Adolescents and plastic surgery

Psychosocial and medical-ethical issues

Kunigonde Johanna Simis

L'éthique, c'est l'esthétique du dedans.
(P. Reverdy, Le livre de mon bord, 1948)

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Psychosociale en medisch-ethische aspecten

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Introduction

Preface

Plastic surgery is a young specialism. It has an ancient history, but made important progress only in the twentieth century. Many opinions exist about plastic surgery, ranging from being mere luxury to people ever hungry for beauty, to being the essential profession able to restore a disfigured person's devastated social life. This thesis will both study the history and social meaning of plastic surgery, and demonstrate the impact of plastic surgery by studying a group of young patients undergoing plastic surgery for a broad range of deformities.

The significance of this study lies in the application of the study results to the medical ethical question whether one should operate upon a so called non-medical deformity in a most turbulent developmental process, i.e. adolescence. This question needs to be discussed in order to formulate an advice towards plastic surgeons when dealing with adolescents requesting surgical intervention. Related to this question is the broader issue: What is, or should be the role of medicine when dealing with non-medically (e.g. socially) motivated therapies? This general introduction will briefly acquaint the reader with the historical and social background of plastic surgery, with the definitions and issues concerning plastic surgery on adolescents and young adults, and with the medical ethical issues concerning plastic surgery on these young patients. Thus, an overview of research questions and the contour of this dissertation will be given.

The plastic surgical profession

Plastic and reconstructive surgery made important progress during the first and Second World War. Through the ages, physical beauty was associated with virtues, and ugliness with vices (Simis 1997). Social studies have pointed out the pervasive influence of appearance on interpersonal relationships and social functioning (Adams 1977; Berscheid and Gangestad 1982), starting as early as during infancy (Langlois, Roggman et al. 1987).

Table 1

Annual national USA numbers of cosmetic intervention performed by ABPS credited surgeons on children, adolescents and young adults

	1992	1994	1996	1998
0-18 years	13,314 (4%)	10,348 (3%)	13,699 (2%)	24,623 (2%)
19-34 years	98,807 (27%)	98,048 (27%)	188,441 (27%)	238,095 (23%)

Note: % indicates the proportion of interventions in this age group within the total age range up to 65+

The annual number of cosmetic or aesthetic procedures increased from 15,000 operations in 1949 to almost one million in 1971in the USA (Berscheid and Gangestad 1982). The American Society of Plastic Surgeons (ASPS) reported an increase from 412.901 cosmetic procedures per year in 1992 to 1,045,815 in 1998, performed by surgeons certified by the American Board of Plastic Surgery (ABPS) (ASPS 2001). The American Society for Aesthetic Plastic Surgery (ASAPS) reported an increase from 2,099,173 in 1997 to 5,741,154 in 2000 (ASAPS 2001). The ASAPS reports no unexpected increase of operations in teenagers. However, the ASPS reported an absolute, but no proportional increase in adolescent and young adult interventions (see Table 1) (ASPS 2001).

In the Netherlands yearly approximately 30,000 patients undergo plastic surgery (NZI 1992). A small and stable number of adolescents and young adults undergo plastic surgery, as reported by the National Medical Registration of Dutch Hospitals (Table 2) (LMR 2000).

Patients undergoing plastic surgery are either submitted to 'reconstructive' or 'cosmetic' surgery. The difference between cosmetic and reconstructive surgery is arbitrary. Because of the social significance of many 'cosmetic' operations some authors prefer to speak of 'social' (Meulen 1990) or 'corrective' (Lichtveld 1978) surgery (e.g., nose corrections, breast corrections, ear corrections), rather than of 'cosmetic' surgery, and preserve 'reconstructive' for surgery on congenital, traumatic or otherwise acquired deformities (e.g., cleft lip and/or palate, craniofacial deformities, deformities after cancer surgery). From here we shall only speak of corrective and reconstructive surgery.

