as the involvement intensifies, fans may develop a compulsive obsession with the celebrity (e.g., "I have frequent thoughts about my celebrity, even when I don't want to"), or even pathological attitudes and behaviors toward the celebrity (e.g., "If I were lucky

enough to meet my favorite celebrity, and he/she asked me to do something illegal as a favor, I would probably do it", McCutcheon, Lange, & Houran, 2002). Findings of a study by Maltby, Houran and McCutcheon (2003) revealed that as many as a quarter of respondents sampled involved with celebrity idols in pathological manners, such as stalking their idols (McEwan, Mullen, & Purcell, 2007), imitating their idols and committing suicide (Stack, 2000), or using cocaine (Kleber, 1988).

3.2 Celebrity Involvement and Attitudes toward Cosmetic Surgery

A possible outcome of involving with mediated celebrities is a positive attitude toward cosmetic surgery and an actual behavior of having cosmetic surgery. Each of the four components of celebrity involvement—parasocial relationship, identification, affinity, and capture—is likely to be associated with fans' attitudes toward cosmetic surgery. According to Swami, Taylor, and Carvalho (2009), celebrity worship is a strong positive predictor of acceptance of cosmetic surgery. They found that individuals who scored higher on celebrity worship scale were more likely to hold positive attitudes about cosmetic surgery and were more likely to consider having cosmetic surgery. In particular, audiences' affinity and parasocial interaction with celebrities (also called *intense-personal* feelings, see Chia & Poo, 2009), emerged as the strongest predictor of cosmetic surgery attitudes and body shape concerns (also see Maltby, Giles, Barber, & McCutcheon, 2005). Greenwood (2009) also found that female audiences' fantasized romantic relationship with a favorite male celebrity in the media was associated with increased body surveillance, propelling the female audiences to change body size and shape in order to attract such an idealized male. These findings suggest that the parasocial relationship and the affinity components of celebrity involvement would lead to female audiences' favorable attitudes toward cosmetic surgery.

Identification with celebrities may also cause changes in attitudes and behavior toward one's own body (Harrison, 1997). In particular, the desire to look like media icons has emerged as a reliable predictor of body image concerns (Thomsen, McCoy, Gustafson, & Williams, 2002), and has been considered in part as a factor influencing people's adoption of sociocultural attitudes towards appearance (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2006). Audiences are reported to make changes in their appearance to become more like their admired celebrities (Caughey, 1986; Boone & Lomore, 2001; Murray, 1999). Harrison (1997) revealed that women, who experienced increased interpersonal attraction to female media celebrities—namely, a

composite of liking, feeling similar to, and wanting to be like thin female media celebrities—tended to report eating disorder symptoms, which feature high levels of body dissatisfaction and high desire to change self's body image. Furthermore, research shows that young women would likely be interested in pursuing cosmetic surgery to change their body when they find media messages informative and worth of learning (Markey & Markey, 2009). Identification describes a relationship whereby the media audience finds the messages delivered by the media figures informative and appropriate for learning. Therefore, identification is likely to be associated with young people's intention or behavior to engage in cosmetic surgery.

Finally, stimulus-driven attentional capture and goal-directed attentional capture are likely to induce audiences' concerns about their appearance and intention to undergo cosmetic surgery, although this relationship has received little research attention. Celebrities' exceptional looks are likely to serve as stimuli to capture audiences' attention and motivate audiences to desire to look like the celebrities. An anecdotal example would be that patients often refer to celebrity features when having cosmetic surgery though they are not fans of the referred celebrities (Melocco, 2008).

As discussed above, all four components of celebrity involvement are likely to contribute to favorable attitudes toward cosmetic surgery. It is especially true considering how photogenic and noteworthy the images of celebrities are portrayed in the media today. In modern times, physical attractiveness often goes with being a celebrity especially if he or she is an entertainer (Hollander, 2010). As Boorstin (1961) wrote, "The hero was distinguished by his achievement, the celebrity by his image or trademark." I therefore expect to find a direct association between young people's celebrity involvement and their attitudes toward cosmetic surgery (see Figure 4).

H1: The greater involvement young people develop with the celebrities in the media—(a) capture; (b) affinity; (c) parasocial relationship; (d) identification, the more likely it is for the young people to report favorable attitudes toward cosmetic surgery.

Figure 4. The Effect of Celebrity Involvement on Young People’s Cosmetic Surgery Attitudes

3.3 Media Consumption as a Mediating Factor of the Association between Celebrity Involvement and Attitudes toward Cosmetic Surgery

In addition to a direct association, this research proposes an indirect association between celebrity involvement and attitudes towards cosmetic surgery. The indirect association is mediated by the audiences’ media consumption. Young people seldom have chances to meet with celebrities in person; they normally get exposed to celebrities through mass media. They actively seek information of celebrities and celebrities’ images by following the hottest news, reading the latest headlines, and looking at the newest pictures published in the media. For example, nearly one in five Internet users follows the updates of their idols on Twitter and its ilk (Pew Internet & American Life Project, 2009). More frequently, young people are exposed to messages about the celebrity in entertainment news, TV dramas, music videos, and advertisements (Redmond & Holmes, 2007). Generally speaking, young people’s exposure to celebrities in the media is closely related to young people’s celebrity involvement (Brown et al., 2003a, b; Brown, 2010; Perse, 1990). Below I discuss this association for each component of celebrity involvement.

Stimulus-driven attentional capture describes a beginning process through which audiences get to know a celebrity through media exposure. When a celebrity appears in the media, certain distinguished features of the celebrity differentiate him or her from others and make the celebrity stand out to the audiences. The distinguished features form the salient stimuli which could attract audiences’ attention (Folk &

Remington, 1999; Lamy, Leber, & Egeth, 2004). If the celebrity can continue to intrigue or impress the audiences, such stimulus-driven attentional capture may transit to goal-directed attentional capture. The audiences would continue to consume media content about the celebrity and pay more attention to the media content about the celebrity in order to satisfy their curiosity about the celebrity. Simultaneously, the audiences may develop affinity feelings toward the celebrity, and consume more media about the celebrity.

Repeated media exposure would lead audiences to feel close to remote celebrities and to develop a parasocial relationship with the celebrities. Horton and Wohl (1956) were the earliest to propose the link between media exposure and audiences' perceived intimacy with media celebrities. They called this "parasocial interaction," which means a relationship whereby the audiences unilaterally believe that they know about the media personas, who on the contrary do not even know the existence of the audiences. Levy (1979) further explained that media figures usually created audiences' illusion of having social relationships with media figures through conversing directly into the camera, addressing the audience personally and privately, engaging in clever monologues which appeared to require audience reciprocity, and interacting in a casual way with other media communicators. He also suggested that this association between audiences' media consumption and their perceived intimacy with media characters should be reciprocal. He found that television news viewers perceived higher levels of intimacy with newscasters as the viewers' exposure to TV news increased and that news viewers increased their exposure to television news for more contact with the news personalities. In addition, Brown and colleagues (2003a) found that for both men and women, the degree of exposure to McGwire, a former American baseball player, on television were positively associated with a greater degree of parasocial relationship with McGwire. Meanwhile, Brown (2009) suggested that parasocial interaction led media users to consume more media content regarding the media figure. He found that the stronger relationship a person perceived to have with Pope John Paul II, the more likely the person was to seek out information about the Pope through news media, and the more likely the person was to watch the Pope's funeral on television. Auter and colleagues (2005) also found strong evidence that parasocial interaction with favorite news personalities was positively related to TV news consumption. Brown and his colleagues (Brown & Basil, 1995; Brown et al., 2003a, b; Brown, 2010; Fraser & Brown, 2002) extended the association between

media consumption and celebrity involvement to a variety of media forms including TV, radio, magazines, newspapers, and the Internet. They concluded that the degree of exposure to celebrities in these media would be positively associated with the degree of media users' parasocial relationship with the media figure.

Prolonged exposure to celebrities in the mass media can also make audiences develop fond and affectionate feelings toward the celebrities, and even lead the audiences to identify with the celebrities (Fraser & Brown, 2002). This fervent admiration often translates into aspirations to look, behave, or even think like the celebrities—namely, identification with the celebrities (Chia & Poo, 2009). Basil (1996) found that people who relied more heavily on television were more likely to have feelings for Magic Johnson (an American professional basketball player), feel related to Magic Johnson, and see Magic Johnson as a personal role model. Ryu and colleagues (2007) also found that the longer one was exposed to TV news program, the more likely the person would feel absorbed into the favorite newscasters and understand what the favorite newscasters were going through. As audiences' perceived closeness to the celebrities increases, they are eager to learn about celebrity-related news and feel a need to turn to media to seek out information of media celebrities including the celebrities' personalities to the celebrities' latest work commitments. For example, Brown (2010) found that respondents who exhibited a higher level of admiration for Steve Irwin⁴ were more likely to visit Steve's official website to acquire information about him. Therefore, Brown and colleagues argued that media consumption was not only the antecedent but also the consequence of celebrity involvement (Brown et al., 2003a).

In conclusion, media exposure is closely related to involvement with celebrities. This association includes two paths—one, media exposure causes celebrity involvement; two, celebrity involvement causes media exposure. In this dissertation, I focus my discussion on the second path as the primary objective of this dissertation is to examine how media exposure mediates the relationship between celebrity involvement and attitudes toward cosmetic surgery. According to Baron and Kenny (1986), to examine a mediating relationship between an independent variable and dependent variable, one should first test the association between the independent variable and the mediator. Therefore, I propose the second hypothesis as follows (see Figure 5):

H2: The greater the involvement young people develop with the celebrity in the media—(a) capture; (b) affinity; (c) parasocial relationship; (d) identification, the more consumption of the celebrity in the media the young people would report.

Figure 5. The Effect of Celebrity Involvement on Celebrity-Related Media Consumption

When being exposed to media personas, young people tend to compare the self with the media personas. Botta (1999) used social comparison theory to explain this process. Social comparison theory was originally proposed by Festinger (1954), who argues that individuals are driven to compare the self to an objective standard in order to evaluate their opinions and abilities. When objective references for evaluation are not available, the individual would compare the self with other people, especially with those who are close or similar to the self, in order to achieve the goal of self-evaluation.

The social comparison theory has been refined since its original conceptualization. First, the range of comparison targets has been expanded to include dissimilar others (Wood, 1989), such as members in the same reference group (Hyman, 1968) or members in other social categories (Merton, 1957). Second, more motives for comparison other than self-evaluation have been proposed. When Festinger (1954) proposed the social comparison theory, he postulated that people tended to engage in a “unidirectional drive upward” and that the motivation for such upward comparisons was to evaluate one’s abilities or opinions. Later studies have further suggested that such upward comparison with superior others reflects a self-improving motivation (Major, Testa, & Bylsma, 1991; Taylor & Lobel, 1989; Wheeler, 1966). Third, although Festinger’s original hypotheses are applicable to the evaluation of opinions and abilities, subsequent work has extended to comparison of personal traits and

circumstances (Wood, 1989). Fourth, although Festinger's original theory dealt with sought comparison, more recent authors have noted that unsought comparison may occur (Botta, 1999; Goethals, 1986; Wood, 1989). Sometimes the environment may impinge comparisons on individuals, so that individuals make automatic comparison with others who are salient or available, whether one wants or not, or whether one is aware or not (Botta, 1999). Fifth, not all people engage in comparison activities to the same extent. More recently, social psychologists have revealed self-activation as an important determinant of social comparison tendencies (Stapel & Tesser, 2001). Self-activation describes a state in which one is more aware of one's self-related cognitions, feelings, behavior and goals (Smeets, Jansen, Vossen, Ruf, & Roefs, 2010). According to the social comparison theory (Festinger, 1954; Gibbons & Buunk, 1999), one of the primary goals of social comparison is to acquire information about the self. Individuals with high levels of self-activation are more ready to introduce the self into comparison process and consider the comparison targets as relevant to the self. Therefore, social comparison is more likely to occur when self-constructs are highly accessible, than when one's mind is preoccupied with other thoughts. Empirical research has found evidence to support the relationship between self-activation and social comparison tendency. For example, Smeets and colleagues (2010) found that individuals who selected more first-person pronouns—a sign of higher degree of self-activation—were more likely to compare themselves with the models in the picture.

Recent research has recognized that media personas or celebrities form a valid social category that individuals constantly compare with, although individuals may not deem the unrealistic, attractive media personas as members of groups which they belong to or have frequent social interaction with (Engeln-Maddox, 2005; Richins, 1991; Strahan, Wilson, Cressman, & Buote, 2006). Celebrities are most consistently depicted in the media as special talents of glamorous physical appearance and abundant material possessions. In the relationship between the audience and the celebrity, the celebrity is often regarded as the better-off party on the dimension of abilities, attainment and appearance. The comparisons that individuals make with the celebrity are pervasive, especially when media celebrities are usually of thin and attractive female images or of muscular male images (Cusumano & Thompson, 1997; Fouts & Burggraf, 2000; Ricciardelli, McCabe, Mussap, & Holt, 2009). For example, Hargreaves and Tiggemann (2009) found that Australian male undergraduates would compare themselves with models in television commercials, and perceive the

muscular-ideal models to be more attractive than themselves. Smeets and colleagues (2010) also found that college girls between 18 and 28 years old compared their own attractiveness and slenderness with thin-ideal female models in the picture. In addition, Jung and Lee (2006) found that South Korean women were acutely aware of others' opinions when judging their own appearance, and they engaged in frequent appearance comparisons to avoid deviating from accepted norms.

Research has revealed that comparisons with media celebrities on the dimension of physical appearance is predicted by exposure to these idealized media images. For example, Tiggemann and Slater (2004) found that women exposed to music videos that emphasized thin and attractive female images elicited more comparison with the idealized images than those in the control group. Hargreaves and Tiggemann (2004) also found that exposure to thin-ideal and muscular-ideal commercials led to increased appearance comparison for both adolescent girls and boys. According to Nabi (2009), the more an individual watched makeover programs that portrayed people's experiences of having cosmetic surgery, the more likely the individual compared the self with the patients in the program. In addition, Trampe, Stapel, and Siero (2007) found that body-dissatisfied women were more likely to be affected even by a brief exposure to pictures of thin or fat vase than body-satisfied women. One possible explanation is that through media exposure, audiences incorporate the information about the ideal body image into their self-perceptions and treat the body image as relevant standards for comparison. Therefore, the third hypothesis is proposed as follows to examine the relationship between celebrity-related media exposure and appearance comparison (see Figure 6):

H3: The more media consumption of the celebrity young people report, the more appearance comparison the young people would make with the celebrity in the media.

Figure 6. The Effect of Celebrity-Related Media Consumption on Appearance Comparison

Upward comparison is likely to produce unfavorable consequences which may damage one's self-image. Upward social comparison normally results in a perceived discrepancy between the self and the comparison target on the comparison dimensions. According to Festinger (1954), the existence of discrepant opinion is threatening to one's own opinion since it implies the possibility that one's own opinion may be incorrect. The existence of discrepancy is accompanied by individuals' discomforting and unpleasant feelings, distress, dissatisfaction, shame, lowered self-esteem, and even chronic social phobias (Bessenoff & Snow, 2006; Higgins, 1989; Moretti & Higgins, 1990; Strauman & Higgins, 1988; Strauman, 1989), partly because it amplifies a sense of inferiority and attributes the cause of inferiority within the self (Buunk & Gibbons, 2000; Kelley, 1967, 1972). Furthermore, the self-other discrepancy may create negative feelings, especially for those who value the comparison target. These people usually internalize the standards demonstrated by the comparison target. They value the standards to such a great extent that they are predisposed to accept and adopt the standards as personal goals and they engage in behaviors facilitating to meet the standards (Jones, 2001; Thompson et al., 1999). These people are especially vulnerable to the influence of high-profile comparison targets, such as media figures. They are particularly likely to internalize the standards demonstrated by the media celebrities with whom they are highly involved. They may feel inferior or dissatisfied

with the self for not meeting the standards demonstrated by the media celebrities (Heinberg & Thompson, 1992; Thompson & Heinberg, 1999; Yamamiya et al., 2005).

Empirical research has revealed evidence to support the relationship between appearance-focused comparison to media figures and dissatisfaction with the self (e.g., Feingold & Mazzella, 1998; Irving, 1990; Tantleff-Dunn & Gokee, 2002). Content analyses suggest that the various media consistently highlight thinness/muscularity and attractiveness as social ideals (Fouts & Burggraff, 2000; Pope, Olivardia, Gruber, & Borowiecki, 1999; Pope, Olivardia, Borowiecki, & Cohane, 2001; Silverstein, Perdue, Peterson, & Kelly, 1986; Wiseman, Gray, Moismann, & Ahrens, 1992; Zhang, Dixon, & Conrad, 2010). Comparisons with these idealized media images make the audiences aware of the discrepancy between the self and the media images. This perceived self-other discrepancy is accompanied by a sense of deficiency on the dimension of physical appearance and dissatisfaction with self appearance.

A number of experimental studies have also formed evidence to show that appearance-focused comparisons to media images are related to dissatisfaction with the self. For example, Tiggemann and McGill (2004) found that comparison upon a brief exposure to idealized images in advertisements in a laboratory environment elicited anxiety and depression concerning one's own weight and appearance for female undergraduate students. Martin and Kennedy (1993) found that preadolescent and adolescent girls who compared their own appearance with models in magazine advertisements scored lower on self-evaluated attractiveness. In addition, Hargreaves and Tiggemann (2009) found that men who viewed television commercials depicting the muscular ideals felt significantly less physically attractive and less satisfied with their muscle shape and size than those who did not view the commercials.

Although Festinger's original theory argues that people cease to compare with others if they find the gap too wide to close, research suggests that appearance-focused comparison actually continues despite the detrimental consequences. The effects of social comparisons on audiences' dissatisfaction with the self appearance are likely to last for a long time. Jones (2001) using self-report survey data found that both female and male students reporting higher levels of social comparison with models in the media were more likely to feel dissatisfied with their own body. He also found that this effect of media on appearance dissatisfaction could accumulate over time. Tiggemann (2002) found that subjects who were continually exposed to idealized media images reported insecurity and concerns about the self's appearance, body

shape, and body weight. Hargreaves and Tiggemann (2003) exposed two groups of 15-year-old adolescents to appearance-related TV commercials and non-appearance TV commercials respectively. Those girls who were more negatively affected by appearance-related commercials felt more dissatisfied with their bodies and expressed greater drive for thinness. This association continued to exist for two years. All these evidences indicate that, appearance dissatisfaction resulting from comparisons with media images may accumulate over time. Such self-dissatisfaction would develop into longer-term body image disturbance. Given that comparing to media celebrities with whom they are involved could be a continuing experience for young people, the detrimental influence of this process deserves special attention. The fourth hypothesis is thus proposed as follows (see Figure 7):

H4: The higher levels of comparison young people make with media celebrities on the dimension of appearance, the greater dissatisfaction with the self appearance the young people would report.

Figure 7. The Effect of Appearance Comparison on Appearance Dissatisfaction

Finally, appearance dissatisfaction is likely to result in changes in audience's attitudes and behavior (Henderson-King & Henderson-King, 2005; Sarwer et al., 2005; Stice, Schupak-Neuber, Shaw, & Stein, 1994; Swami, Chamorro-Premuzic, Bridges, & Furnham, 2009). Festinger's (1954) social comparison theory indicates that the existence of discrepancy between the self and the comparison target would drive people to adopt certain behavior to reduce the difference. People would feel pressured to move toward uniformity if discrepancy arises. Therefore, dissatisfaction induced by

a perceived discrepancy between the self and others is likely to cause one's attitude change.

Appearance dissatisfaction is likely to incur a series of consequences, such as eating disturbance and intention to undergo cosmetic surgery (Henderson-King & Henderson-King, 2005; Sarwer et al., 2005; Stice et al., 1994; Swami et al., 2009). Calogero and colleagues (2010) revealed that body shame—the degree to which women felt ashamed of their bodies when they perceived the self as falling short of feminine beauty ideals—predicted college women's consideration of having cosmetic surgery in the future. Slevic and Tiggemann (2010) also found that body dissatisfaction predicted the likelihood that middle-aged women would consider cosmetic surgery in the future. In addition, Chen and colleagues (2010) found that dissatisfaction with specific body parts motivated female cosmetic surgery patients in Taiwan to actually undergo cosmetic surgery. Therefore, I propose the fifth hypothesis to examine the consequence of appearance dissatisfaction (see Figure 8):

H5: The greater dissatisfaction young people report with the self appearance, the more likely it is for them to report favorable attitude toward cosmetic surgery.

Figure 8. The Effect of Appearance Dissatisfaction on Young People's Cosmetic Surgery Attitudes

To sum up, Chapter Three conceptualized celebrity involvement and proposed a hypothetical model that included both a direct and an indirect association between celebrity involvement and young people's attitudes toward cosmetic surgery. Next, Chapter Four and Five will discuss the methods used in this project and the findings.

CHAPTER FOUR INTERVIEW

Data collection in this study consists of two phases. The first phase was an in-depth interview. I plan to achieve three objectives through the interview: (1) to generate qualitative insights to explicate the concept of celebrity involvement and learn young people's cosmetic surgery attitudes; (2) to improve the instruments to be used in the survey; and (3) to explore how young people relate cosmetic surgery to celebrity involvement. In view of the explorative nature of the interview, I do not intend to draw generalizations or conclusions from the interview findings.

The qualitative method is chosen for two reasons. First, qualitative research methods like in-depth interview are appropriate when the research is exploratory in nature (Jarratt, 1996). So far, most researches on celebrity involvement and young people's attitudes toward cosmetic surgery are conducted in Western countries, and little is known about these phenomena in Singapore. Therefore, I used an in-depth interview to explore the phenomena of young people's involvement with celebrities and their attitudes toward cosmetic surgery in Singapore. Results of the interview helped me get a baseline for the substantive study. Second, celebrity involvement and cosmetic surgery are both sensitive and private issues. Face-to-face interviews are able to provide a private context in which I could build up rapport with fans of celebrities and cosmetic surgery recipients (Axinn & Pearce, 2006; Wimmer & Dominick, 2006). I was able to get insights and first-hand sharing of the interviewees' experiences of celebrity involvement and cosmetic surgery that helped me reflect on the literature and later survey findings. The following section discusses the methodology, analysis and results of the interview.

4.1 Methodology

The face-to-face in-depth interview was conducted from February to November in 2011. Participants in the interview project were young people who had some form of cosmetic surgery before or who were active fans of certain celebrities. They were recruited from a few sources: (1) online communities, (2) advertisements on campus, and (3) snowball sampling. Below are the recruiting criteria and procedure:

4.1.1 Participants

(1) Cosmetic Surgery Recipients

I first approached potential interviewees through a few online communities that were related to beauty or cosmetic surgery, such as the Fashion and Beauty Forum at SGClub⁵. I examined threads of discussion of cosmetic surgery and sent private messages to invite those who indicated their previous experience of cosmetic surgery or their interest in cosmetic surgery. I scheduled an interview with those who replied and confirmed previous experience of cosmetic surgery. Eventually, I recruited two participants who had cosmetic surgery from these online communities. I also posted an announcement in the Public Folders of my university to invite undergraduate and postgraduate students who had had cosmetic surgery to participate in this interview. One participant was recruited through this method. In addition, I used snowball sampling method by asking the interviewees to nominate persons who had cosmetic surgery from their own networks. Two participants were recruited and interviewed through this method.

In the end, a total of five participants who had cosmetic surgery attended the interviews which were conducted individually (see Appendix A for a description of participants' background). There were two males and three females, aged ranged from 22 to 26. Two of them were Chinese, two were Muslim and one was Eurasian. They had a variety of education levels—one in university, one having a Bachelor's degree, one having a Master's degree, and two in graduate programs. One of them is atheist, one Roman Catholic, one Buddhist, and two Muslims. The types of cosmetic surgeries they received included nose job, double-eyelid surgery, jaw surgery and maxillofacial surgery.

(2) Fans of Celebrities

Again, I approached potential interviewees through online communities first. There are a number of celebrity-related forums or fan clubs online. Examples include the Korean Pop Forum at SGClub⁵, SG K-Wave⁶, and Michael Jackson SG Fanclub⁷. I went into these online forums and clicked into each thread related to the celebrity, traced the roots of the users' posts, and detected those who actively participated in the discussion. I then examined these users' profiles and sent private messages to invite potential participants who met the following criteria. First, a potential interviewee should be a long-term member of the forum, indicating an appropriate length of interest in the celebrity. New members who joined the forum quite recently were

excluded. Second, a potential interviewee's account should have been active until quite recently, representing a prolonged interest in the celebrity. Those whose accounts have been obsolete for long were excluded. Third, a potential interviewee should have a sound quantity of posts. Those who had less than ten posts were excluded. Eventually, three participants were recruited from online communities. I also used snowball sampling method by asking the interviewees to nominate persons who were fans of certain celebrities from their own networks. One participant was recruited through personal referral.

A total of four fans of celebrity participated in the interviews which were conducted individually (see Appendix A for a description of their background). They were three females and one male, aged from 12 to 29 years old. Three of them were Chinese and one was Indian. One of them had received diploma in Theatre Arts, one was a polytechnic graduate, and the other two were in primary and secondary schools. Two of them were Christian, one Roman Catholic, and one Hindu. Two of the interviewees identified themselves as fans of Michael Jackson⁸, one considered herself as a fan of Big Bang⁹, and one regarded herself as a fan of Girls' Generation¹⁰.

In summary, a total of nine one-on-one interviews were eventually conducted by the researcher. All the interviews were conducted in a face-to-face setting, except one for which the interviewee had a series of cosmetic surgical procedures and felt uncomfortable attending a face-to-face interview, so that a phone interview was arranged instead. In the beginning of each interview, participants were instructed to read and sign a consent form which guaranteed the confidentiality of the interview. All the interviews were tape recorded. The average length of the interviews was 35 minutes 18 seconds.

4.1.2 Interview Protocol

The interview was conducted with a semi-standardized interview guide. There was an implementation of a number of predetermined questions and special topics (Berg, 2009). The questions were asked of each interviewee in a systematic and consistent order, but the interviewer was allowed to probe far beyond the answers to the standardized questions. This way, the interviewer had the flexibility to ask a series of regularly structured questions and pursue topics spontaneously initiated by the interviewees (Berg, 2009).

There are two sets of interview questions. One set was used in interviews with participants who had cosmetic surgery (see Appendix B for the interview protocol),

and the other was used with fans of celebrities (see Appendix C for the interview protocol). For the one interviewee who had cosmetic surgery and was also a fan of celebrity, I used both sets of interview questions. Both sets of questions were pretested and revised in a pilot study (Wen, Chia, & Hao, 2010)¹¹. Interviews with cosmetic surgery participants started with asking interviewees to share their experiences of having cosmetic surgery and the ideal beauty types in their mind. Interviewees were asked to identify one celebrity who demonstrated that ideal beauty image. The questions led interviewees to describe their involvement with the celebrity along the four dimensions of celebrity involvement—capture, affinity, parasocial relationship, and identification (see Appendix B for exact questions). Subsequently, they were asked whether and how they made comparisons with the celebrity idols. Finally, the interview was concluded by asking interviewees to state why they believed that cosmetic surgery could help them obtain the ideal beauty.

On the other hand, interviews with fans of certain celebrities (see Appendix C for the interview protocol) started by asking the interviewees to identify a celebrity they adored. Then they were asked to describe how they developed their involvement with the celebrity along the four dimensions of celebrity involvement—capture, affinity, parasocial relationship, and identification. They were asked to describe the first time they noticed the celebrity. Then they were asked how they became more interested in the celebrity. I further asked them to share their special memories about the celebrity and whether they admired the celebrity in any way. I also asked the interviewees whether and how they had compared themselves with the celebrity idol. Subsequently, I asked them to focus on the physical appearance of the celebrity idols while thinking and responding whether they wanted to possess any attractive features of the celebrity. In the end, I asked the interviewees whether they had considered going through cosmetic surgery to obtain such attractive features of the celebrity; if so, which procedure they intended to resort to, and if not, what the reason was.

4.2 Data Analysis

Due to the exploratory nature of the interview, I took four steps to analyze the interview data (Keyton, 2011; Strauss & Corbin, 1990). First, I read all transcripts to become familiar with the data as a whole. During the process, I played the original tapes to ensure accuracy of transcriptions and noted special emphases or cues that might affect interpretation but did not appear on the transcripts. Second, I coded the data by identifying themes. Some themes concurred with my topic list, but others were

new. Third, I compared and contrasted the themes that emerged, and identified those that were similar or relevant to one another. Finally, I subsumed similar themes under the same category and established a hierarchy in these categories. These steps of structuring facilitate the interpretation of the information provided by the participants.

4.3 Results

The results are presented according to the three objectives of this interview mentioned in the beginning of this chapter, which are (1) explicating main concepts; (2) informing survey instruments; and (3) exploring the relational effects of celebrity involvement on cosmetic surgery attitudes.

4.3.1 Objective 1: Explicating Concepts

The first objective of the interview is to explicate main concepts used in this dissertation, including celebrity involvement and young people's attitudes and behavior regarding cosmetic surgery. Results have revealed the following prominent themes:

(1) Celebrity Involvement

One of the prominent themes that was evidenced is how participants engaged in the process of involvement with celebrities. All the participants in this study were involved with the celebrities to certain degrees. Most of them maintained an involvement on the lower levels, such as capture and affinity; however, the involvement might grow stronger to reach parasocial relationship or identification for others. Their experiences provided local content for the four dimensions of celebrity involvement.

Capture. Capture is a process that occurs when one's attention is shifted from its original location to the location of the target. Capture may result from two determinants—external, salient stimulus or internal self-motivation. For most interviewees in this study, involvement with the celebrity usually started from a capture by external salient stimuli, such as the celebrity's music and dance.

Rebecca, who has been a fan of pop culture since she was a teenager, noticed Big Bang for the first time in 2010. Rebecca was flipping through TV channels during her trip overseas, and the minute she turned to a Korean channel, she was immediately captured by a music video of Big Bang—"Haru Haru". She reflected on her own experience, "The beat of the song is very catchy, and the dance and the moves, very soft, very cool. I have to stop and listen to it and focus on it."

Megan, a fan of Michael Jackson, recalled MJ's first song that got her attention was "Black or White". She explained the reason that she was captured by the song when she was ten years old:

I like the introduction to the song. I like the whole idea of the beats into it. To me, music is not just about the lyrics. It is more of the whole engineering process. I like the whole official of how it put everything together (personal communication, September 21, 2011).

Brought up in a household that had music on 24/7, Megan listened to a lot of MJ's music on radio during teenage years. However, it was not until MJ's single, "Heal the World" was released in 1991 that Megan became particularly focused on what MJ had been doing. She was interested in how "MJ suddenly wrote a song that actually inspired and touched many people". Megan was inspired by MJ's humanitarian efforts, and she emphasized, "What captures me was more the heart, the heart in what MJ stood for, trying to change the world in his own little way."

Scholars (e.g., Yantis, 1993a, b) argue that stimulus-driven attentional capture is first formed independently of the fan's personal goals. Subsequently, fans may develop purposeful intentions and move to goal-directed attentional capture. A common theme of participants' personal goals in this study is a desire to know more about their celebrity idols. For example, since Rebecca first noticed Big Bang in 2010, she searched many websites, such as allkpop.com and SWOOMPI to know more about Big Bang, and she kept herself updated with Big Bang's news on these websites. Since Megan became interested in MJ's songs and charity efforts, she did research by collecting news about MJ from newspapers, magazines and TV. Henry, a 13-year-old fan of MJ, got news of MJ from his parents for the first time in 2008. Since he got interested in MJ, he searched online about MJ. He spent 20-30 minutes every week searching and collecting news about MJ and watching videos of MJ.

Affinity. Affinity is a general fondness that fans develop toward the celebrity. Personal traits of the celebrity, such as physical attractiveness, could influence the level of affinity one initiates and develops toward the celebrity. The majority of cosmetic surgery recipients in the interview have developed affinity toward the celebrities they identified. They generally liked the celebrities on the basis of the celebrities' appearance, singing, dancing, and performing skills, fortune and fame. Despite this broadly-defined liking, interviewees who developed affinity toward the celebrities usually possessed self-awareness and retention of self-identity when

evaluating the celebrities. For example, Michelle who had a nose job interpreted her feelings toward Nicole Kidman, “In general, she is beautiful. I like her. I like her legs. She is tall. But I don’t need such a body, because my career is different from hers. I am an engineer.”

Parasocial relationship. One of the unique aspects of a parasocial relationship is a perceived friendship unilaterally developed by the audiences (Horton & Wohl, 1956). In response to this one-sided intimacy, fans usually learned about and treated their idols in much the same way they learned about and treated their friends. They felt emotional when they were unable to see or when they finally saw the idols. Rebecca went to the airport to meet and greet her idols, Big Bang, who came to Singapore for a concert in July 2011. She waited for five straight hours until midnight, and she only caught a glimpse of her idols, stepping out of the airport with their faces covered by sunglasses and hats. In the 30 seconds when Rebecca saw Big Bang coming out of the airport, she felt the closest ever to Big Bang. She regarded, nonetheless, that as an extremely “disappointing” moment in her life. She described, “There were really really a lot of fans, a lot of screaming... They didn’t even face us... I could hardly see them. It was only like 30 seconds before they went into a car.”

Fans’ reaction to their idol’s death was parallel to their reaction to close friends’ death. They grieved, mourned, and sought a closure of relationship. Another MJ fan, Megan, recalled her experience since MJ’s death. Megan was shocked by the news of MJ’s death in 2009, finding that she “couldn’t do normal day routines”. She was regretful that she was too young to go to see MJ when his *Dangerous World* worldwide concert tour came to Singapore in 1993. When the documentary film “This is it”, the last film MJ starred in, was released in October 2009 after MJ’s death, Megan decided to go to the theatre to watch the premiere. She cried for two hours nonstop throughout the film, which she emphasized as “one form of closure” of an old friendship. Another form of closure Megan went through was flying to London to see an exhibition of MJ. She vividly described how she managed to survive the nine-day trip. She mentioned,

During the exhibition, my friends allowed me time by myself. I actually took the time and I walked. There was crying, and questions of why things were like that... I just had to accept that and then felt comforted. I guess that’s the closure I really needed (personal communication, September 21, 2011).

Spurred by parasocial relationships with favorite celebrities, fans desired to bring their relationships with the celebrities closer. They found ways to know more about their idols just like they got to know their friends. For example, Henry, a 13-year-old shy boy who was a fan of MJ, stated that he wished to see MJ in life and would like to know him better. He asked his parents to take him to visit a museum of MJ when they traveled in the US a couple of years ago, but the museum was closed by the time they arrived.

But developing a friendship may not be enough. Fans who long for a closer relationship with the opposite-sex celebrities sometimes would develop a romantic attachment to the celebrities. Young women idolize male celebrities in an attempt to explore intimacy and romantic views toward interpersonal relationships, and to develop a sense of what kind of future partner they may choose. To them, this romantic parasocial relationship with the star may serve as a kind of “dress rehearsal” for their adult relationships (Hinerman, 1992; Steele & Brown, 1995). When asked to characterize her relationship with Big Bang, Rebecca admitted that she fantasized about them and saw them as part of her life. Rebecca also compared herself to a girl in a romantic relationship, “It is embarrassed. It is like... this girl likes a more handsome guy. She tries to doll herself to look prettier for the guy. As a result, she becomes more good-looking herself.” Rebecca perceived Big Bang as an ideal example of romantic partner and admitted that she had dreamed of moving to Korea someday and marrying a Korean man who is tall and handsome like members of the Big Bang.

Identification. Consistent with literature, participants in this study demonstrated two types of identification—similarity and wishful identification. Similarity identification is a process through which individuals find areas that they and the celebrities have in common and these areas become the basis for their identity formation (Erikson, 1959). Participants in this interview were able to articulate the similarities between themselves and their idols. They felt that they went through what the idols had experienced physically and psychologically. For example, Megan, a fan of MJ, mentioned that she had an abusive childhood similar to MJ, and added, “A lot of the beatings MJ went through, I could understand.” Megan also identified with MJ on many other aspects, “his love for elementary things, his love for games, his love for cartoons, and his love for amusement park. I love all of that.” Megan thought she shared a special bond with MJ, which “not many people can understand”. Rebecca, a fan of Big Bang, identified that the celebrity was similar to normal people like “us”.

This similarity identification allows for the fan and the celebrity on the same level.

Rebecca commented,

Even though they are celebrities, they are also human. They tend to feel the same just as other people like us. I remember there was one time when one of the members broke his legs. So as a result, he had to stay at home during the New Year countdown. He mentioned he was really really lonely. None of their fans came to visit him. Like normal human like us, they can also feel a bit lonely (personal communication, September 7, 2011).

In addition to articulating similarity identification with idols, fans develop wishful identification toward the celebrity, which resembles an expectation “to be like the celebrity” (Adams-Price & Greene, 1990). The underlying assumption is that fans presume the celebrity to be superior in some way than the self. Fans in this study indeed found characteristics of the celebrities worth emulating, and were motivated to identify with their idols by imitating their idols’ behavior. For example, Henry, a 13-year-old fan of MJ, found MJ’s dancing fascinating and he adored MJ’s charity work. He watched videos of MJ’s performance online and learned MJ’s dancing. He eventually became an MJ impersonator and gave performance for charity events. Similarly, admiring the fame and popularity of Big Bang, the 20 year-old fan, Rebecca, decided to attend for an audition for a new girl group. She believed if she could join the group, she would become as famous and popular as her idols.