Table 2
Number of clinical and day care plastic surgical operations per year in The Netherlands

	1994		1995		1996		1997		1998		1999	
Age	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
10-14	734	832	739	693	793	807	778	783	857	791	848	768
15-19	2185	1092	2036	1047	2020	1065	1848	1056	1857	1051	1768	1043
20-24	3384	1463	3020	1252	2785	1168	2455	1043	2122	1040	2283	1026
Total	6303	3387	5795	2992	5598	3040	5081	2882	4836	2882	4899	2837

Reconstructive surgery is performed for congenital, traumatic or otherwise acquired, and often severe deformities. Corrective surgery is used for the correction of somatic stigmata, often subtle deformities, which have an impact on the social life of the patient. In adolescents with a severe deformity the body image and psychosocial functioning often improves after reconstructive surgery, and reconstructive surgery as such is accepted by the community, whereas corrective surgery often is regarded as luxury. However, experience has shown that adolescents with a subtle deformity may benefit as much from corrective surgery, and psychosocial problems at a later age might be prevented by this. Although the literature on plastic surgical patients is extensive, little is known about adolescents undergoing aesthetic, or corrective, surgery. In practice, many plastic surgeons advice adolescents to wait until they are adults.

Body image and adolescence

Theories about body image or body schema have been described throughout human history, often from a religious point of view (Tiemersma 1989). The body image is the concept we have of ourselves. It adapts itself to postural and physical changes and is in that way a plastic model of oneself, developing (Schilder 1950) and becoming more defined (Goin and Goin 1981) with age. The body image determines the body boundaries and in this way the relation of a person to the surrounding world (Fisher and Cleveland 1968; Goin and Goin 1981).

Much attention is paid to physical appearance, to one's own as well as

to that of others. Also, much attention is paid to plastic surgery, especially by the media. Topics like 'birthday-nose-jobs' are being discussed in glossy magazines and talk shows like Oprah Winfrey's. Appearance, and especially the face is important as a means of communication. It establishes the interface between inner and outer world which one cannot hide (Meulen 1990). It is at least strange that the common sense about this type of surgery is based on many preconceived opinions ('plastic surgeons can do anything', 'people who have their nose done are psychologically disturbed', 'plastic surgery is only for the rich', and so on). The validity of these opinions is uncertain. It is therefore imperative to investigate actual psychosocial mechanisms concerning plastic and reconstructive surgery and its practical, medical ethical and also economic consequences (Faaij and Simis 1993).

People become aware of their physical appearance at approximately the age of 4 (Lefebvre and Munro 1978; Pertschuk and Whitaker 1985; Pertschuk and Whitaker 1987) to 13 years (Bradbury, Hewison et al. 1992). At these ages the motivations for corrective surgery are often distress anticipated by the parents or actual psychosocial problems (Bradbury, Hewison et al. 1992). However, many adult corrective surgical patients do not place the origin of problems with their appearance in childhood, but in the period of adolescence (Goin and Goin 1981).

Coping with abnormal appearance seems to be highly influenced by age. Younger children seem to cope better with and have a more benign view of craniofacial deformities of themselves and others than adolescents do (Pertschuk and Whitaker 1982; Pertschuk and Whitaker 1985; Leonard, Dwyer Brust et al. 1991). They are more effective in denying their deformities (Lefebvre and Munro 1978; Lefebvre and Barclay 1982; Pertschuk and Whitaker 1982; Pertschuk and Whitaker 1985) and are more aggressive towards ridiculing (Pertschuk and Whitaker 1982), whereas adolescents are more openly depressed and have a lower self-concept (Pertschuk and Whitaker 1982; Pertschuk and Whitaker 1985), especially the girls (Pertschuk and Whitaker 1982; Pertschuk and Whitaker 1985). At a later age many adults with severe deformities live circumscribed lives, and manage to cope with negative social interaction. Some try to make

acceptance less difficult to others, but if this fails depression, social withdrawal, and alcoholism are frequent problems (Macgregor 1989; Macgregor 1990). Yet, most adolescents with cleft lip and/or palate appear to have average or above average self-concepts (Leonard, Dwyer Brust et al. 1991). Psychosocial crises in this group of adolescents are therefore probably not to be considered normal. However, this applies to adolescents with a severe deformity. It is therefore uncertain if this also applies to adolescents with a subtle deformity.