To these fans, celebrity idols served as role models in their adolescence and young adulthood: they provided fans with ways of finding their way in their own environment and in society. Role-modeling involved fans’ internalization of the celebrity’s images, feelings, ideas and attitudes. The fans were propelled to try on the alternative identities of their idols and adopt the goals, feelings, or thoughts imagined to be those of their idols. Henry, who saw MJ as a role model, imitated MJ and gave charity performances to raise funds for Children’s Home. He learned from MJ and donated his own performance earnings to institutions to help street dogs. Megan, another fan of MJ, is an elementary teacher of drama and speech. She regarded MJ as a master and a teacher. She explained:

I learn a lot from him. I can’t dance to save my life, but more of how he lives his life, how he seizes the life at the moment and just goes with it. That’s how I am actually teaching myself to live my life (personal communication, September 21, 2011).

Megan used MJ’s songs and his methods about saving the world not only to teach herself, but also to teach young students. Aiming to continue MJ’s charitable

spirits, Megan started a fan group of MJ in Singapore, “King of Pop Fanatics Singapore” in 2009. As the president, Megan has organized a few fundraising events for children at the Melrose Home and the Chen Su Lan Methodist Children’s Home in the past years.

(2) Celebrity-Related Media Consumption

A point of general agreement among participants was that the media played a key role at each phase of their involvement with celebrity idols. They began to notice the celebrity from the media. For example, Michelle recalled that she learned Nicole Kidman from the movie she starred in. Megan was fascinated with Michael Jackson’s music video—“Black or White” which was playing on television in the 1990s.

Rebecca also first noticed her idol Big Bang from TV programs. She mentioned,

Actually I saw them on TV, because I was overseas. In the hotel, I happened to turn to this Korean channel. They were featuring this MTV. I think it was "Haru Haru" at that point (personal communication, September 7, 2011).

The involvement with celebrity idols was sustained or even enhanced through prolonged consumption of celebrity-related content on new media. For example, Henry, a young impersonator of MJ, learned MJ’s death from his parents’ conversations. He then surfed online to learn more about MJ. He described,

One day my parents were talking about MJ before his death. I was kind of fascinated by those talks. So I went to the Internet to search more about MJ. As soon as I saw his dance, I started getting interested in it. Then I started learning. The first thing I learned was the moon walk (personal communication, November 3, 2011).

Rebecca, a fan of the Korean Pop Group Big Bang, also asserted:

I google images and see the images and everything. They have gossips on. The main Korean gossip website would be *allkpop.com*. So they have a lot of news updated daily, very frequently. I was then going there. I went to google them, because official website is in Korean. I only read forums, such as *SOOMPI*. They talk about any news from Korea as expertise. It is more international (personal communication, September 7, 2011).

As the intensity of involvement gradually grew, participants desired for face-to-face interaction with the celebrity. However, they rarely had chances of meeting the celebrity in person, and had to resort to the media for more information about the celebrity, instead. At this stage, they not only collected information from the Internet, but also relied on the media which facilitated a sense of participation, rapport and intimacy, such as the motion pictures (Blumer, 1935). For example, Marie was

shocked by the news of MJ's death in 2009, finding that she "couldn't do normal day routines". Since she was regretful that she was too young to go to see MJ when his *Dangerous World* worldwide concert tour came to Singapore in 1993, she decided to go to the theatre to watch the premiere of the documentary film "This is it" after his death in October 2009. She cried for two hours nonstop throughout the film, which she emphasized as "one form of closure" of an old friendship.

(3) Experiences of Cosmetic Surgery Recipients

Participants shared their experiences of cosmetic surgery along two dimensions: their acceptance of cosmetic surgery and their behavior of having cosmetic surgery. Participants first discussed their acceptance of cosmetic surgery. They accepted or approved cosmetic surgery mostly because of the advantages of having cosmetic surgery. For example, Isaac, who had undergone a series of surgeries, believed that undergoing cosmetic surgery was the right thing to do because it could help him obtain better looks and make him feel better about himself. Since a child, Vivian knew a double-eyelid surgery was something she wanted to do. She mentioned that her mother also received the surgery in her 20's. Being a freelancing model and an actress, Vivian believed that cosmetic surgery could also boost her career prospects. Michelle agreed that she made a right decision of having a nose job to remove the polyp in her nose. The surgery cured her snoring, made her breathe more easily, and gave her a beautiful profile. On the other hand, other participants opposed the idea of having cosmetic surgery because of their belief in accepting the true self. Megan, a fan of MJ, stated although she understood MJ's decision of having nose job, she did not intend to undergo any type of cosmetic surgery herself. She explained:

Initially as a youth I had cut on that thought (having cosmetic surgery). I don't like the way my smiles look. I don't like the way my eyes look. I was so dissatisfied with everything. But will I go for cosmetic surgery? No. MJ has taught me to love who I am. But sadly he couldn't do it himself (personal communication, September 21, 2011).

In comparison to attitudes, people's behavior of having cosmetic surgery is represented by a straight yes or no response. Six of the participants in this study have undergone cosmetic surgery. They have all gone through surgical procedures, including double-eyelid surgery, nose job, chin surgery, and maxillofacial surgery. None of them have received minimally-invasive surgery. Rebecca and Vivian have both gone through double-eyelid surgery. Isaac has undergone a number of surgeries, including a reconstructive rhinoplasty for the nose, a blepharoplasty for the eyes, and a

mentoplasty for the chin. Darren has received maxillofacial surgery to correct his teeth. Natasha and Michelle both received nose surgeries. In addition, Rachel, who had a double-eyelid surgery, planned to seek more surgeries, including a revisional eyelid surgery, a nose job and a bone-contouring surgery. The rest of the participants have not received any type of cosmetic surgery and did not intend to seek any cosmetic surgery in the near future.

4.3.2 Objective 2: Improving Survey Instruments

The second objective of the interview is to apply the interview results to improve the instruments for the substantive survey. Information derived from the interviews enhanced the measurements of the key dimensions of celebrity involvement and cosmetic surgery attitudes. The interview results discussed in this section have been used as the basis for inventing survey instruments for the concepts of *capture* and *affinity*, and enhancing the content validity of the measurements of *parasocial relationship*, *identification*, *acceptance* and *behavior of cosmetic surgery*. These instruments will be used in the substantive survey.

(1) Measures for Celebrity Involvement

There are four dimensions for the concept of celebrity involvement. The interview results highlighted the four dimensions and provided insights in constructing measures for each dimension in the survey project.

Capture. Results of the interview discussed above suggest that capture comprises two aspects, stimulus-driven attentional capture and goal-directed attentional capture. There is, however, a lack of published scales to measure the two sub-dimensions of capture. The interview showed that respondents constantly used terms and phrases, such as “capture”, “got interested in (the celebrity) for the first time”, “(the celebrity) got my attention” to represent how their involvement with the celebrity was initiated. Therefore, I summarized and created one question item to measure *stimulus-driven attentional capture*—“Every time when the celebrity appears in the media, he/she catches my attention.” In addition, respondents described how they purposefully sought information about the celebrity since they first noticed the celebrity, using phrases such as “I paid attention to it”, “I then started learning from the Internet”, and “I did research”. I thus invented another question item to measure *goal-directed attentional capture*—“I pay attention to the media in which the celebrity may appear.”

Affinity. Affinity is a general liking the audiences develop toward the

celebrities. So far, there is no established scale to measure affinity in previous research. In this interview, phrases that the participants used frequently to describe their liking toward the celebrities included “like”, “attracted to”, “fond of” and “enjoy”. I summarized these phrases and invented two questions to measure *affinity*—“I like the celebrity” and “I am fond of the celebrity”.

Parasocial Relationship. The interviews have identified two themes related to parasocial relationship—(1) based on an imagined friendship with the idols, the fans treated the idols in the same way as they treated their friends; and (2) the fans desired to be closer to the celebrities. These themes of parasocial relationship are generally consistent and supported in the literature (Brown, 2010; Horton & Wohl, 1956). For example, in response to MJ’s death, Megan sought an emotional closure to end her relationship with MJ. Rebecca went to the airport to meet and greet her idols Big Bang. She also went through cosmetic surgery to turn pretty, hoping to become Big Bang’s fiend or romantic partner. Therefore, to increase the content validity, I used question items that reflected both aspects of parasocial relationship. A previous published scale was employed to measure young people’s parasocial relationship with celebrities (Bocarnea & Brown, 2007).

Identification. Consistent with previous studies (Cheney, 1983; Feilitzen & Linne, 1975), results of the interview indicated that identification consisted of two sub-dimensions—similarity identification, through which the fans perceived to share common characteristics with the celebrities and wishful identification, through which the fans would like to become like the celebrities. For example, Megan believed that she shared a special bond with MJ because of their similar childhoods. Megan also considered MJ as a role model, from whom she learned the charitable spirits. She started a fan club to raise funds for needy children in Singapore. Therefore, to enhance the content validity of the concept, I included question items to cover both facets of identification. Existing scales that measure these two types of identification were adopted in this study (Brown & Bocarnea, 2007).

(2) Measures for Cosmetic Surgery Attitudes

In addition to celebrity involvement, results of the interview also provided insights in constructing survey instruments to measure young people’s cosmetic surgery attitudes. An important aspect of one’s cosmetic surgery attitudes pertains to the acceptance of cosmetic surgery. The acceptance can be demonstrated in whether participants considered having cosmetic surgery, whether they approved having

cosmetic surgery, and whether they felt embarrassed to let other people know of their experiences of having cosmetic surgery. For example, Vivian believed there was nothing wrong with having cosmetic surgery to correct certain parts of the face which she felt unhappy about. Michelle and Natasha, who both went through nose jobs, felt comfortable to tell family, friends, and acquaintances about their surgeries. Previous studies (e.g., Henderson-King & Henderson-King, 2005; Sarwer et al., 2005) also included these aspects in measuring acceptance of cosmetic surgery. Therefore, for the sake of content validity, I employed question items that encompassed the three aspects of the acceptance of cosmetic surgery. Previously published scales were used to measure young people's acceptance of cosmetic surgery (Henderson-King & Henderson-King, 2005; Sarwer et al., 2005).

Another significant facet of young people's cosmetic surgery attitudes is their intention or actual behavior of having cosmetic surgery. Consistent with previous research (Henderson-King & Henderson-King, 2005; Sarwer et al., 2005), results of the interview showed that the decision of having cosmetic surgery usually depended on various circumstances. For example, Vivian who had a double-eyelid surgery indicated that she considered more surgeries. She admitted that she dreamed about having a nose job and a breast enlargement surgery. She continued, "If it were pain-free or risk-free, definitely I would go for it again and again." In addition, the interview results also indicated that the procedures the participants in this study opted for included a variety of surgical procedures, such as nose job and double-eyelid surgery; however, non-surgical or minimally invasive procedures were equally relevant to young people. For example, as acnes are common among young people, dermabrasion is especially helpful to smooth their skin. Therefore, to enhance the content validity, I included question items to cover a variety of circumstances and procedures to the extent that these items measured all facets of young people's cosmetic surgery behavior. Scales that have been published in previous studies were used (Henderson-King & Henderson-King, 2005; Sarwer et al., 2005).

4.3.3 Objective 3: Exploring the Relational Effects of Celebrity Involvement on Cosmetic Surgery Attitudes

The third objective of this interview is to explore how participants relate cosmetic surgery attitudes to celebrity involvement. The interview results showed that involvement with celebrities who represented the ideal images that fans liked motivated the fans to consider cosmetic surgery. However, different types of

involvement motivated fans to consider cosmetic surgery through different mechanisms.

First, celebrities represented the ideal appearance or images that participants favored. Most participants could name at least one celebrity to represent the idealized appearance or images they aimed for. For example, Isaac, who received surgeries on the nose and the chin, identified that Zac Efron had the perfect nose and Christ Pine had the perfect chin. Michelle named Nicole Kidman, an Australian actress, and Natasha named Elnaz Shakerdoost, an Iranian actress as having the idealized appearance. Vivian who did double-eyelid surgery indicated that Angelina Jolie had beautiful eyes. Rebecca, who received a double-eyelid surgery, identified a few Asian actresses and models, such as Park Gyuri, Janice Man and Dawn Yang to represent her ideal appearance.

Second, involvement with celebrities motivated the fans to consider cosmetic surgery. However, different types of involvement motivated fans to consider cosmetic surgery through different mechanisms. When fans developed capture or affinity with a celebrity, they related the success of the celebrity to the celebrity's idealized appearance or images. They believed that attractive look was related to career success. They thus considered having cosmetic surgery to become attractive so that they could become as successful as the celebrity. They compare themselves to the celebrity, but they were fully aware of their own identity and they did not seek to look like the celebrity. They were usually able to retain self identity, and the appearance comparison did not impinge their body image and did not motivate them to opt for cosmetic surgery. For example, Vivian, a freelancing model and actress, adored Angelina Jolie and was impressed by Angelina Jolie's "sensual and striking" face, especially her perfect eyes. Vivian has received a double-eyelid surgery, which she believed could boost her career prospects. However, Vivian did not refer Angelina Jolie to the doctor as she did not want to look like Angelina Jolie. She explained, "I didn't want to come with very unrealistic expectations". She continued, "You cannot look like one figure and then ask people to change it to something else. I just wanted an improvement of myself."

Similarly, Michelle admitted that she was attracted to Nicole Kidman as Nicole Kidman was pretty and tall and had long legs, and she recognized that she was shorter than Nicole Kidman. On the other hand, she indicated, "My hair is more beautiful". She continued,

Because she is an actress, she has to show her body to others. It should be attractive. But I don't need such a body. My career is different. I am an engineer. The only one I have to show my body to is my husband. I like to be liked, but I don't bother myself (personal communication, August 23, 2011).

When fans engaged in parasocial relationship with the celebrity, they desired to develop closer or even romantic relationship with the celebrity. They believed that having attractive appearance through cosmetic surgery could help them achieve these objectives. For example, Rebecca, a fan of Big Bang, believed that becoming more attractive through cosmetic surgery could help her get into the entertainment industry where her idols were, so that she would have a chance to meet the idols. After getting a double eye-lid surgery, she went for audition when JYP, a Korean entertainment group came to Singapore to recruit members for a new girl band. She also planned to have more surgeries, such as a bone-contouring surgery and a nose job. She commented, "If I look better, I can make an impression when I meet them (Big Bang) in real person, and then start a relationship maybe as colleagues or as friends." She also believed that the surgically enhanced, attractive appearance could make her compatible with the celebrities and start a romantic relationship with the celebrity. She admitted that she had romantic feelings toward Big Bang and saw Big Bang as "part of her life". She commented that only attractive looking like the appearance of Park Gyuri, a female Korean singer, may attract her idols Big Bang. She believed that being as pretty as Park Gyuri would bring her relationship with Big Bang closer, so that she could play a more intimate role in their life than simply as a fan.

Although literature suggests that identification may motivate fans to copy idols' look (Harrison, 1997), fans in this study did not consider having cosmetic surgery to look like celebrities even when they developed identification with the celebrities. For example, Henry and Megan both engaged in identificatory involvement with their idol MJ. They perceived MJ as a role model who shared common experiences. They imitated MJ's performance, and internalized the charitable values promoted by MJ. However, they did not wish to possess similar appearance to MJ's. Megan, who apparently disagreed with MJ's decisions to change his appearance by going through multiple rounds of cosmetic surgery, said:

Initially as a youth I had cut on that thought (having cosmetic surgery). I don't like the way my smiles look. I don't like the way my eyes look. I was so dissatisfied with everything. But will I go for cosmetic surgery? No. MJ has taught me to love who I am. But sadly he couldn't do it himself (personal communication, September 21, 2011).

In addition, literature suggests that fans who engaged in higher level of involvement with celebrities, such as parasocial relationship and identification, were likely to compare with celebrities as the celebrities provided information about societal standards of beauty and hold positive attitudes toward cosmetic surgery (Swami, Taylor, & Carvalho, 2009). In this study, however, fans who had identificatory relationship with the celebrities compared with the celebrities independently along the dimension of appearance. This comparison process did not sway fans' appearance-related decisions.

All in all, results of the in-depth interviews as discussed in Chapter Four have generated qualitative insights that are helpful to explicate key concepts, improve survey instruments, and explore the relational effects of celebrity involvement on cosmetic surgery attitudes. Based on the literature reviewed in Chapter Three and the interview results discussed in Chapter Four, the survey was then conducted in the next phase of this project. Details of the survey are enclosed in Chapter Five.

CHAPTER FIVE SURVEY

The second phase of this study is a survey. This chapter discusses the methodology and results of the survey.

5.1 Methodology

5.1.1 *Procedures and Sample*

An anonymous survey using a representative sample of one of the two comprehensive universities in Singapore was conducted in March and April 2012. Participants for this survey were undergraduate and postgraduate students from this university. With the consent and assistance of the university administration office, a sample of 3,000 students was generated using simple random sampling. I sent an email to the students' school email accounts and invited them to participate in a paper-and-pencil survey set up at two main canteens on campus. A shopping voucher of SGD\$10 was offered as an incentive. To encourage the response rate, a total of four email reminders were sent to the selected students after the first email invitation (Dillman, Christensen, Carpenter, & Brooks, 1974). In the third reminder, students were given an option of attending the survey online if they were unwilling or unable to visit canteens for the paper-and-pencil survey. They were given a link which would direct them to the website¹² where the survey questionnaire was posted. Students could fill out the questionnaire and submit their responses directly online. Such a combination of paper-and-pencil survey and online survey was used before and proved to increase response rate significantly (Chang, Southwell, Lee, & Hong, 2012).

A total of 555 valid responses were obtained ultimately, including 273 from the paper-and-pencil survey and 282 from the online survey. The response rate is 18.93%¹³. The response rate is comparable to those reported in previous representative surveys on the same campus (Chia & Lee, 2008; Chia, 2010).

I compared the statistics of the sample to the profile of the university population and found the sample to be largely representative of the university population in terms of age and gender¹⁴. The respondents were between 20 and 30 years old ($M=22.71$, $SD=2.54$). In terms of gender, 57.7 percent of the respondents were female ($n=320$). In terms of ethnicity, the majority of the respondents were Chinese (87.6 percent), while 5.6 percent were Indian, 2.2 percent Malay, and 1.4 percent others. Most respondents (61.1 percent) reported a religious affiliation.

Buddhists formed the largest religious group (27.9 percent), and 13.9 percent of the sample were Christians, 6.8 percent Taoists, 4 percent Muslims, and 3.1 percent Roman Catholics.

To check on the comparability of the two groups of participants from the paper-and-pencil survey and the online survey, I performed independent-samples *t*-tests to compare participants' *age*, *religiosity*, *family income* and *BMI* in the two datasets (see Table 3). I also performed two-way contingency table with Chi-square tests to compare their *gender*, *race*, and *religion* (see Table 3). Results showed that there were no significant differences between the two groups, except that two outliers (age=35) made the average age of the online group slightly older than that of the paper-and-pencil group (see Table 3). Overall, participants in the paper-and-pencil survey and those in the online survey shared similar demographics. For the paper-and-pencil survey, there were 163 female (59.7%) and 110 male (40.3%) participants. Their age ranged from 18 to 33 years old ($M=22.47$, $SD=2.49$). The majority of the participants were Chinese (88.6%), followed by Indian (4.0%), Malay (2.9%) and Caucasian (0.7%). For the online survey, there were 157 female (55.7%) and 125 male (44.3%) participants. Their age ranged from 17 to 35 years old ($M=22.94$, $SD=2.57$). Most of the participants were Chinese (86.5%), followed by Indian (7.1%), Malay (1.4%) and Caucasian (1.1%).