The adolescent's perception of body image and body-related problems is considered as the most important indication for corrective surgery (Pruzinsky and Cash 1990). Yet, the adolescent's subjective perspective can also be questioned: How realistic is the adolescent's request for appearance enhancing surgery? To answer this question, we need an empirical base. Until recently, little was known about the impact of corrective surgery on the adolescents' psychosocial functioning. Results from the study on corrective surgical patients and adolescents from the general population, aged 12-22 years (Simis, Koot et al. 2000; Simis, Koot et al. 2001a; Simis, Koot et al. 2001b; Simis, Koot et al. 2001c), included in this dissertation, may help in answering the medical ethical question whether adolescents should be operated in a developmental phase of rapid psychosocial development and 'turmoil'.

Adolescent body image and plastic surgery

It is as yet uncertain whether a severe deformity produces more psychosocial problems, and a subtle one less psychosocial problems, or the reverse. Some early authors regarded the request for plastic surgery for a subtle deformity a sign of a deep underlying psychological problem (Linn and Goldman 1949; Hill and Silver 1950; Rümke 1950). Later, others stated that there is no correlation at all between psychological tests and the extent of the deformity (Hay 1970; Harris 1982; Marcus 1984). Yet, some authors describe a negative correlation between the severity of the deformity and the severity of psychosocial problems (Lefebvre and Munro 1978; Pertschuk and Whitaker 1985; Edgerton, Langman et al. 1991; Bradbury, Hewison et al. 1992). For example, paradoxically, cosmetic

improvements in a craniofacial deformity could be associated with increased psychosocial impairment as residual facial imperfections become of increasing importance to the individual and his or her social environment (Pertschuk and Whitaker 1985).

The post-surgical body image change is often correlated with emotional (subjective) and social (objective) improvement, for subtle (Bradbury, Hewison et al. 1992) as well as for severe deformities (Lefebvre and Barclay 1982; Pertschuk and Whitaker 1982). A small group may remain dissatisfied and show more distress than before surgery, possibly because they can no longer find a reason for their problems (Bradbury, Hewison et al. 1992), or because pre-surgical motivations were ambivalent or unrealistic (Lefebvre and Barclay 1982). These should be points of attention when screening young patients for a corrective operation.

So, although the awareness of appearance begins at an early age, problems with it may not arise until adolescence. These problems should not be considered 'normal' and adolescents could be helped by therapy, which could be either psychological, surgical, or both. Special attention should be paid to potential underlying psychopathology. Not many adolescents ask for corrective surgery. And if they do, many surgeons are reserved and advice to wait until adulthood. Yet, surgical intervention at this age may prevent serious problems in adult life. The study reported in this dissertation focussed specifically on the impact of physical appearance and corrective surgery on the body image and psychosocial functioning of adolescents.

Although the literature on psychosocial functioning and body image before and after reconstructive and cosmetic surgery is extensive (Lefebvre and Munro 1978; Goin and Goin 1981; Berscheid and Gangestad 1982; Harris 1982; Lefebvre and Barclay 1982; Pertschuk and Whitaker 1982; Pertschuk and Whitaker 1985; Pertschuk and Whitaker 1988; Edgerton, Langman et al. 1991; Leonard, Dwyer Brust et al. 1991), the studies discussed above were not specifically related to the processes of adolescence in most publications. We found only one American publication on the subject (Pruzinsky and Cash 1990), and no Dutch one at all.

Research objectives

The empirical study reported in this dissertation had two phases. Each phase can be regarded a separate study having specific aims. The first phase, the presurgical study, is represented in chapters 3 and 4. The second, the pre-post study in chapters 5 and 6. The presurgical study aims are first to study how adolescents requesting plastic surgery estimate their appearance as compared to their parents and plastic surgeons to determine the reality of their own appearance perception; secondly, to assess what appearance-related burdens they experience to determine the urgency of their request for surgery; and thirdly, to describe the surgeons' considerations for performing the operation (Chapter 3). Further, the presurgical study addresses three questions comparing patients with a general population sample. First, do adolescents undergoing plastic surgery have a realistic view of their body? Secondly, how urgent is the psychosocial need of adolescents to undergo plastic surgery? Thirdly, which relations exist between bodily attitudes and psychosocial functioning and personality (Chapter 4)? The aim of the pre- post study is to show psychosocial effects of appearance-related surgery during adolescence (Chapter 5). Secondly, it studies if there are other (e.g. psychological) discerning factors than diagnostic and corrective/ reconstructive features that may explain differences between adolescents after surgery (Chapter 6).

Procedure

Changes in bodily attitudes and appearance related burdens in adolescents undergoing corrective and reconstructive surgery will be compared to those in a general population, and a comparison group. From 1995 to 1997, 184 plastic surgical patients aged 12 to 22, 172 of their parents, 37 surgeons from 16 hospitals in The Netherlands, and a sample of 684 adolescents and young adults from the general population aged 12 to 22 years, and their parents participated in the study, using appearance rating scales, standardised questionnaires and fully structured telephone interviews. The group of 184 adolescent plastic surgery patients, and a comparison group of 83 adolescents, selected from the general population

sample, aged 12-22 years, were studied at two time points with a 6-month interval, the plastic surgical patients pre- (Time 1) and post-surgically (Time 2). An overview of the questionnaires used throughout the study can be found in Table 3. The questionnaires will be described in more detail in the subsequent chapters.

Practical purpose

The outcomes of this study will serve to elaborate a number of medical ethical questions. These need to be discussed in order to formulate an advice towards plastic surgeons when dealing with adolescents and corrective surgery. The medical ethical question directly relevant to the corrective group is whether one should operate upon a non-medical deformity in a most turbulent developmental process, i.e. adolescence (Goin and Goin 1981). In what manner is their body image and psychosocial functioning disturbed (to be evaluated by the questionnaires)? Do their problems, their ways of coping, and their expectations resemble those of the reconstructive group or of the 'normal' group (to be evaluated by the interviews)? Do 'corrective' adolescents benefit as much as 'reconstructive' adolescents (to be evaluated by pre- and post-surgical studies)? If this is indeed so would it be advisable or even imperative to operate during adolescence? And if no differences are found with the average adolescent (to be evaluated by comparison with the 'normal' group) would it be advisable to wait until e.g., the age of 22?

Related to this question is the broader issue: What is, or should be the role of medicine when dealing with non-medically (e.g., socially) motivated therapies? What place does corrective surgery take in modern health care? How important is appearance, or should it be? These questions will be discussed in view of the results of the study (Chapter 7).

The structure of the thesis

An exploration of the historical roots and social backgrounds of plastic surgery can be found in Chapter 2. Chapter 3 describes the presurgical findings in the patient group. In this chapter, the research aims were to study 1) how these adolescents and young adults estimate their

Table 3
Design of the study: Used variables and instruments

		Patient Group (n)		Comparison Group (n)		General Population (n)	
Variables	***Instruments***	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Total N at start of study		184	-	83	-	517	-
Adolescent Bodily Attitudes						(+84*)	
Body Satisfaction	BCS	149	146	82	56	498	-
Bodily attitudes	BAS	150	143	75	54	491	-
Adolescent Characteristics							
Personality	BFI	150	144	75	55	496	-
Coping Styles	UCL	149	144	75	55	495	-
Social Fear	SAS	149	144	74	56	498	-
Adolescent Functioning							
Behavioural and Emotional Problems	YSR/YASR	149	143	74	55	492	-
Self-esteem	HSPP-A	150	145	73	55	485	-
Perceived Social Support	HSPP-C	148	143	73	54	479	-
Depression	CDI	149	144	75	56	497	
Adolescent Interviews		184	164	68	56	-	-
Parental Questionnaires							-
Behavioural and Emotional Problems	CBCL/YABCL	150	-	69	-	472	-
Parental Interviews		172	161	57	51	-	-