Table 3

Comparisons of Paper-and-Pencil and Online Groups on Age, Religiosity, Family Income, BMI, Gender, Race and Religion (N=555). Numbers in Each Cell are Mean/Frequencies and Numbers in Parentheses are Standard Deviation/Percentages.

	Paper-and-pencil	Online	Test Statistic
Age	22.47 (2.49)	22.94 (2.57)	$t=-2.21^*$
Religiosity	2.10 (1.48)	1.93 (1.36)	$t=1.38$, n.s.
Family income	2.59 (1.29)	2.73 (1.34)	$t=-1.23$, n.s.
BMI	20.77 (2.97)	21.21 (3.67)	$t=-1.56$, n.s.
Gender:			$\chi^2=.92$, n.s.
Male	110 (40.3%)	125 (44.3%)	
Female	163 (59.7%)	157 (55.7%)	
Race:			$\chi^2=.42$, n.s.
Chinese	242 (88.6%)	244 (86.5%)	
Non-Chinese	31 (11.4%)	37 (13.5%)	
Religion:			$\chi^2=12.97$, n.s.
Atheism	111 (40.7%)	105 (37.2%)	
Christian	39 (14.3%)	38 (13.5%)	
Roman Catholic	6 (2.2%)	11 (3.9%)	
Buddhism	72 (26.4%)	83 (29.4%)	
Islam	15 (5.5%)	7 (2.5%)	
Taoism	22 (8.1%)	16 (5.7%)	

* $p<.05$

5.1.2 Measures

The survey asked participants to report their involvement with celebrities of the same sex, celebrity-related media consumption, appearance comparison, appearance dissatisfaction, attitudes toward cosmetic surgery, self-esteem, and demographic information (see Appendix D for the questionnaire). Measures for each concept are described below:

(1) Celebrity Involvement

Participants' involvement with celebrities is the main independent variable in the survey. I first asked the participants to indicate a celebrity of their own gender, who was associated with the word of "good-looking". Results show respondents

noticed both Western celebrities (56.2%) and non-Western celebrities (43.6%). I then asked the participants to report their involvement with that celebrity. As the construct of celebrity involvement comprises four elements—capture, affinity, parasocial relationship, and identification, participants were asked to report how they were involved with the celebrity on each of the four dimensions respectively. Responses were scored on a 6-point Likert scale ranging from 1=*strongly disagree* to 6=*strongly agree*. Measures for each of the four dimensions are described below:

Capture. As there are no existing quantitative scales to measure this dimension, I invented two questions to measure this concept based on the findings of the interview. The two questions meant to cover *stimulus-driven attentional capture* and *goal-directed attentional capture*. Respondents were asked to indicate their agreement level with two statements—“Every time when the celebrity appears in the media, he/she catches my attention” and “I pay attention to the media in which the celebrity may appear”.

Affinity. Again, as to date there is no quantitative scale to measure this dimension, I created two measures for the concept of *affinity* according to the results of the interview. I asked respondents to indicate their agreement level with two statements regarding the celebrity they identified earlier—“I like the celebrity” and “I am fond of the celebrity”.

Parasocial Relationship. The questionnaire items used to measure *parasocial relationship* were adapted from the Celebrity-Persona Parasocial Interaction Scale (CPPI, Bocarnea & Brown, 2007). The CPPI comprises items in several other published parasocial interaction scales, including Rubin, Perse, and Powell (1985), Cole and Leets (1999), and Auter & Palmgreen (2000). While most parasocial interaction scales are designed to measure the strength of parasocial relationships that develop through television viewing, the CPPI has been extended to cover exposure to celebrities on new media, such as the Internet (Bae, Brown, & Kang, 2011; Brown, 2010). The CPPI reported a good reliability, with Cronbach coefficient alpha ranging from .80 to .90 in previous research (Brown et al., 2003a; de Matviuk, 2006). The validity of the CPPI, that is, its effectiveness to predict theoretically hypothesized outcomes, appears good as well (Basil & Brown, 1997; Bocarnea, 2001; Brown et al., 2003a, b; de Matviuk, 2006). The scale asked respondents to indicate their agreement level with 20 statements. Examples included “The celebrity makes me feel as if I am with someone I know well” and “I sometimes make remarks to the celebrity while

watching television”. Responses to three questions (“I don’t have any feelings toward the celebrity”, “I feel like I have very little understanding of the celebrity as a person”, and “I am not really interested in the celebrity”) were reversed so that greater numbers represented higher levels of parasocial relationship.

Identification. To measure how young audiences are involved with the celebrities along the dimension of identification, I adopted the Celebrity-Persona Identification Scale (CPI, Brown & Bocarnea, 2007). The CPI has proved reliable, achieving Cronbach alpha scores of .87 or higher in previous research (Bocarnea, 2001; de Matviuk, 2006; Brown et al., 2003a). The validity of the CPI has also received support in studies by Bocarnea (2001), Brown, Basil and Bocarnea (2003b), and de Matviuk (2006). This scale included 20 questions to measure young audiences’ identificatory level with the celebrity whom they have indicated. Examples included “I care about the same things the celebrity cares about” and “I aspire to become the kind of person the celebrity is”.

Further, I performed a principal component factor analysis with Varimax rotation method and extracted three factors of *celebrity involvement* (see Table 4)—*capture-affinity*, *PSR*, and *identification*. Four items of poor loadings on each item were removed—“I see the celebrity as a natural down-to-earth person”, “I do not have any feelings about the celebrity”, “I feel like I have very little understanding of the celebrity as a person”, and “I am not really interested in the celebrity”. Reliability tests showed that these items were reliable to form three composite measures—*capture-affinity* (paper-and-pencil, $\alpha=.92$; online, $\alpha=.91$), *PSR* (paper-and-pencil, $\alpha=.91$; online, $\alpha=.94$), and *identification* (paper-and-pencil, $\alpha=.97$; online, $\alpha=.98$). Results of independent-samples *t*-tests showed difference between the two datasets for *capture-affinity* and *identification*, but no difference between the two datasets for *PSR* (see Table 5).

Table 4

Factor Analysis of the Celebrity Involvement Items Yielding Three Factors

Items	Identification	PSR	Capture-Affinity
1. Every time when the celebrity appears in the media, he/she catches my attention.	.122	.107	.805
2. I pay attention to the media in which the celebrity may appear.	.131	.255	.686
3. I like the celebrity.	.137	.153	.823
4. I am fond of the celebrity.	.197	.220	.781
5. The celebrity makes me feel as if I am with someone I know well.	.272	.524	.359
6. If the celebrity appeared on a TV program, I would watch that program.	.204	.265	.734
8. If I saw a newspaper or magazine story about the celebrity, I would read it.	.137	.087	.803
9. I would like to meet the celebrity in person.	.305	.201	.563
10. I feel that I understand the emotions the celebrity experiences.	.387	.522	.198
11. I find myself thinking about the celebrity on a regular basis.	.333	.683	.249
13. I like to watch the celebrity on television.	.219	.131	.715
14. Whenever I am unable to get news about the celebrity, I really miss it.	.321	.757	.195
15. Learning about the celebrity is important to me.	.408	.688	.305
16. I have been seeking out information in the media to learn more about the celebrity.	.248	.695	.413
17. I sometimes go to the Internet to obtain more information about the celebrity.	.239	.598	.428
18. Sometimes I feel like calling or writing to the celebrity.	.286	.773	.118
19. The celebrity understands the kinds of things I want to know.	.482	.608	.123
20. I sometimes make remarks to the celebrity while watching television.	.291	.504	.193
21. I am very much aware of the details of the celebrity's life.	.389	.642	.208

23. I look forward to seeing the celebrity on television or in the print media.	.277	.272	.661
25. The celebrity and I share many of the same values.	.627	.266	.166
26. What is important to the celebrity is important to me.	.660	.469	.101
27. I try to model the behavior of the celebrity.	.762	.346	.146
28. I try to do the things I believe the celebrity would do.	.757	.375	.084
29. The celebrity has shown me the best way to live my life.	.715	.374	.087
30. I care about the same things the celebrity cares about.	.718	.412	.123
31. I look to the celebrity as a role model.	.777	.268	.277
32. I support those who support the celebrity.	.666	.350	.245
33. I would like to be more like the celebrity.	.745	.089	.308
34. The celebrity has set an example for me of how to think and act.	.818	.211	.269
35. I want to learn from the celebrity as much as I can.	.768	.259	.263
36. I believe many of the same things the celebrity believes.	.778	.361	.193
37. I feel that I am in unity with the celebrity.	.724	.415	.137
38. I have often thought about what it would be like to be the celebrity.	.599	.095	.244
39. I aspire to become the kind of person the celebrity is.	.769	.168	.250
40. The qualities I see in the celebrity are the same qualities I seek to develop in my own life.	.785	.216	.257
41. I advocate the same things that the celebrity advocates.	.782	.263	.202
42. The things that make the celebrity upset make me upset.	.600	.427	.187
43. I sometimes imitate the celebrity.	.644	.316	.138
44. Watching the celebrity has helped me to make decisions in my own life.	.675	.418	.135

7. I see the celebrity as a natural down-to-earth person.	.146	.001	.476
12. I do not have any feelings about the celebrity (reversed).	.122	.186	.253
22. I feel like I have very little understanding of the celebrity as a person (reversed).	.076	.137	.178
24. I am not really interested in the celebrity (reversed).	.173	.110	.495
Eigenvalue	12.05	6.98	6.50
Percentage of total variance	30.12	17.45	16.25

Table 5

Comparisons of Paper-and Pencil and Online Groups on Capture-Affinity, PSR, and Identification (N=555). Numbers in Each Cell are Mean and Numbers in Parentheses are Standard Deviation.

	Paper-and-pencil	Online	Test statistics
Capture-affinity	4.45 (.83)	4.30 (.88)	$t=2.07^*$
PSR	2.87 (.90)	2.75 (1.04)	$t=1.39$
Identification	2.92 (.94)	2.72 (1.08)	$t=2.33^*$

(2) Celebrity-Related Media Consumption

Respondents were asked to report how frequently they were exposed to the celebrity they identified on a variety of media, including television, magazines, newspapers, movies and the Internet. Answers were given on a 5-point scale ranging from *1=never* to *5=always*. Descriptive statistics are shown below in Table 6. A reliability test was performed and one of the question items (“How often are you exposed to the celebrity in movies?”) that would compromise the overall reliability of the instrument was excluded. The reliability tests showed an acceptable internal consistency among the four items (paper-and-pencil, $\alpha=.68$; online, $\alpha=.72$). I then added responses to the four measures together to create the variable of *celebrity-related media consumption* (paper-and-pencil, $M=12.24$, $SD=2.76$; online, $M=11.96$, $SD=2.91$). An independent-samples t -test showed no difference between the two

datasets ($t(553)=1.15$, n.s.). Meanwhile, as the internal consistency of the overall celebrity-related media consumption is acceptable but not ideal (Nunnally, 1978), consumption of celebrity content on each type of media will be separately examined in later analyses as well.

Table 6

Descriptive Statistics of Consumption of Celebrity-Related Content on Different Media (N=555). Numbers in Each Cell are Mean Scores and Numbers in Parentheses are Standard Deviations.

	Paper-and-pencil	Online	Test statistic
TV	3.11 (1.00)	3.08 (1.06)	$t=.37$, n.s.
Magazine	2.92 (.98)	2.86 (.99)	$t=.73$, n.s.
Newspaper	2.53 (.93)	2.48 (.93)	$t=.71$, n.s.
Internet	3.67 (.95)	3.51 (1.01)	$t=1.69$, n.s.
Overall	12.24 (2.76)	11.96 (2.91)	$t=1.15$, n.s.

* $p<.05$

(3) Appearance Comparison

I used two appearance-comparison questions that were used in previous studies (Heinberg, Thompson, & Stormer, 1995; Botta, 1999). The two questions—“I compare my body to the body of the celebrity” and “I compare my appearance to the appearance of the celebrity”—asked participants to indicate their tendency to compare their own body and appearance with the mediated celebrity who represents the beauty standards. Responses were given on a 5-point Likert scale from $1=never$ to $5=always$. The two items comprised a reliable composite measure (paper-and-pencil, $\alpha=.92$; online, $\alpha=.92$). I added participants’ responses to the two items together and divided the sum by the number of items to create the variable of *appearance comparison* (paper-and-pencil, $M=2.34$, $SD=1.01$; online, $M=2.36$, $SD=1.07$). An independent-samples t -test showed no difference between the two datasets ($t(545)=.25$, n.s.).

(4) Appearance Dissatisfaction

To measure participants’ appearance dissatisfaction, I adopted 13 questions from the Body-Areas Satisfaction Subscale (BASS, Heinberg, Thompson, & Stormer, 1995) to assess respondents’ satisfaction with specific physical features (e.g., shape of

body, appearance of skin, appearance of eyes, nose, cheeks, size of chin, appearance of ears, teeth, size of chest/breast, waistline, size of thighs, length of legs, and overall muscle tone) that might be altered by cosmetic procedures. I also added in five items of the Appearance Evaluation Subscale (AES, Heinberg, Thompson, & Stormer, 1995) to measure respondents' overall satisfaction with their appearance. Responses to these 18 questions are given on a 5-point Likert scale ranged from 1=*strongly disagree* to 5=*strongly agree*. Answers were then reversed so that greater number represented a higher level of appearance dissatisfaction.

Further, I performed a principal component factor analysis with Varimax rotation method and extracted three factors of *appearance dissatisfaction* (See Table 7)—*facial dissatisfaction*, *body dissatisfaction*, and *general dissatisfaction*. Two items were removed due to poor loadings—"I like the size of my chest/breast" and "I like my looks just the way they are". These items formed three reliable composite measure *facial dissatisfaction* (paper-and-pencil, $\alpha=.85$; online, $\alpha=.86$), *body dissatisfaction* (paper-and-pencil, $\alpha=.84$; online, $\alpha=.86$), and *general dissatisfaction* (paper-and-pencil, $\alpha=.82$; online, $\alpha=.77$). Results of independent-samples *t*-tests showed no difference between the two groups (see Table 8).

Table 7

Factor Analysis of the Appearance Dissatisfaction Items Yielding Three Factors

	Facial dissatisfaction	Body dissatisfaction	General dissatisfaction
1. I like the shape of my body.	.256	.628	.440
2. I like my skin tone.	.585	.257	.165
3. I like the way my eyes are.	.649	.111	.206
4. I like the way my nose is.	.739	.256	-.004
5. I like the way my cheeks are.	.817	.155	.125
6. I like the way my chin is.	.806	.210	.158
7. I like the way my ears are.	.778	.128	.074
8. I like the way my teeth are.	.570	.149	.185
10. I like the size of my waistline.	.218	.712	.244
11. I like the size of my thighs.	.218	.827	.123
12. I like the length of my legs.	.148	.736	.074
13. I like my overall muscle tone.	.234	.735	.216
14. My body is sexually appealing.	.207	.558	.609
16. Most people would consider me good-looking.	.328	.206	.684
17. I like the way I look without my clothes on.	.223	.431	.607
18. I am physically unattractive.	.034	.099	.811
9. I like the size of my chest/breast (reversed).	.391	.390	.346
15. I like my looks just the way they are (reversed).	.360	.486	.440
Eigenvalue	4.00	3.47	2.34
Percentage of total variance	24.98	21.68	14.60

Table 8

Comparisons of Paper-and Pencil and Online Groups on facial dissatisfaction, body dissatisfaction, and general dissatisfaction (N=555). Numbers in Each Cell are Mean and Numbers in Parentheses are Standard Deviation.

	Paper-and-pencil	Online	Test statistics
Facial dissatisfaction	2.53 (.62)	2.60 (.63)	$t=-1.41$, n.s.
Body dissatisfaction	2.94 (.74)	3.03 (.78)	$t=-1.44$, n.s.
General dissatisfaction	2.93 (.72)	2.95 (.67)	$t=-.28$, n.s.

(5) Cosmetic Surgery Attitudes

As discussed in Chapter Two, cosmetic surgery attitudes consist of two dimensions—attitudinal dimension and behavioral dimension. Details are described below:

Attitudinal dimension. This dimension refers to individuals' approval or acceptance of cosmetic surgery. I adopted eight questions from Sarwer and colleagues' scale (2005) and Henderson-King and Henderson-King's scale (2005) to measure respondents' acceptance of cosmetic surgery. I asked respondents to indicate their agreement level with eight statements, including "I approve of people surgically changing their appearance to feel better about themselves" and "It makes sense to have minor cosmetic surgery rather than spending years feeling bad about the way you look". Responses were given on a 6-point scale ranging from 1=*strongly disagree* to 6=*strongly agree*. Two questions—"I think cosmetic surgery is a waste of money", and "If I had cosmetic surgery, I would be embarrassed to tell people other than family and close friends"—were then reversed so that higher score represented a greater level of acceptance of cosmetic surgery.

Behavioral dimension. The behavioral dimension measures respondents' past behavior of having cosmetic surgery and their possible behavior of having cosmetic surgery in the future. I first asked the respondents to report these behavior/behavioral intention in terms of general cosmetic surgery. I adopted eight items from Sarwer and colleagues' scale (2005) and Henderson-King and Henderson-King's scale (2005). Respondents were asked to indicate their agreement level with eight questions, such as "I think I might have cosmetic surgery when I reach middle-age" and "If I knew there

would be no negative side effects or pain, I would like to try cosmetic surgery”. Answers were rated on a 6-point scale ranging from 1=*strongly disagree* to 6=*strongly agree*. One of the questions (“I would never have any kind of cosmetic surgery”) was reversed so that higher score represented a higher likelihood of undergoing cosmetic surgery.

Next, I asked respondents to report their behavior or behavioral intention in terms of particular cosmetic surgery procedures. I used Nabi’s scale (2009) to measure this sub-dimension. Like Nabi, I provided respondents with a list of 16 types of cosmetic surgery procedures and asked them to rate their experiences of having each procedure or their likelihood to undertake each procedure. The 16 types of cosmetic surgical procedures ranged from minimally invasive procedures, such as Botox injection and laser hair removal to more surgically invasive procedures, such as nose job and liposuction. They were asked: “If cost is not an issue, how likely would you do each of the following surgeries to improve your appearance?” The responses are measured on a scale of 1 (*never*) to 5 (*I have already done this*).

Further, I performed a principal component factor analysis with Varimax rotation method and extracted three factors of *cosmetic surgery attitudes* (See Table 9)—*acceptance of cosmetic surgery*, *intention to undergo general cosmetic surgery*, and *intention to undergo specific cosmetic surgery*. Nine items were removed due to poor loadings—“I think cosmetic surgery is a waste of money”, “If I had cosmetic surgery, I would be embarrassed to tell people other than family and close friends”, and “If cost is not an issue, how likely would you do orthodontics”, “laser hair removal”, “dermabrasion/skin peel”, “LASIK eye surgery”, “breast augmentation in women”, “breast reduction in men”, and “pectoral implants in men”. The items formed three reliable composite measures—*acceptance of cosmetic surgery* (paper-and-pencil, $\alpha=.91$; online, $\alpha=.93$), *intention to undergo general cosmetic surgery* (paper-and-pencil, $\alpha=.93$; online, $\alpha=.93$), and *intention to undergo specific cosmetic surgery* (paper-and-pencil, $\alpha=.91$; online, $\alpha=.93$). Results of independent-samples *t*-tests showed no difference between the two groups on the three dimensions of cosmetic surgery attitudes (see Table 10).

Table 9

Factor Analysis of the Cosmetic Surgery Attitudes Items Yielding Three Factors

	Intention-specific	Intention-general	Acceptance
I approve of persons undergoing cosmetic surgery to increase their self-esteem.	.106	.218	.764
I approve of people surgically changing their appearance to feel better about themselves.	.123	.159	.813
It makes sense to have minor cosmetic surgery rather than spending years feeling bad about the way you look.	.153	.196	.819
Cosmetic surgery is a good thing because it can help people feel better about themselves.	.144	.230	.846
People who are very unhappy with their physical appearance should consider cosmetic surgery as one option.	.082	.278	.765
If cosmetic surgery can make someone happier with the way they look, then they should try it.	.105	.243	.825
I have sometimes thought about having cosmetic surgery.	.190	.781	.300
I think I might have cosmetic surgery in the near future.	.246	.823	.243
I think I might have cosmetic surgery when I reach middle-age.	.294	.803	.200
I think I might have cosmetic surgery in my 60s.	.270	.673	.103
If a simple cosmetic surgery procedure would make me more attractive to others, I would think about trying it.	.228	.761	.393
If I could have a surgical procedure done for free, I would consider trying cosmetic surgery.	.221	.757	.330
If I knew there would be no negative side effects or pain, I would like to try cosmetic surgery.	.142	.722	.386
I would never have any kind of cosmetic surgery.	.091	.654	.059
If cost is not an issue, how likely would you do Botox?	.756	.198	.158

If cost is not an issue, how likely would you do collagen injection?	.767	.254	.158
If cost is not an issue, how likely would you do eyelid surgery?	.684	.146	.170
If cost is not an issue, how likely would you do nose job?	.778	.162	.178
If cost is not an issue, how likely would you do face lift?	.847	.206	.158
If cost is not an issue, how likely would you do cheek implants?	.851	.066	.093
If cost is not an issue, how likely would you do ear surgery?	.750	.073	.018
If cost is not an issue, how likely would you do tummy tuck?	.710	.271	.028
If cost is not an issue, how likely would you do liposuction?	.718	.263	.023
I think cosmetic surgery is a waste of money.	.137	.298	.319
If I had cosmetic surgery, I would be embarrassed to tell people other than family and close friends.	.017	.135	.049
If cost is not an issue, how likely would you do orthodontics?	.002	.186	.137
If cost is not an issue, how likely would you do laser hair removal?	.278	.231	.067
If cost is not an issue, how likely would you do dermabrasion/skin peel?	.497	.153	.095
If cost is not an issue, how likely would you do LASIK eye surgery?	.175	.122	.109
If cost is not an issue, how likely would you do breast augmentation in women?	.460	.100	.039
If cost is not an issue, how likely would you do breast reduction in men?	.330	.052	.011
If cost is not an issue, how likely would you do pectoral implants in men?	.355	.075	.056
Eigenvalue	5.73	5.13	4.66
Percentage of total variance	24.92	22.32	20.25

Table 10

Comparisons of Paper-and Pencil and Online Groups on Acceptance of Cosmetic Surgery, Intention to Undergo General Cosmetic Surgery, and Intention to Undergo Specific Cosmetic Surgery (N=555). Numbers in Each Cell are Mean and Numbers in Parentheses are Standard Deviation.

	Paper-and-pencil	Online	Test statistics
Acceptance of cosmetic surgery	3.89 (.90)	3.81 (.94)	$t=1.10$, n.s.
Intention to undergo general cosmetic surgery	2.93 (1.09)	2.99 (1.10)	$t=-.64$, n.s.
Intention to undergo specific cosmetic surgery	1.60 (.72)	1.58 (.76)	$t=.29$, n.s.

(6) Demographics

Previous studies suggest that a number of demographic variables may affect young people's attitudes toward cosmetic surgery. These variables include sex (Henderson-King & Henderson-King, 2005), age (Henderson-King & Henderson-King, 2005), ethnicity (Delinsky, 2005), and BMI (Markey & Markey, 2009). Religiosity is also believed to wield an influence on attitudes toward cosmetic surgery as most religions see human bodies born to be unaltered and forbid followers to change their appearance by exogenous forces. In addition, social economic status is another factor that might influence young people's attitudes toward cosmetic surgery. Therefore, I measured participants' sex, age, race, religious inclination, religiosity, family income, height, and weight, and controlled them in later analyses. Descriptive statistics are shown in Table 3.

(7) Other Control Variables

In addition to the variables discussed above, this survey included two control variables—respondents' self-esteem and the number of cosmetic surgery recipients respondents know. Previous research has indicated that self-esteem may influence young people's satisfaction with their own appearance (Schutz, Paxton, & Wertheim, 2002; van den Berg et al., 2007). Durkin, Paxton, and Sorbello (2007) found that women who had low self-esteem were more likely to make comparisons with idealized

media images, and more likely to feel dissatisfied with their own body. Therefore, I measured respondents' self-esteem with a shortened version of the Rosenberg Self-Esteem Inventory (Rosenberg, 1965). The scale included four items: "On the whole, I am quite satisfied with myself", "At times, I think I am no good at all", "I take a positive attitude toward myself", and "All in all, I am inclined to feel that I am a failure". Responses were rated on 5-point scale from 1=*strongly disagree* to 5=*strongly agree*. Two questions—"At times, I think I am no good at all" and "All in all, I am inclined to feel that I am a failure"—were reversely coded so that higher score represented higher level of self-esteem. The four items formed a reliable composite measure for the variable of *self-esteem* (paper-and-pencil, $\alpha=.67$; online, $\alpha=.73$). The four answers were then added up and divided by the number of items to compute respondents' score for *self-esteem* (paper-and-pencil, $M=3.73$, $SD=.62$; online, $M=3.63$, $SD=.63$). An independent-samples *t*-test showed no difference between the two groups ($t(546)=1.68$, n.s.).

In addition, I asked the respondents to indicate how many individuals they knew personally who had cosmetic surgery (paper-and-pencil, $M=2.90$, $SD=.92$; online, $M=3.06$, $SD=1.07$). An independent-samples *t*-test showed no difference between the two groups ($t(427)=-1.66$, n.s.).

5.2 Results

As discussed above, there are no significant differences between the paper-and-pencil group and the online group on most variables, except for respondents' capture-affinity and identification with celebrities. I thus consolidated the two datasets together, but created and controlled a variable of survey mode for the analyses. Descriptive statistics of the consolidated group for all the variables are shown in Table 11. I also conducted reliability tests for all the composite variables using the consolidated dataset. The results are also in Table 11.

To test the hypotheses, I first performed a series of multiple regression analyses. Next, I performed structural equation modeling analyses to test the simultaneous effects of all variables that comprised the model. Below are the results.

Table 11

Descriptive Statistics and Reliability Tests for Variables Used in the Consolidated Group (N=555)

	Mean/Frequency	Standard deviation /Percentage	Reliability test statistic
Independent variables:			
Capture-affinity	4.38	.85	$\alpha=.92^{***}$
PSR	2.81	.97	$\alpha=.93^{***}$
Identification	2.82	1.02	$\alpha=.97^{***}$
Celebrity-related media consumption	12.10	2.84	$\alpha=.70^{***}$
Appearance comparison	2.35	1.04	$\alpha=.92^{***}$
Facial dissatisfaction	2.57	.63	$\alpha=.86^{***}$
Body dissatisfaction	2.99	.76	$\alpha=.85^{***}$
General dissatisfaction	2.94	.70	$\alpha=.79^{***}$
Dependent variables:			
Acceptance of having cosmetic surgery	3.85	.92	$\alpha=.92^{***}$
Intention to undergo general cosmetic surgery	2.96	1.09	$\alpha=.93^{***}$
Intention to undergo specific cosmetic surgery	1.59	.74	$\alpha=.92^{***}$
Control variables:			
Self-esteem	3.68	.62	$\alpha=.70^{***}$
No. of cosmetic surgery recipients participants have known	2.98	1.00	
Demographic variables:			
Age	22.71	2.54	
Religiosity	2.02	1.42	
Family income	2.68	1.30	
BMI	20.99	3.35	
Gender:			
Male	235	42.3%	
Female	320	57.7%	
Race:			
Chinese	486	87.7%	
Non-Chinese	68	12.3%	
Religion:			
Atheism	216	38.9%	
Christian	77	13.9%	
Roman Catholic	17	3.1%	
Buddhism	155	27.9%	
Islam	22	4.0%	
Taoism	38	6.8%	

*** $p<.001$

5.2.1 Hypotheses Testing

H1 suggested involvement with same-sex celebrity would be associated with cosmetic surgery attitudes. To test this hypothesis, I conducted three hierarchical multiple regression analyses (see Table 12). The first one used the acceptance of having cosmetic surgery as the dependent variable, the second one used the intention to undergo general cosmetic surgery as the dependent variable, and the third one used the intention to undergo specific cosmetic surgery as the dependent variable. The three dimensions of celebrity involvement—capture-affinity, PSR and identification—were used as the IVs in the three regression models. As some of the correlations among the three dimensions of celebrity involvement—capture-affinity, PSR and identification—were relatively high ($> .60$) and might cause a multi-collinearity problem (see Table 13 for the correlation table), I used the residualization procedure for the three variables (see Cohen & Cohen, 1983, p. 487-518). I regressed each of the three variables on the other two control variables and obtained the standardized residuals for the three variables. I then used the standardized residuals of the three variables in substantive analyses. In addition, I controlled for survey mode, respondents' age, gender, race, religiosity, family income, BMI, self-esteem, and the number cosmetic surgery recipients respondents know. The order of the entry of the independent variables was presented in Table 12.

Results in Table 12 indicated that capture-affinity was positively associated with respondents' acceptance of cosmetic surgery, whereas PSR was not significantly associated with their acceptance of cosmetic surgery. Identification was weakly associated with acceptance of cosmetic surgery ($p < .10$). In addition, identification was positively associated with respondents' intention to undergo general and specific cosmetic surgery procedures, but capture-affinity and PSR were not significantly associated with their intention to undergo cosmetic surgery.

As for the control variables, self-esteem was negatively associated with respondents' intention of having both general and specific cosmetic surgery. The number of acquaintances the respondents know who have had cosmetic surgery was positively associated with their acceptance of having cosmetic surgery and intention of having general cosmetic surgery. In addition, non-Chinese respondents were less likely to undertake cosmetic surgery than Chinese respondents.

Table 12

Standardized Linear Regression Coefficients Predicting Cosmetic Surgery Attitudes
(*N*=555)

	Acceptance	Intention- general	Intention- specific
Survey mode	-.01	.03	-.05
Age	.07	.02	.04
Gender	-.02	-.003	.05
Race	-.12*	-.12*	-.07
Religiosity	-.09#	-.02	-.05
Family income	-.01	-.02	-.07
BMI	.02	-.04	.10#
R ² change	.03	.02	.02
Self-esteem	-.05	-.19***	-.15**
R ² change	.002	.03***	.02**
No. of cosmetic surgery acquaintances	.15**	.28***	.06
R ² change	.02**	.07***	.003
Capture-affinity	.22***	.09	.04
PSR	.04	.07	.12
Identification	.15#	.15*	.18*
Total adjusted R ²	.06***	.11	.04
<i>Df</i>	371	371	362
<i>F</i> -value	5.68***	1.96	1.69

#*p*<.10; **p*<.05; ***p*<.01; ****p*<.001

Note: Gender: 1=male and 2=female.

Race: 1=Chinese, 2=non-Chinese.

Standardized residuals for the three dimensions of celebrity involvement were used in the table.

Table 13

Correlation of the Three Dimensions of Celebrity Involvement

	Capture-Affinity	PSR	Identification
Capture-affinity	1		
PSR	.62***	1	
Identification	.54***	.78***	1

****p*<.001

H2 posited that young people's celebrity involvement would be associated with their consumption of celebrity-related media. To test the relationship between celebrity involvement and celebrity-related media consumption, I performed five sets of hierarchical multiple regression analyses (see Table 14). The dependent variable in the first regression model was overall celebrity-related media consumption, in the second regression was celebrity-related consumption on TV, in the third regression was celebrity-related consumption in magazines, in the fourth regression was celebrity-related consumption in newspapers, and in the fifth regression was celebrity-related consumption on the Internet. I used the three dimensions of celebrity involvement—capture-affinity, PSR and identification—as the independent variables in all the five multiple regression models. To avoid multi-collinearity problem, I used the standardized residuals for the three variables. For all five regression analyses, I controlled for survey mode, demographic factors including age, gender, race, religiosity, family income and BMI, and self-esteem. The order of the entry of the independent variables was presented in Table 14.

Results in Table 14 showed that each of the three dimensions of celebrity involvement—capture-affinity, PSR, and identification—was positively associated with the overall celebrity-related media consumption. In particular, each of the three dimensions was positively associated with celebrity-related consumption on TV, in magazines, and on the Internet. In addition, PSR and identification were each positively associated with the consumption of celebrity content in newspapers, but capture-affinity was not associated with the consumption of such content in newspapers. As for the control variables, females consumed more celebrity-related content from the Internet than males.

Table 14

Standardized Linear Regression Coefficients Predicting Celebrity-Related Media Consumption (N=555)

	Overall	TV	Magazine	Newspaper	Internet
Survey mode	-.07	-.02	-.04	-.06	-.08#
Age	-.02	-.02	-.04	.04	-.03
Gender	.04	.01	.06	-.05	.11*
Race	-.02	-.04	-.01	.01	-.05
Religiosity	-.06	-.004	-.07	-.04	-.06
Family income	-.04	-.06	.03	-.05	-.04
BMI	.03	.01	-.03	.04	.08
R ² change	.01	.01	.02	.02	.03*
Self-esteem	.05	.06	.02	.02	.05
R ² change	.003	.003	0	0	.002
Capture-affinity	.30***	.15*	.21***	.09	.45***
PSR	.51***	.25***	.33***	.26***	.63***
Identification	.34***	.15*	.25***	.18**	.42***
Total adjusted R ²	.09***	.01**	.04***	.02**	.17***
Df	487	489	489	488	488
F-value	16.87***	3.88**	7.01***	4.11**	32.31***

$p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Note: Gender: 1=male and 2=female.

Race: 1=Chinese, 2=non-Chinese.

Standardized residuals for the three dimensions of celebrity involvement were used in the table.

H3 suggested that young people's celebrity-related media consumption would be associated with their appearance comparison. I performed a hierarchical multiple regression analysis to test this hypothesis (see Table 15). I used the overall celebrity-related media consumption and consumption on each type of media as the independent variables, and used appearance comparison as the dependent variable. I controlled for survey mode, demographic factors including age, gender, race, religiosity, family income, and BMI, and self-esteem. I also controlled for the standardized residuals for the three dimensions of celebrity involvement. The order of the entry of the independent variables was presented in Table 15.

Table 15

Standardized Linear Regression Coefficients Predicting Appearance Comparison
(*N*=555)

	Appearance comparison
Survey mode	.01
Age	-.10*
Gender	.05
Race	.12*
Religiosity	.08#
Family income	.12**
BMI	-.04
R ² change	.06***
Self-esteem	-.15***
R ² change	.02***
Capture-affinity	.34***
PSR	.35***
Identification	.41***
R ² change	.09***
Overall celebrity-related media consumption	.13**
Celebrity-related consumption on TV	.02
Celebrity-related consumption in magazines	.15***
Celebrity-related consumption in newspapers	.02
Celebrity-related consumption on the Internet	.18***
Total adjusted R ²	.16**
<i>Df</i>	482
<i>F</i> -value	8.21**

#*p*<.10; **p*<.05; ***p*<.01; ****p*<.001

Note: Gender: 1=male and 2=female.

Race: 1=Chinese, 2=non-Chinese.

Standardized residuals for the three dimensions of celebrity involvement were used in the table.

Results (see Table 15) showed that the overall celebrity-related media consumption was positively related to appearance comparison, when controlling for celebrity involvement. Particularly, celebrity consumption in magazines and on the Internet was each associated with appearance comparison. In addition, each of the three elements of celebrity involvement—capture-affinity, PSR and identification—was positively associated with appearance comparison. Besides, age was negatively associated with appearance comparison, whereas family income was positively

associated with appearance comparison. Non-Chinese respondents were more likely to engage in appearance comparison with celebrities than Chinese respondents.

H4 posited that young people's appearance comparison with celebrities would be associated with their dissatisfaction toward the self appearance. I performed three hierarchical multiple regression analyses, using the appearance comparison as the IV and the facial dissatisfaction, body dissatisfaction, and general dissatisfaction as the DVs (see Table 16). I controlled for survey mode, demographic factors including age, gender, race, religiosity, family income, and BMI, and self-esteem. I also controlled for the standardized residuals of the three elements of celebrity involvement and the overall celebrity-related media consumption. The order of the entry of the independent variables was presented in Table 16.

Table 16

Standardized Linear Regression Coefficients Predicting Appearance Dissatisfaction
(*N*=555)

	Facial dissatisfaction	Body dissatisfaction	General dissatisfaction
Survey mode	.05	.06	.02
Age	-.08	-.08#	-.10*
Gender	.01	.24***	.14**
Race	-.11*	.01	-.09#
Religiosity	-.07	.02	.06
Family income	-.06	-.08#	-.11*
BMI	-.02	.25***	.20***
R ² change	.04**	.10***	.07***
Self-esteem	-.38***	-.39***	-.47***
R ² change	.14***	.15***	.21***
Capture-affinity	.01	-.02	-.11*
PSR	-.11	-.15*	-.25***
Identification	-.16*	-.20**	-.32***
R ² change	.01#	.02**	.04***
Overall celebrity-related media consumption	.03	.01	.01
R ² change	.001	0	0
Appearance comparison	.05	.13**	-.04
Total adjusted R ²	.17	.26**	.31
<i>Df</i>	475	478	477
<i>F</i> -value	1.40	8.65**	.91

#*p*<.10; **p*<.05; ***p*<.01; ****p*<.001

Note: Gender: 1=male and 2=female.

Race: 1=Chinese, 2=non-Chinese.