Note: BCS = Body Cathexis Scale; BAS = Bodily Attitudes Scale; BFI = Big Five Inventory; UCL = Utrecht Coping List; SAS = Social Anxiety Scale; YSR/ YASR = Youth Self Report/ Young Adult Self Report; HSPP-A = Harter Self Perception Profile for Adolescents; HSSS-C = Harter Social Support Scale; CDI = Child Depression Inventory; CBCL/ YABCL = Child Behaviour Checklists/ Young Adult Behaviour Checklist. * A General Population Screen Group (n = 84), 80 of whom only filled in the BCS, has further been excluded from this table.

appearance as compared to their parents and plastic surgeons to determine the reality of their own appearance perception, 2) what appearance-related burdens they experience to determine the urgency of their request for surgery, and 3) the surgeons' considerations for the operation. Chapter 4 compares the patient group with adolescents from the general population at Time 1 (i.e. before surgery in the patient group). This part of the study addressed three questions: 1) Do adolescents undergoing plastic surgery have a realistic view of their body? 2) How urgent is the psychosocial need of adolescents to undergo plastic surgery? 3) Which relations exist between bodily attitudes and psychosocial functioning and personality?

Pre-post comparisons within the patient group and compared to the general population are described in Chapter 5. The aim of this part of the study is to determine the effects of appearance-related surgery on psychosocial functioning during adolescence. To this end, changes in bodily attitudes and appearance-related burdens in adolescents undergoing corrective (for aesthetic deformities) and reconstructive (for congenital or acquired deformities) surgery are compared to those in the comparison group. Chapter 6 describes the relations between psychological characteristics and postsurgical psychological outcomes to identify subject- and surgery-related, and psychological factors that may explain differences in psychosocial outcomes after surgery on adolescents.

Chapter 7 aims to analyse the question whether to operate on adolescents who request plastic surgery for deformities ranging from corrective to reconstructive. The question will be assessed from a psychosocial point of view, from the perspective of the goals of medicine, from a societal view, and from a medical ethical view, addressing the adolescents' autonomy, and their competence to choose for plastic surgery.

The general discussion (Chapter 8) further elaborates the practical implications of these findings for the daily practice of plastic surgeons.

2

What is beautiful is good, but . . . The concepts of 'normalcy' and beauty in a historical perspective, illustrated by plastic surgery

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In the eye of the beholder -Ethics and appearance
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Introduction

People find it difficult to distinguish between physical beauty and certain virtues. It is this presupposed relationship between external and internal beauty that may have unexpected and damaging consequences. In my view, it is important to appreciate external and internal qualities and capacities as two separate entities. Not seldomly, the beautiful are envied by those who have less than perfect features, whereas the deformed are often the objects of ridicule or fear. Why is beauty, or an attractive appearance, so important? In this contribution I shall describe some attitudes towards the abnormal, ugly, and beautiful appearances of human beings through the centuries. Further, I shall discuss the present-day importance of attractiveness and unattractiveness by pointing out some more recent ideas about the impact of appearance and about the physical attractiveness stereotype.

A picture of (ab)normality through the centuries

Regarding the history of appearance I shall focus on two lines of approach. Firstly, I shall describe ideas about appearance and deformities. Secondly, I shall pay attention to how people dealt with deformed and ugly appearances.

Ideas about abnormality

We can find several conceptions about deformities and illnesses in the Bible (Mulder 1980). Although referring indirectly to normality and abnormality, there are several themes, such as: 1) Illness as the punishment of God, 2) health as the reward of God, and 3) illness and recovery as the revelation of God's omnipotence. Not surprisingly, priests did not always welcome physicians, because they were considered to interfere with God's works. On the other hand, we may find some more 'spectacular' examples of deformed people, for example giants like Nimrod and Goliath (Jenny 1986).

Besides the Bible, there are other quite ancient sources of literature about deformities or abnormalities. The oldest literature known about congenital deformities originates from Assurbanipal's Library, king of

Assyria (668-626 BC) (Sliggers and Wertheim 1993). This library contained several hundreds of medical texts and so called 'omen-texts'. A part of these 'omen-texts' related to birth-omens on which predictions were made. Mazzola (Stricker, Meulen et al. 1990) reports on the predictions relating to the face:

When a woman gives birth to an infant...