Standardized residuals for the three dimensions of celebrity involvement were used in the table.

Results in Table 16 showed that appearance comparison was positively associated with body dissatisfaction, when controlling for celebrity involvement and overall celebrity-related media consumption. Celebrity-related media consumption was not significantly associated with each of the three dissatisfaction variables. Capture-affinity was negatively associated with general dissatisfaction toward one's appearance. PSR was negatively associated with body dissatisfaction and general

dissatisfaction. Identification was negatively associated with facial, body, and general dissatisfaction.

As for the control variables, self-esteem was negatively associated with the three dissatisfaction variables. In addition, age and family income were each negatively associated with general dissatisfaction. Female respondents were more dissatisfied with their body and general appearance than male respondents. BMI was positively associated with body and general dissatisfaction.

Lastly, H5 suggested that appearance dissatisfaction would be associated with cosmetic surgery attitudes. To test H5, I performed three sets of multiple regression analyses (see Table 17). The first one used the acceptance of cosmetic surgery as the DV, the second one used the intention to undergo general cosmetic surgery as the DV, and the last one used the intention to undergo specific cosmetic surgery as the DV. In addition to all previous control variables (i.e., survey mode, demographic variables including age, gender, race, religiosity, family's income and BMI, and self-esteem), I controlled for celebrity involvement, celebrity-related media consumption, appearance comparison, and appearance dissatisfaction and the number of cosmetic surgery recipients respondents knew. I used the standardized residuals for the three elements of celebrity involvement—capture-affinity, PSR and identification—to avoid multicollinearity problem. The order of entry of independent variables was presented in Table 17.

Table 17

Standardized Linear Regression Coefficients Predicting Cosmetic Surgery Attitudes
(*N*=555)

	Acceptance	Intention- general	Intention- specific
Survey mode	-.01	.04	-.04
Age	.05	.02	.04
Gender	-.03	-.02	.04
Race	-.10#	-.12*	-.07
Religiosity	-.10*	-.03	-.06
Family income	.002	-.02	-.07
BMI	.04	-.04	.10#
R ² change	.03	.02	.02
Self-esteem	-.03	-.18***	-.16**
R ² change	.001	.03***	.02**
No. of CS acquaintances	.15**	.28***	.05
R ² change	.02**	.07***	.002
Capture-affinity	.19**	.07	.05
PSR	.03	.06	.13
Identification	.14#	.15#	.19*
R ² change	.04**	.01	.01
Overall celebrity-related media consumption	.08	.05	.03
R ² change	.01	.002	.001
Appearance comparison	.20***	.34***	.32***
R ² change	.03***	.10***	.08***
Facial dissatisfaction	.02	.07	.08#
Body dissatisfaction	.05	.15*	.15*
General dissatisfaction	-.06	-.16*	-.26***
Total adjusted R ²	.08	.22*	.14**
<i>Df</i>	358	359	354
<i>F</i> -value	.29	3.32*	5.18**

#*p*<.10; **p*<.05; ***p*<.01; ****p*<.001

Note: Gender: 1=male and 2=female.

Race: 1=Chinese, 2=non-Chinese.

Standardized residuals for the three dimensions of celebrity involvement were used in the table.

Results in Table 17 showed that body dissatisfaction was positively associated with the intention to undergo general and specific cosmetic surgery, whereas general

dissatisfaction was negatively associated with the intention to undergo general and specific cosmetic surgery. Facial dissatisfaction was only weakly associated with the intention to undergo specific surgery. Appearance comparison was positively associated with each of the three DVs. Celebrity-related media consumption was not significantly associated with each of the three DVs. In addition, capture-affinity was positively associated with the acceptance of cosmetic surgery, and identification was positively associated with intention to undergo specific surgery. However, PSR was not significantly associated with each of the three DVs.

Furthermore, the number of cosmetic surgery recipients participants knew was positively associated with the acceptance of cosmetic surgery and the intention to undergo general cosmetic surgery. Self-esteem was negatively associated with the intention to undergo general and specific cosmetic surgery. Non-Chinese respondents were less likely to accept and undertake general cosmetic surgery than Chinese respondents. Respondents who were more religious were less likely to accept cosmetic surgery.

5.2.2 Structural Equation Model

The hypotheses tested above suggested a hypothetical model (see Figure 8) indicating that young people's celebrity involvement would directly and indirectly influence their attitudes toward cosmetic surgery. To test the simultaneous effects of all variables in the model, I constructed a structural model using LISREL 9.1 (Student Version, Jöreskog & Sörbom, 1996). I regressed all of the study variables (i.e., celebrity involvement, celebrity-related media consumption, appearance comparison, appearance dissatisfaction, acceptance of cosmetic surgery, intention to undergo general cosmetic surgery, and intention to undergo specific cosmetic surgery) on the control variables (i.e., survey mode, age, gender, race, religiosity, family income, BMI, self-esteem, and the number of cosmetic surgery recipients respondents knew), and used the standardized residuals of the study variables in the structural equation modeling (SEM) analysis (see Appendix E for the correlation matrix).

The SEM results (see Figure 9) indicated that respondents' celebrity involvement was directly associated with their attitudes toward cosmetic surgery ($\beta=.14, p<.05$). H1, which concerns a direct effect of celebrity involvement on cosmetic surgery attitudes, was thus supported. In addition, the analysis showed that respondents' celebrity involvement was positively associated with their celebrity-related consumption on media ($\beta=.20, p<.05$). H2 was supported. I also found that

respondents' celebrity-related media consumption was positively associated with their appearance comparison with the celebrity ($\beta=.17, p<.05$). H3 was also supported. However, respondents' appearance comparison with the celebrity was not significantly associated with their dissatisfaction with their own appearance ($\beta=.03$, n.s.). H4 was not supported. Finally, I found that respondents' dissatisfaction with their own appearance was not significantly associated with their attitudes toward cosmetic surgery ($\beta=.05$, n.s.). This finding did not support H5. Overall, the Chi-square statistics ($\chi^2=267.67, df=41, p<.05$) and other indices suggested it was not a good model fit (RMSEA=.10; NFI=.86; NNFI=.83; CFI=.87; GFI=.92).

However, analysis of the hypothetical model suggested two additional paths. One is between celebrity involvement and appearance comparison, and the other is between appearance comparison and cosmetic surgery attitudes. When the two paths were added (see Figure 10 for results), the model fit improved significantly. In the revised model, celebrity involvement was directly associated with cosmetic surgery attitudes ($\beta=.08, p<.05$). H1 was supported. In addition to the direct path, I found celebrity involvement was associated with cosmetic surgery attitudes through two indirect paths. The first path is mediated by appearance comparison with celebrities. Celebrity involvement was significantly associated with appearance comparison ($\beta=.25, p<.05$), which was in turn significantly associated with cosmetic surgery attitudes ($\beta=.22, p<.05$). The second path was mediated by celebrity-related media consumption and appearance comparison, respectively. Celebrity involvement was significantly associated with celebrity-related media consumption ($\beta=.19, p<.05$). Consumption of celebrity content on media was further associated with appearance comparison ($\beta=.12, p<.05$), which was in turn associated with cosmetic surgery attitudes ($\beta=.22, p<.05$). Overall, the Chi-square statistics of the revised model improved significantly ($\chi^2=190.97, df=39, p<.05$). Other indices suggested an acceptable model fit (RMSEA=.08; NFI=.90; NNFI=.88; CFI=.91; GFI=.98). The model accounted for 7 percent of variance in young people's attitudes toward cosmetic surgery.

Figure 9. Structural Equation Modeling Analysis of the Effects of Celebrity Involvement on Cosmetic Surgery Attitudes (Hypothetical Model). The Coefficients are Standardized. All Solid-Line Arrows are Significant at $p < .05$ or Better. Dotted-Line Arrows are Non-Significant at $p < .05$. R^2 Values are Reported in Parentheses. $\chi^2=269.85$, $df=41$, $N=555$, $p < .05$; RMSEA=.10; NFI=.86; NNFI=.83; CFI=.87; GFI=.92.

Figure 10. Structural Equation Modeling Analysis of the Effects of Celebrity Involvement on Cosmetic Surgery Attitudes (Revised Model). The Coefficients are Standardized. All Solid-Line Arrows are Significant at $p < .05$ or Better. Dotted-Line Arrows are Non-Significant at $p < .05$. R^2 Values are Reported in Parentheses. $\chi^2=190.97$, $df=39$, $N=555$, $p < .05$; RMSEA=.08; NFI=.90; NNFI=.88; CFI=.91; GFI=.98.

CHAPTER SIX DISCUSSION

The main goals of this dissertation project are twofold: first, to conceptualize celebrity involvement; and second, to delineate a theoretical framework to identify the associations between young people's involvement with same-sex celebrities and their attitudes toward cosmetic surgery. While celebrity involvement was not clearly defined in previous literature, this dissertation project demonstrated that celebrity involvement is a multi-dimensional construct encompassing three elements—capture-affinity, parasocial relationship and identification. This dissertation project also demonstrated direct and indirect associations between celebrity involvement and cosmetic surgery attitudes. The indirect paths were mediated by media consumption and appearance comparison.

This chapter provides an in-depth discussion of the findings. The first section of the chapter addresses the findings and implications. The second section assesses the limitation of the study and makes suggestions for future study. The last section concerns the contribution of this study.

6.1 Findings and Theoretical Implications

6.1.1 Conceptualization of Celebrity Involvement

This study makes theoretical contribution to the understanding of celebrity involvement. Some previous studies (e.g., Zurbriggen & Morgan, 2006) characterize celebrity involvement as a single-dimensional concept. Others, although view it as a multi-dimensional concept, has not distinguished the various dimensions clearly (e.g., Brown, Basil, & Bocarnea, 2003a). This study argues that celebrity involvement is a multi-faceted construct which is composed of four elements—capture, affinity, parasocial relationship and identification. Findings of the in-depth interviews indicated that the four dimensions exemplified different types of involvement between media celebrities and audience members who related the self to them. In fact, the four dimensions represented how the audience's involvement with a celebrity may develop from lower to higher levels. An individual's involvement with a celebrity usually started with capture. The individual's attention was drawn by the celebrity for certain features of the celebrity, such as the celebrity's appearance or performance. Then the individual was motivated to seek more information about the celebrity and know more about the celebrity. At the capture stage, the individual may or may not develop any

likings toward the celebrity. After some exposure to the celebrity, the individual's involvement with the celebrity grew, resulting in affinity, or general liking, toward the celebrity. As the liking intensified, the individual may gradually develop a parasocial relationship with the celebrity. The individual imagined a friendship or intimacy with the celebrity and desired for a closer relationship with the celebrity. Meanwhile, the individual would find similarities between the self and the celebrity. Finally, the individual would identify the celebrity as a role model by adopting the celebrity's attitudes, beliefs and behaviors.

The four processes of celebrity involvement develop differently for different audiences. For most participants in the interview, an involvement with their favorite celebrities remained at a relatively low level, such as capture and affinity. While they liked the celebrities, they retained self identity and had no intention to bring the relationship with the celebrities closer. Yet, for other participants in the interview, the involvement with their celebrity idols got to develop beyond simple liking. They perceived an intimacy with the celebrities and even emulated the celebrities by adopting the attitudes and behaviors promoted by the celebrities.

The conceptualization of celebrity involvement discussed in this study represents an advance over previous research in relevant fields. Compared with celebrity worship research (e.g., McCutcheon, Lange, & Houran, 2002; Maltby, Giles, & Barber, 2005; Swami, Taylor, & Carvalho, 2009), the present study regards involvement with celebrities as a less extreme psychological process, and broadens the range of subjects examined to include not only those who are psychologically challenged, but young people at large. In contrast, McCutcheon and colleagues (2002) proposed an absorption-addiction model, which views celebrity worship as an erotomaniac type of delusional disorder. Their model may be applicable to investigate celebrity worshippers who assume intact identities (e.g., introversion or a lack of meaningful relationships) and become virtually obsessed with one or more celebrities (Maltby, Houran, & McCutcheon, 2003). Supposedly, this group of celebrity worshippers (e.g. celebrity stalkers, Schlesinger, 2006) accounts for only a small proportion of the population. Compared with "worship", the conceptualization of "involvement" proposed in this study is inherent with theoretical merits in that it explains how young people relate to mediated celebrities more holistically and accurately.

Unlike prior research which examined only parts of the involvement process, this study demonstrated a continuum that encompassed various facets of involvement with mediated celebrities. A series of social influence studies conducted by Brown (2003a, b, 2007, 2010, 2011) examined two forms of involvement—parasocial interaction and identification—on prosocial values and related behaviors. Due to a lack of discussion of lower levels of involvement, their proposed theoretical framework was insufficient for an integrated understanding of the phenomenon of involvement with mediated celebrities. Results of this dissertation project, however, lend support to a proposition that parasocial relationship and identification with celebrities are two intensified types of involvement. The parasocial relationship with celebrity figures developed by audiences is usually accompanied by an urge of becoming closer to the celebrities. As a result of the parasocial relationship, the fans would desire for a more attractive appearance through cosmetic surgery to fulfill their expectations of being intimate with the celebrities. The identificatory relationship is characterized by the audiences' internalization of the values and behaviors promoted by the celebrities. When fans develop identificatory relationship with celebrities, they would either directly copy their idols' looks or follow their idols' footsteps to undergo cosmetic surgery. Maltby and his colleagues (2003) suggested that extreme forms of celebrity worship, such as intense-personal and borderline pathological syndromes, shared similar attributes with parasocial relationship and identification. They also indicated that only a small proportion (about 25 percent) of the sampled university students showed signs of the two forms of extreme celebrity worship (Maltby et al., 2004; Maltby, Giles, Barber, & McCutcheon, 2005). Given the possibility that most young people would engage in less extreme forms of involvement with their celebrity idols, this study proposed to include two milder forms of celebrity involvement—capture and affinity. Results of the survey study suggested that the two items belonged to the same dimension of celebrity involvement. Compared with previous studies, the current model provides a more thorough and operational explanation of the construct of celebrity involvement.

6.1.2 Effects of Celebrity Involvement on Cosmetic Surgery Attitudes

This study supports both direct and indirect models of celebrity involvement on young people's cosmetic surgery attitudes. The direct model shows that capture-affinity was positively associated with acceptance of cosmetic surgery, and identification was positively associated with intention to undergo general and specific

cosmetic surgery. These results suggest that when a fan is captured by the idealized appearance of the celebrity and develops affinity toward the celebrity, the fan may view having cosmetic surgery as an acceptable means to become attractive and successful. The fan is also likely to internalize the imagined friend's values and beliefs about cosmetic surgery and be persuaded to consider cosmetic surgery. In addition, when a fan develops identificatory relationship with the celebrity, the fan may want to possess an appearance resembling the celebrity through cosmetic surgery. An alternative explanation is that the fan may find the celebrity's behavior of receiving cosmetic surgery is worth of emulating as it is always associated with positive outcomes, such as fame and fortune. Therefore, the fan may choose to follow the celebrity and seek cosmetic surgery him/herself.

Nonetheless, the direct association becomes weaker in a comprehensive structural model, which encompasses two indirect paths between celebrity involvement and attitudes toward cosmetic surgery. One was mediated by appearance comparison, and the other was mediated by celebrity-related media consumption and appearance comparison, respectively. One implication is that the influences of celebrity on cosmetic surgery attitudes may be indirectly contingent on young people's media consumption of and appearance comparison with the celebrity they are involved with. The data support indirect models summarized by two scenarios. In Scenario One, young people's involvement with a celebrity drives them to consume media content about the celebrity. The celebrity-related media consumption predicts comparisons with the celebrity on the basis of appearance. The appearance comparison with the celebrity results in young people's positive attitudes toward cosmetic surgery and their intention of having cosmetic surgery. In Scenario Two, involvement with the celebrity directly motivates young people to compare with the celebrity on the dimension of appearance, not necessarily through media consumption. Subsequently, the appearance comparison would lead young people to accept and consider cosmetic surgery. Details of each path are addressed below:

First, people's existing degree of involvement with celebrities was associated with their consumption of various media that feature the celebrities. In this study, all three dimensions of involvement appeared to drive media use. These results support previous studies (Brown, 2010; Rubin & Perse, 1987; Rubin, Perse, & Powell, 1985; Hoffner, 1996), suggesting that when young people feel connected to a celebrity, they are more likely to use media to follow the celebrity's lives. These results from the

survey study also align with findings from my in-depth interviews, which revealed that young people, propelled by their involvement with a celebrity, would resort to both traditional and new media for information about the celebrity. Meanwhile, the media feed their demand for more information about the lives of celebrities, proving an “explosion” in the celebrity gossip market (Seymour Marketing Department, 2001, cited from Feasey, 2008).

Second, young people’s consumption of celebrity-related content on media was associated with their intention to make appearance comparisons between themselves and the celebrity. It seemed that for those who were involved with their celebrity idols, exposure to the idols’ images in the media would provide a basis for comparison. This finding is consistent with previous research that examined media images of beautiful women in advertising (Bessenoff, 2006; Botta, 1999; Hargreaves & Tiggemann, 2004). Extending the original social comparison theory (Festinger, 1954) which indicated that people viewed as similar to oneself would be the most likely targets for comparison, the current study suggests that dissimilar others such as mediated celebrities form an important category of comparison target. Social comparison theory postulates that comparisons with others are often undertaken in order to fulfill the basic human drive for self-evaluation (Engeln-Maddox, 2005). The comparison process is likely to occur especially when the target seems to be able to provide valuable information for one to make self evaluation (Kruglanski & Mayseless, 1990). For young people who develop involvement with celebrity idols, the idol is far from a stranger, but someone who they can relate to, someone who they are fascinated with, adore, and perceive even as a friend or a role model. Comparisons with these celebrities offer a great deal of information for people who seek to attain accurate evaluation of themselves. Such comparisons might be unavoidable, even if they are likely to damage one’s self image.

Third, young people who were predisposed to making appearance comparison with the mediated celebrities reported favorable attitudes toward cosmetic surgery. Analyses of entertainment media have revealed a steady bombardment of images that have underscored the importance of idealized appearance represented by celebrity figures (Cusumano & Thompson, 1997; Spitzer, Henderson, & Zivian, 1999). The repeated exposure to media images of celebrities make these celebrity images seemingly the standard of attractiveness. For those who compare with celebrity figures, cosmetic surgery seems to be a solution to achieving such beauty standards.

Previous studies found that social comparison to the idealized celebrity images led to dissatisfaction of one's self appearance, which was in turn a stimulant for surgical enhancement (e.g., Bolton, et al., 2003; Myers & Crowther, 2009; Sarwer et al., 2003). However, of interest in this sample, appearance comparison with celebrities who young people developed involvement with was directly associated with their positive attitudes toward cosmetic surgery, regardless of their appearance dissatisfaction. No matter whether young people are pleased with their self appearance or not, comparisons with the beauty standards portrayed by celebrities instigate a desire to improve self appearance. This may occur to people who have narcissistic personality (Napoleon, 1993), or those who view surgical alteration of appearance as a positive self-care strategy, perhaps similar to eating healthy diet and exercising regularly (Didie & Sarwer, 2003; Sarwer, Wadden, Pertschuk, & Whitaker, 1998). Such a motivation for "an improvement of the self" was also evidenced from my interviews with the cosmetic surgery recipients.

6.2 Limitations and Directions for Future Research

Despite several important findings, a discussion of the present study includes a few caveats. First, a key limitation of the in-depth interview was the small sample size. Despite its purpose of informing the survey, the small sample size of the interview limited my analysis of some interesting findings, notably the role of identification in cosmetic surgery decisions. Considering the exploratory nature of the interview and its aim of informing the substantive survey, the small sample size of the interview is probably acceptable. However, a larger sample size would be helpful to generate more enriched insights regarding the underlying mechanisms through which young people use celebrities as standards in the decision-making process of undertaking cosmetic surgery.

Next, the survey employed a representative sample of students from a comprehensive university in Singapore. The sample is skewed toward higher education. Hence, this sample may not be representative of young people in general. In addition, the response rate of the paper-and-pencil and online surveys was not high, which might have resulted in response bias, though the sample statistics were by large consistent with university population's parameters. Future researchers should seek to replicate testing of the theoretical model with different education and age groups in order to get a holistic picture of young people's celebrity involvement and cosmetic surgery attitudes.

In addition, this study examines young people's involvement with a particular type of media content—same-sex celebrities. Several aspects of this type of media content need further revision. One, the survey examined young people's involvement with same-gender celebrities. One aspect emerging through the interview, which concerns a particular type of involvement with the opposite-sex celebrities, is also worth of notice. Participants of the interview exhibited a parasocial relationship with opposite-sex celebrities, which resembles romantic attachment (Adams-Price & Greene, 1990; Greene & Adams-Price, 1990). Erikson (1968) has described attachments to distant figures as “secondary attachments”, arguing that they play a transitional role during adolescence. Adolescents' secondary attachment to media icons take on various forms. One possibility is that they may see the media figures as romantic partners and perceive sexual attraction and develop romantic feelings toward the media figures (Adams-Price & Greene, 1990). Like romantic attachment, romantic parasocial relationship is usually developed unilaterally by the fans or media audiences toward the opposite-sex media figures. Such romantic attachment may increase body concerns among women (e.g., thinness, Greenwood, 2009). Results of the interview indeed disclosed that romantic parasocial relationship with opposite-sex celebrities may motivate young women to seek cosmetic surgery. Future research should explore the mechanism how romantic parasocial relationship with opposite-sex celebrities would propel young women and men to undertake cosmetic surgery. Two, celebrities of different races may have varying levels of influence on young people's attitudes toward cosmetic surgery. Western celebrities' Caucasian features are likely to motivate young people in Asia to have bigger eyes or higher noses. One suspects that Asian people like Koreans are interested in having double-eyelid surgery because the surgery creates an upper eyelid crease which makes Asian eyes resemble the Western eyes. Future studies could examine how celebrities of different races influence young people's attitudes toward cosmetic surgery.

In addition to celebrities, this study examines the overall media usage; however, other types of media and content are likely to influence young people's attitudes toward cosmetic surgery (Rubin, 2009). Young people today use social media to follow their favorite celebrities and acquire information about cosmetic surgery (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). In Singapore, young people had the chance to be exposed to one of the most popular shows in this category—Extreme Makeover—on TV. Such content is also available on the YouTube. It is

possible that young people's attitudes toward cosmetic surgery are affected by information they collect from social media, such as celebrity tweets, makeover reality shows on YouTube, etc. Future studies would benefit from including their consumption of these media.

Furthermore, future studies should pay special attention on the questionnaire design. In this study, the respondents were asked involvement questions about "the identified celebrity" in the survey. There is a possibility that the respondent did not notice the conditioning of the requirement, and their answers might be affected. Questionnaire in future research should include phrases to alert the respondents to focus on the "identified celebrity".

In addition to social comparison, it is valuable to explore other mechanisms that underlie the relationship between celebrity involvement and cosmetic surgery attitudes. Bandura's social cognitive theory (1986, 2001), which revolves primarily around the functions and processes of observational learning, provides a useful guideline. It is equally possible that media depiction of the celebrity's experiences of having cosmetic surgery, coupled with the social rewards for being attractive, can motivate young fans who are involved with the celebrity to want to be attractive and thus model the celebrity's behaviors. Future research might consider conducting surveys to determine whether having cosmetic surgery is a consequence of learning from the mediated celebrities with whom young fans are involved.

Last, this study is cross-sectional in nature; some caution should be exercised in assessing causal inferences, based here on theoretical reasoning and correlations. For example, it is similarly logical that celebrity-related media consumption would induce involvement with the celebrity among young people. Therefore, longitudinal data or other approaches will be needed to disentangle the causal order of the relationship between celebrity involvement and media consumption.

6.3 Contribution of the Study

This study, while limited in its scope and findings, has sharpened insights into young people's celebrity involvement and cosmetic surgery attitudes. First, this research represents one of the first attempts for the theory development of celebrity involvement. This study regards celebrity involvement as a multi-dimensional construct consisting three elements—capture-affinity, parasocial relationship and identification. This conceptualization can be used as a basis for future research of celebrity influence. Second, this study also contributes to the building of a theoretical

framework to disentangle the association between celebrity involvement and cosmetic surgery attitudes. Particularly, this study demonstrates direct and indirect models of the specific relevance of celebrity involvement on cosmetic surgery attitudes. The indirect models are mediated by media consumption and appearance comparison.

Furthermore, the conceptualization of celebrity involvement and the theoretical framework proposed by this study offer practical implications for preventative interventions. Despite the positive psychological benefits by improving recipients' quality of life (Rankin, Borah, Perry, & Wey, 1998), there are times when cosmetic surgery is an inappropriate choice. Cosmetic surgery can bring medical and psychiatric risks, especially for young people who are undergoing physical and psychological changes (Marcus, 2007; Ryan, 2005). Although research suggests that celebrity involvement and having cosmetic surgery, individually, may not necessarily bring negative consequences to well-being (Brown, 2011; Rankin et al., 1998), a linkage of the two behaviors may be insalubrious to one's health. The evidence derived from this study suggests that young people who are highly involved with celebrities and who are repeatedly exposed to celebrities in the media are more likely to seek cosmetic surgery. Results of this study suggest a few strategies to prevent young people from undergoing dangerous cosmetic surgery. Young people should be encouraged to focus on the celebrities' capabilities and attainment, rather than their appearance and body image. In addition, if young people can be persuaded or educated not to compare themselves with the mediated celebrities, some of the negative impact of celebrity involvement might be reduced. Future education programs should also be employed to improve young people's self-esteem and help them develop healthy attitudes toward body image. Meanwhile, media institutions are demanded to establish ethical guidelines for the use of celebrities in columns and programs. Communication practitioners and health professionals should seek to collaborate to consider how celebrities should be involved in health-related communication campaigns.

To sum up, findings of this study have theoretical and applied implications, as well as suggesting directions for future research. The conceptualization of celebrity involvement and the proposed model can be used to examine the mediated celebrity's influence on other adolescent and youth attitude and behaviors, such as eating disorders and materialist inclination. This model also sheds light on examining celebrities' mobilizing power in campaigns that promote social causes, such as organ donation and political and civic engagement.

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Appendix A. Description of Interviewees' Background (Pseudonyms Used)

Name	Gender	Age	Race	Religion	Education	Cosmetic surgery status	Fandom status
Isaac	M	24	Chinese	None	Master's degree	Eye surgery, nose job, and chin surgery	--
Vivian	F	23	Eurasian	Roman Catholic	Bachelor of Arts	Double eyelid surgery	--
Darren	M	22	Chinese	Buddhism	2 nd -year undergraduate student	Maxillofacial surgery	--
Natasha	F	26	Muslim	Islam	1 st -year Ph.D. student	Nose job	--
Michelle	F	26	Muslim	Islam	2 nd -year Master student	Nose job	--
Rebecca	F	20	Chinese	Christianity	Polytechnic graduate	Double eyelid	Big Bang
Megan	F	29	Chinese	Roman Catholic	Diploma in Theatre Arts	--	Michael Jackson
Henry	M	13	Indian	Hinduism	Secondary school	--	Michael Jackson
Shelly	F	12	Chinese	Christianity	Primary school	--	Girls' Generation

Appendix B. Interview Protocol—Cosmetic Surgery Recipients

1. Have you ever been to a cosmetic surgery clinic or a beauty center to do anything that makes you look better? If yes, what have you done?
2. May I know which cosmetic surgery clinic or beauty center you went to? When? How old were you at that time? What made you decide to go there?
3. What type of beauty appearance did you want to achieve through this procedure?
4. When you went to the clinic, how did you communicate with the surgeon about what you would like to achieve?
5. Do you think that an ideal appearance should include this feature? Could you name one celebrity or spokesperson who can show me as an example of ideal appearance?
6. When did you first notice this celebrity? What made you notice this person or what made this person stand out to you? Why did that catch your attention? Anything to do with his or her appearance?
7. When you went to the cosmetic surgery clinic or beauty center, did you refer the celebrity/spokesperson to the surgeon (or bring the photo of the celebrity/spokesperson) to make the surgeon understand what you want to achieve?
8. What features of this celebrity/spokesperson do you find attractive?
9. What do you like about this celebrity/spokesperson? Describe how you feel about him or her? What kind of person do you think he or she is? What kind of life do you think he or she is leading? Please describe in details.
10. Why do you feel this way about him/her? Does his/her appearance have anything to do with how you feel about him/her?
11. Anything about the celebrity that you want to have, such as family, lifestyle, success, income, or anything else?
12. Compared to those features of the celebrity/spokesperson, what do you think of the features that you have?
13. Say if you had the attractive features or the ideal appearance that this celebrity/spokesperson has, do you think your life would be different in anyway? In what ways?
14. Is that what made you go through cosmetic surgery? If not, what made you go through cosmetic surgery?
15. Before you went to cosmetic surgery clinics or beauty centers, did you do any homework first? Could you describe what you did in details?

16. Describe in details how doing all these homework help your final decision to have cosmetic surgery?
17. Nowadays, many cosmetic surgery clinics or beauty centers use spokespersons. Do those spokespersons have influence on your decision to have cosmetic surgery? Do the spokespersons have influence on your choice of cosmetic surgery clinics/beauty centers? How?
18. Do you mind people knowing that you have gone through cosmetic surgery? Why or why not?
19. Were you worried about the pain or risks involved in the surgery? What made you willing to go through the pain or risks and still go through the surgery?
20. Generally speaking, are you satisfied with the result of the surgery? Do you think you have obtained ideal appearance/image? Do you plan to have other surgeries?
21. What if money is not an issue, what other surgeries would you like to have?

Appendix C. Interview Protocol—Fans of Celebrity

1. So I remember you are a fan of ... (the celebrity's name). Tell me what you know about the celebrity.
2. When and where did you see the celebrity for the first time?
3. What made you notice and like the celebrity or what made the celebrity stand out to you at that first encounter?
4. Since then, what have you been doing to know the celebrity further?
5. What types of media have facilitated this process of getting to know the celebrity? In which way?
6. What has the celebrity done to help you know him/her further?
7. What types of media have facilitated this process of knowing more about the celebrity? In which way?
8. Share with me the most memorable experience you have about the celebrity.
9. How do you describe/characterize your relationship with the celebrity?
10. If you could do anything to change your relationship with the celebrity, what would you change? Or what kind of relationship they want to have with the celebrity?
11. Do you think you share some similarities with the celebrity?
12. Do you ever wish to live a life like theirs or wish to be in their positions?
13. Do you compare yourself with your idols, anything like your appearance, hair styles, dressing styles, life, and so on?
14. Do you think you are influenced by your idols? In which way?
15. Identify some ideal celebrities in the opposite sex's eyes and explain the reasons.
16. Can you share with us stories of your friends or family who adore and admire certain celebrities? Any stories you find interesting or worth of notice?
17. Do you think your same-sex friends or family are influenced by their idols? In which way?
18. Do you think your opposite-sex friends are influenced by their idols? In which way?
19. Identify some celebrities you dislike and explain the reasons.

20. Think of the physical appearance, hair style, dressing style and life style of the celebrity whom you admire. What are the good or attractive features of the celebrity do you want to have? List them out.
21. Have you ever thought of ways to acquire those features? What ways have you thought of? Did you try them? Why or why not?
22. Would you consider going through cosmetic surgeries to get those attractive features of the celebrity, if money and safety are not problems? Why or why not?
23. If yes, what surgeries are you interested in or what surgeries have you had (then switch to the interview protocol for cosmetic surgery recipients in Appendix B)? If no, it would be the end of the interview.

Appendix D. Survey Questionnaire

Study of the Influence of Media and Celebrity

Questionnaire

Hello! I am a graduate student from Wee Kim Wee School of Communication and Information at Nanyang Technological University in Singapore. I am doing a project on the influence of media and celebrity. I would appreciate if you could spend a few minutes answering the following questions. You may find some questions repetitive. They are for validity analyses. Please give answers to your best ability. You do not need to give out your identity throughout the entire survey. Thank you for your cooperation! If you have any question about the survey, please feel free to contact me. Below is my contact information:

Wen Nainan
Phone: (65) 67904182
Email: w080001@e.ntu.edu.sg
Supervisor: Prof. Hao Xiaoming

PLEASE CIRCLE YOUR ANSWERS OR FILL IN THE BLANKS.

Part 1

1. First of all, we would like to know how much time you spend with the following media.

- (1) On average, how many hours do you spend watching television per week? _____ hours/week
- (2) On average, how many hours do you spend reading magazines per week? _____ hours/week
- (3) On average, how many hours do you spend reading newspapers per week? _____ hours/week
- (4) On average, how many movies (at home or in the theatre) do you usually watch per month? _____ movies/month
- (5) On average, how many hours do you spend on the Internet per week? _____ hours/week
- (6) On average, how many hours do you spend on social networking sites (such as Facebook and Twitter) per week? _____ hours/week

2. Please think of a celebrity of your gender, who in your opinion, is associated with the word of “good-looking”. Please write the name of the celebrity on the line below.

Celebrity’s name_____

3. Now, think of the celebrity you have identified, and estimate how often you are exposed to the celebrity in the following media.

	Never	Seldom	Sometimes	Often	Always
(1) Television	1	2	3	4	5
(2) Magazines	1	2	3	4	5
(3) Newspapers	1	2	3	4	5
(4) Movies	1	2	3	4	5
(5) Internet	1	2	3	4	5
(6) Social networking sites	1	2	3	4	5

Part 2

Now, think of the celebrity you have identified, and indicate your agreement level on the following statements.

	Strong ly disagree	Disagree	Somewhat at disagree	Somewhat at agree	Agree	Strong ly agree
1. Every time when the celebrity appears in the media, he/she catches my attention.	1	2	3	4	5	6
2. I pay attention to the media in which the celebrity may appear.	1	2	3	4	5	6
3. I like the celebrity.	1	2	3	4	5	6
4. I am fond of the celebrity.	1	2	3	4	5	6
5. The celebrity makes me feel as if I am with	1	2	3	4	5	6

someone I know well.

6. If the celebrity appeared on a TV program, I would watch that program.	1	2	3	4	5	6
7. I see the celebrity as a natural down-to-earth person.	1	2	3	4	5	6
8. If I saw a newspaper or magazine story about the celebrity, I would read it.	1	2	3	4	5	6
9. I would like to meet the celebrity in person.	1	2	3	4	5	6
10. I feel that I understand the emotions the celebrity experiences.	1	2	3	4	5	6
11. I find myself thinking about the celebrity on a regular basis.	1	2	3	4	5	6
12. I do not have any feelings about the celebrity.	1	2	3	4	5	6
13. I like to watch the celebrity on television.	1	2	3	4	5	6
14. Whenever I am unable to get news about the celebrity, I really miss it.	1	2	3	4	5	6
15. Learning about the celebrity is important to me.	1	2	3	4	5	6
16. I have been seeking out information in the media to learn more about the celebrity.	1	2	3	4	5	6
17. I sometimes go to the Internet to obtain more information about the	1	2	3	4	5	6

celebrity.

18. Sometimes I feel like calling or writing to the celebrity.	1	2	3	4	5	6
19. The celebrity understands the kinds of things I want to know.	1	2	3	4	5	6
20. I sometimes make remarks to the celebrity while watching television.	1	2	3	4	5	6
21. I am very much aware of the details of the celebrity's life.	1	2	3	4	5	6
22. I feel like I have very little understanding of the celebrity as a person.	1	2	3	4	5	6
23. I look forward to seeing the celebrity on television or in the print media.	1	2	3	4	5	6
24. I am not really interested in the celebrity.	1	2	3	4	5	6
25. The celebrity and I share many of the same values.	1	2	3	4	5	6
26. What is important to the celebrity is important to me.	1	2	3	4	5	6
27. I try to model the behavior of the celebrity.	1	2	3	4	5	6
28. I try to do the things I believe the celebrity would do.	1	2	3	4	5	6
29. The celebrity has shown me the best way to live my life.	1	2	3	4	5	6
30. I care about the same things the celebrity cares	1	2	3	4	5	6

about.

31. I look to the celebrity as a role model.	1	2	3	4	5	6
32. I support those who support the celebrity.	1	2	3	4	5	6
33. I would like to be more like the celebrity.	1	2	3	4	5	6
34. The celebrity has set an example for me of how to think and act.	1	2	3	4	5	6
35. I want to learn from the celebrity as much as I can.	1	2	3	4	5	6
36. I believe many of the same things the celebrity believes.	1	2	3	4	5	6
37. I feel that I am in unity with the celebrity.	1	2	3	4	5	6
38. I have often thought about what it would be like to be the celebrity.	1	2	3	4	5	6
39. I aspire to become the kind of person the celebrity is.	1	2	3	4	5	6
40. The qualities I see in the celebrity are the same qualities I seek to develop in my own life.	1	2	3	4	5	6
41. I advocate the same things that the celebrity advocates.	1	2	3	4	5	6
42. The things that make the celebrity upset make me upset.	1	2	3	4	5	6
43. I sometimes imitate the celebrity.	1	2	3	4	5	6

44. Watching the celebrity has helped me to make decisions in my own life.	1	2	3	4	5	6
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Part 3

Now, please indicate how often you compare the self/friend with the celebrity (you identified earlier) who demonstrates the ideal look you like to have.

	Never	Seldom	Sometimes	Often	Always
1. I compare my body to the body of the celebrity.	1	2	3	4	5
2. I compare my appearance to the appearance of the celebrity.	1	2	3	4	5
3. I compare my friend's body to the body of the celebrity.	1	2	3	4	5
4. I compare my friend's appearance to the appearance of the celebrity.	1	2	3	4	5

Part 4

Continue to think of the celebrity that you just identified and indicate your level of agreement with the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
1. I like watching and hearing about the celebrity when I am in a large group of people.	1	2	3	4	5	6
2. Keeping up with news about the celebrity is an entertaining pastime.	1	2	3	4	5	6
3. I love to talk with others who admire that celebrity.	1	2	3	4	5	6
4. Learning the life	1	2	3	4	5	6

story of that celebrity
is a lot of fun.

5. It is enjoyable just to be with others who like the celebrity.	1	2	3	4	5	6
6. News about the celebrity is a pleasant break from a harsh world.	1	2	3	4	5	6
7. I enjoy watching, reading, or listening to the celebrity because it means a good time.	1	2	3	4	5	6
8. If I were to meet the celebrity in person, he/she would already somehow know that I am his/her biggest fan.	1	2	3	4	5	6
9. I share with the celebrity a special bond that cannot be described in words.	1	2	3	4	5	6
10. I am obsessed by details of the celebrity's life.	1	2	3	4	5	6
11. I consider the celebrity to be my soulmate.	1	2	3	4	5	6
12. When something good happens to the celebrity I feel like it happened to me.	1	2	3	4	5	6
13. The successes of the celebrity are also my successes.	1	2	3	4	5	6
14. I have frequent thoughts about the celebrity, even when I	1	2	3	4	5	6

don't want to.

15. I have pictures and/or souvenirs of the celebrity which I always keep in exactly the same place.	1	2	3	4	5	6
16. When the celebrity fails or loses at something, I feel like a failure myself.	1	2	3	4	5	6
17. If the celebrity were to die, I would feel like dying, too.	1	2	3	4	5	6
18. If someone gave me several thousand dollars to do with as I please, I would consider spending it on a personal possession (like a napkin or paper plate) once used by the celebrity.	1	2	3	4	5	6
19. If I were lucky enough to meet the celebrity, and he/she asked me to do something illegal as a favor, I would probably do it.	1	2	3	4	5	6
20. When something bad happens to the celebrity, I feel like it happened to me.	1	2	3	4	5	6
21. Friends and I like to discuss what my favorite celebrity has done.	1	2	3	4	5	6
22. I often feel compelled to learn the personal habits of the celebrity.	1	2	3	4	5	6

23. One of the main reasons I maintain an interest in the celebrity is that doing so gives me a temporary escape from life's problems.	1	2	3	4	5	6
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Part 5

Please indicate your level of agreement with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. I like the shape of my body.	1	2	3	4	5
2. I like my skin tone.	1	2	3	4	5
3. I like the way my eyes are.	1	2	3	4	5
4. I like the way my nose is.	1	2	3	4	5
5. I like the way my cheeks are.	1	2	3	4	5
6. I like the way my chin is.	1	2	3	4	5
7. I like the way my ears are.	1	2	3	4	5
8. I like the way my teeth are.	1	2	3	4	5
9. I like the size of my chest/breast.	1	2	3	4	5
10. I like the size of my waistline.	1	2	3	4	5
11. I like the size of my thighs.	1	2	3	4	5
12. I like the length of my legs.	1	2	3	4	5
13. I like my overall muscle tone.	1	2	3	4	5
14. My body is sexually appealing.	1	2	3	4	5
15. I like my looks just the way they are.	1	2	3	4	5

16. Most people would consider me good-looking.	1	2	3	4	5
17. I like the way I look without my clothes on.	1	2	3	4	5
18. I am physically unattractive.	1	2	3	4	5

Part 6

In this section, we would like to ask you a few questions about cosmetic surgery.

1. How often are you exposed to cosmetic surgery related content in the following media?

	Never	Seldom	Sometimes	Often	Always
(1) Television	1	2	3	4	5
(2) Magazines	1	2	3	4	5
(3) Newspapers	1	2	3	4	5
(4) Movies	1	2	3	4	5
(5) Internet	1	2	3	4	5
(6) Social networking sites	1	2	3	4	5

	Not at all	A little	Some influence	Quite a bit	A great deal
(7) How much influence do you think this cosmetic surgery related content in the media has on your attitudes toward cosmetic surgery?	1	2	3	4	5
(8) How much influence do you think this cosmetic surgery related content in the media has on your perception of ideal beauty image?	1	2	3	4	5

2. How often do you think your parents are exposed to cosmetic surgery related content in the following media?

	Never	Seldom	Sometim es	Often	Always
(1) Television	1	2	3	4	5
(2) Magazines	1	2	3	4	5
(3) Newspapers	1	2	3	4	5
(4) Movies	1	2	3	4	5
(5) Internet	1	2	3	4	5
(6) Social networking sites	1	2	3	4	5

	Not at all	A little	Some influence	Quite a bit	A great deal
(7) How much influence do you think this cosmetic surgery related content in the media has on your parents' attitudes toward cosmetic surgery?	1	2	3	4	5
(8) How much influence do you think this cosmetic surgery related content in the media has on your parents' perception of ideal beauty image?	1	2	3	4	5

3. How often do you think your friends are exposed to cosmetic surgery related content in the following media?

	Never	Seldom	Sometim es	Often	Always
(1) Television	1	2	3	4	5
(2) Magazines	1	2	3	4	5
(3) Newspapers	1	2	3	4	5
(4) Movies	1	2	3	4	5
(5) Internet	1	2	3	4	5

(6) Social networking sites	1	2	3	4	5
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	Not at all	A little	Some influence	Quite a bit	A great deal
(7) How much influence do you think this cosmetic surgery related content in the media has on your friends' attitudes toward cosmetic surgery?	1	2	3	4	5

(8) How much influence do you think this cosmetic surgery related content in the media has on your friends' perception of ideal beauty image?	1	2	3	4	5
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	Unsure	None	1-2	3-5	More than 5
4. How many individuals do you know personally who have had cosmetic surgery?	0	1	2	3	4

5. Which procedure(s) has (or have) s/he (or they) done? Choose from below

(1) Orthodontics; (2) Laser hair removal; (3) Dermabrasion/skin peel; (4) Botox; (5) Collagen injection; (6) Eyelid surgery; (7) Nose job; (8) Face lift; (9) Cheek implants; (10) Ear surgery; (11) Tummy tuck; (12) Liposuction; (13) LASIK eye surgery; (14) Breast augmentation in women; (15) Breast reduction in men; (16) Pectoral implants in men (17) others:_____

Part 7

Please rate your level of agreement or disagreement on the following statements.

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
(1) I approve of persons undergoing cosmetic surgery to increase their self-esteem.	1	2	3	4	5	6
(2) I think cosmetic surgery is a waste of money.	1	2	3	4	5	6
(3) If I had cosmetic surgery, I would be embarrassed to tell people other than family and close friends.	1	2	3	4	5	6
(4) I approve of people surgically changing their appearance to feel better about themselves.	1	2	3	4	5	6
(5) It makes sense to have minor cosmetic surgery rather than spending years feeling bad about the way you look.	1	2	3	4	5	6
(6) Cosmetic surgery is a good thing because it can help people feel better about themselves.	1	2	3	4	5	6
(7) People who are very unhappy with their physical appearance should consider cosmetic surgery as one option.	1	2	3	4	5	6
(8) If cosmetic surgery can make someone happier with the way they look, then they should try it.	1	2	3	4	5	6

(9) I have sometimes thought about having cosmetic surgery.	1	2	3	4	5	6
(10) I think I might have cosmetic surgery in the near future.	1	2	3	4	5	6
(11) I think I might have cosmetic surgery when I reach middle-age.	1	2	3	4	5	6
(12) I think I might have cosmetic surgery in my 60s.	1	2	3	4	5	6
(13) If a simple cosmetic surgery procedure would make me more attractive to others, I would think about trying it.	1	2	3	4	5	6
(14) If I could have a surgical procedure done for free, I would consider trying cosmetic surgery.	1	2	3	4	5	6
(15) If I knew there would be no negative side effects or pain, I would like to try cosmetic surgery.	1	2	3	4	5	6
(16) I would never have any kind of cosmetic surgery.	1	2	3	4	5	6

4. If cost is not an issue, how likely would you do each of the following to improve your appearance?

	Never	A bit likely	Maybe	Very likely	I have already done this
(1) Orthodontics	1	2	3	4	5
(2) Laser hair removal	1	2	3	4	5
(3) Dermabrasion/skin peel	1	2	3	4	5

(4) Botox injection	1	2	3	4	5
(5) Collagen injection	1	2	3	4	5
(6) Eyelid surgery	1	2	3	4	5
(7) Nose job	1	2	3	4	5
(8) Face lift	1	2	3	4	5
(9) Cheek implants	1	2	3	4	5
(10) Ear surgery	1	2	3	4	5
(11) Tummy tuck	1	2	3	4	5
(12) Liposuction	1	2	3	4	5
(13) LASIK eye surgery	1	2	3	4	5
(14) Breast augmentation in women	1	2	3	4	5
(15) Breast reduction in men	1	2	3	4	5
(16) Pectoral implants in men	1	2	3	4	5

Part 8

1. How often do the following situations happen to you?

	Never	Seldo m	Someti mes	Ofte n	Alway s
(1) My parents are concerned about how my body and appearance look like.	1	2	3	4	5
(2) My parents are concerned about how their own body and appearance look like.	1	2	3	4	5
(3) My parents make comments or tease me about how my body and appearance look like.	1	2	3	4	5
(4) My parents make comments or tease each other about each other's body and appearance.	1	2	3	4	5

(5) My parents support the idea of going on diet.	1	2	3	4	5
(6) My parents are on diet.	1	2	3	4	5
(7) My parents support the idea of undergoing cosmetic surgery.	1	2	3	4	5
(8) My parents have undergone cosmetic surgery.	1	2	3	4	5
(9) My friends are concerned about how their body and appearance look like.	1	2	3	4	5
(10) My friends take a lot of notice in each other's weight and shape.	1	2	3	4	5
(11) My friends make comments or tease me about how my body and appearance look like.	1	2	3	4	5
(12) My friends support the idea of going on diet.	1	2	3	4	5
(13) My friends are on diet.	1	2	3	4	5
(14) My friends support the idea of undergoing cosmetic surgery.	1	2	3	4	5
(15) My friends have undergone cosmetic surgery.	1	2	3	4	5

2. Please indicate your agreement level with the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
(1) On the whole, I am quite satisfied with myself.	1	2	3	4	5
(2) At times, I think I am no good at all.	1	2	3	4	5
(3) I take a positive attitude toward myself.	1	2	3	4	5
(4) All in all, I am inclined to feel that I am a failure.	1	2	3	4	5

Part 9

Finally, we would like to get some information about you. Please circle the answer or fill in the blank.

1. How old are you? _____ years old

2. Your gender? _____

- (1) Male
- (2) Female

3. What is your race? _____

- (1) Chinese
- (2) Malay
- (3) Indian
- (4) Eurasian
- (5) Peranakan
- (6) Caucasian (White)
- (7) Others (please specify _____)

4. What is your religion? _____

- (1) None
- (2) Christian
- (3) Roman Catholic
- (4) Buddhism
- (5) Islam
- (6) Taoism
- (7) Others (please specify _____)

5. In the average month, how many times do you attend a church or mosque or temple? _____

- (1) Never
- (2) Once
- (3) Twice;
- (4) Three times
- (5) Four or more times

6. How much is your family's monthly income? _____

- (1) 2000 and below
- (2) 2001-4000
- (3) 4001-6000
- (4) 6001-8000
- (5) 8000 and above

7. Your height? _____ cm

8. Your weight? _____ kg

9. Are you Singaporean? _____

(1) Yes

(2) No

Thank you for your participation!

----The End----

Appendix E. Correlation Matrix for Observed Variables in the Model

	1	2	3	4	5	6	7	8	9	10	11
1. Acceptance of cosmetic surgery	1.00										
2. Intention to undergo general cosmetic surgery	.57***	1.00									
3. Intention to undergo specific cosmetic surgery procedures	.33***	.51***	1.00								
4. Facial dissatisfaction	.05	.14***	.13**	1.00							
5. Body dissatisfaction	.04	.15***	.15***	.56***	1.00						
6. General dissatisfaction	.004	.05	.01	.48***	.66***	1.00					
7. Appearance comparison	.16***	.33***	.26***	.05	.13**	-.03	1.00				
8. Celebrity-related media consumption	.09*	.10*	.07	-.01	-.03	-.03	.20***	1.00			
9. Identification	.08#	.15***	.14**	-.08#	-.10*	-.15***	.28***	.23***	1.00		
10. Parasocial relationship	.02	.10*	.09*	-.002	-.03	-.07#	.22***	.30***	.78***	1.00	
11. Capture-affinity	.10*	.059*	.05	-.01	.01	-.05	.30***	.25***	.54***	.62***	1.00

$p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Footnotes

¹ Gender identity disorder is a disease characterized by disturbance or impairment experienced by transgender individuals in social, occupational, or other important areas of functioning (American Psychiatric Association [APS], 2000). Transgender individuals are a diverse group of people who cross or transcend culturally defined categories of gender (Bockting, Robinson, & Rosser, 1998). Transgender individuals include transsexuals (who desire or have had hormone therapy and/or genital reconstructive surgery), transgenderists (who live full-time in the cross-gender role and may take sex hormones, but do not desire genital reconstructive surgery), cross-dressers or transvestites (who wear clothing associated with another sex for emotional or sexual gratification), drag queens or drag kings (who adopt a hyperfeminine or hypermasculine presentation of the other sex), and individuals identifying as bi-gender or “two-spirit” (both woman and man).

² Most developed-world countries have accepted the chronological age of 65 years as a definition of “elderly” or older persons (World Health Organization, 2010). Most recent studies also arbitrarily designate “over 65” as “elderly”.

³ Cosmetic procedures instructed by the Singapore Association of Plastic Surgeons included rejuvenation of the face using lasers and other light therapies, cosmetic and functional eyelid surgery, and facelift surgery, etc. Accessed June 10, 2012 from <http://www.plasticsurgery.org.sg/plasticsurgery.html>.

⁴ Steve Irwin was an Australian celebrity and conservationist who achieved worldwide fame from the television series *The Crocodile Hunter*. He died for being pierced by a poisonous stingray while shooting a TV show on September 4, 2006.

⁵ SGClub, started in 2004, is one of the most popular online communities for youths and adults of every walk of life in Singapore. Its purpose is to create an online portal for Singaporeans to gather, make friends and discuss about any topics they are interested in, such as hobbies, passion and what’s happening around and outside Singapore. SGClub is ranked as one of the top 10 sites in Singapore for online communities (SGClub, 2010). More than 730,000 visitors are estimated to visit the site every month (SGClub, 2010). Visitors post messages discussing cosmetic surgery and related issues on the Cosmetics and Skincare board.

⁶ SG K-Wave is the leading Korean-Wave online community in Singapore. Up to March 1, 2012, SG K-Wave was made up of 12,081 registered members who had a

total of 179,801 posts. Members usually join SG K-Wave to support Korean-Wave in Singapore and make friends through a variety of means, such as viewing other members' creations of artworks and starting new topics and replying to others.

⁷ Michael Jackson SG Fanclub is an online community for fans of Michael Jackson in Singapore. On this platform, users can share news, photos, albums, and videos of Michael Jackson, discuss topics related to Michael Jackson, and mingle with each other about their own memorable experience about Michael Jackson. To date it has 162 registered users. The users have posted a total of 8,188 messages.

⁸ Michael Jackson, also known as MJ, was a world-renowned artist and entertainer, famous for his contribution to music, dance, fashion and charity. He passed away on June 25, 2009.

⁹ Big Bang is a South Korean male group, most popular for their music, dance and fashion style among young people. It was formed in 2006, and has grown to become one of the most successful K-pop bands in recent years. Currently, the group consists of five members.

¹⁰ Girls' Generation is a nine-member South Korean girl group. Since its debut in 2007, the group has achieved success and gained popularity with their songs and dance. Today, Girls' Generation has become a national phenomenon in K-pop scene.

¹¹ The paper by Wen, Chia, and Hao (2010) has been accepted for presentation at the annual convention of the Association for Education in Journalism and Mass Communication (AEJMC), August 2010, Denver, USA. The main objectives of the pilot study are to explicate the construct of celebrity involvement and pretest the proposed interview questions. A total of 26 undergraduate students participated in four focus group discussions. Results have shown that celebrity involvement is a multi-dimensional construct, consisted of four distinct components—parasocial interaction, identification, affinity, and capture. Participants involved with their celebrity idols along all four dimensions. Meanwhile, media consumption was closely intertwined with each of the four components. Through media consumption, involvement with celebrities directly or indirectly influenced college students' emotion, cognition, and behavior.

¹² The website is supported by Vovici Enterprise Edition, a survey management software application. It is designed to create surveys, distribute them in a variety of ways (paper, web, email, panel membership, etc.), analyze the results, and create presentations.

¹³ The survey was anonymous. Two assistants and I were present during the sessions to administer the survey. The invitation was initially sent to the 3,000 accounts, but 40 of them failed to reach the recipients and were returned by the email system. A total of 278 students participated in the survey. After excluding five invalid or incomplete responses, a total of 273 responses were used for the analysis. The response rate for the paper-and-pencil survey is 9.39%. Due to the low response rate for the paper-and-pencil survey, I sent the second invitation to the selected students who did not participate in the paper-and-pencil survey and invited them to participate in the online survey that contained exactly the same questionnaire as the paper-and-pencil survey. Invitations of the online survey were sent to 2,722 students, but delivery to 28 accounts failed and got returned by the email system. In the invitation email, students were given a link which would direct them to the website where the survey questionnaire was posted. Students could fill out the questionnaire and submit their responses directly online. As in the paper-and-pencil survey, I offered an incentive of SGD\$10. Out of the 2,694 students to whom the invitation was successfully sent, I eventually received 460 responses. After excluding 168 incomplete and 10 invalid responses, a total of 282 records were used for the analysis, resulting in a response rate of 10.47%. The response rate for the whole survey project, including both the paper-and-pencil and online surveys, is counted as $(273+282)/(3000-40-28) \approx 18.93\%$.

¹⁴ I examine the difference between sample and population in terms of gender and ethnicity. First, I compare the gender of the sample (male 42.3%) with that of the population (male 52.1%), using one-sample chi-square test. Results show that male students are underrepresented ($\chi^2=21.17, p<.001$). However, this sample statistic is quite close to Singapore's 2010 Census on Resident Students (accessed July 31, 2012 from <http://www.singstat.gov.sg/pubn/popn/c2010sr1/cop2010sr1.pdf>), which shows that males account for 44.2 percent of resident university students ($\chi^2=.78, n.s.$). Second, because the university does not provide statistics on students' ethnicity, I compare this sample to Singapore's 2010 Census on Resident Students (accessed July 31, 2012 from <http://www.singstat.gov.sg/pubn/popn/c2010sr1/cop2010sr1.pdf>). The census shows that 92 percent of university students in Singapore are Chinese, and 8 percent are non-Chinese. I conduct a one-sample chi-square test to compare the race of the sample (Chinese 87.6%) with the census data. Results show that Chinese students are underrepresented ($\chi^2=21.17, p<.001$).