(15) whose nostrils are absent, the country will be in affliction and the house of the man ruined;
(18) that has no tongue, the house of the man will be ruined;
(20) that has no nose, affliction will strike the country and the master of the house will die;
(22) whose upper lip overrides the lower, the people of the world will rejoice;
(23) that has no lips, affliction will strike the land and the house of the man will be destroyed.

Another tablet mentions a monster with a single eye in the forehead (a cyclops). These deformities, Mazzola stresses, do not refer to mythical figures. Although rare, they are well known and described in today's medical literature. Predicting the future through deformed newborns persisted through the Middle Ages until the 19th century, and still exists in certain cultures (Stricker, Meulen et al. 1990).

Greeks and Romans also considered malformed children to portend disasters. However, these *monstra* may also have inspired them. They probably made their *monstra* more beautiful to create their gods and mythical figures. This process is called 'euhemerism' after the historian Euhemeros (± 340 BC): The cyclops became a Cyclops, with one eye in the forehead but without a proboscis (a tubular structure on the forehead), the sympode became a Siren or mermaid; The diprosopus (with two faces) became Janus; the pyopagus parasiticus, a specific form of Siamese twin, became a Centaur; an occipital omphalocele became Atlas' globe, etc. (see figure 1). Another view was that the birth of a deformed baby was an expression of the play of gods: *Ludibria sibi, miracula nobis ingeniosa*

Figure 1
Examples of monstra from the Vrolik Museum, University of Amsterdam: On the left a sympode, on the right a diprosopus.

fecit natura ("nature creates monsters to surprise us and to enjoy themselves", Gaius Plinius Secundus, 23/24-79 AD) (Sliggers and Wertheim 1993).

Besides religious conceptions about abnormalities several scientific explanations existed through the centuries. Although sperm and ova were not described until the 17th century, the ancient Greeks described semen and menstrual blood as the major components of the process of procreation, which is a surprisingly 'modern' physical approach (Sliggers and Wertheim 1993). However, for them and for people in subsequent centuries these scientific theories were often mingled with religious and superstitious ideas. For example, it was 'common knowledge' that humans could have intercourse with animals, gods or demons, and people could be punished severely for mixed intercourse.

The astrologist Ptolomaeus Claudinus already described somewhat less religious and moralistic opinions in the 2nd century (Alexandria), as

did Albertus Magnus one millennium later. Because astrology offered a neutral explanation for incomprehensible phenomena it influenced people's attitudes toward what was strange and frightening. Consider the case of a farmer who was accused of intercourse with a cow after she bore a half-human calf. Because of the astrological explanation Albertus Magnus provided, the farmer was released. Biologist and physician Aldrovandus (1522-1605) described how comets striking the earth transformed into *monstra*. Not until the 17th century did astrological theories become obsolete.

The Greeks and Romans described many psychological causes for congenital deformities. The idea of the psychological influence on the unborn baby existed until the 19th century. The surgeon Ambroise Paré (1510-1590 AD) stated that the mental state of the mother caused one out of 13 congenital deformities. He explained how by imagination the mother could bear a 'hairy daughter', and therefore should refrain herself from watching strange things or fantasising about them, especially when the child was not yet fully developed. The Dutch physician Herman Boerhaave (1668-1738) described how a mother could bear an epileptic child if she had seen an epileptic person. These explanations freed many women from the accusation, for example, of having slept with a demon. The English physician Smellie (1697-1763) doubted these psychological theories -he had seen many women giving birth to perfectly normal babies after frightening experiences. Yet, it took another century for the last physicians to 'abandon' these theories (whereas in popular beliefs they may still exist). Although the pictures of Etienne Geoffroy Saint-Hilaire (1772-1844 AD) are very detailed and true to nature, this French physician, who actually introduced the term 'teratology' (the science of congenital deformities), was one of the last scientists to describe psychological causes for congenital malformations. Since the work of Förster (1861 AD), who adduced many arguments against psychological theories, these have been abandoned (Sliggers and Wertheim 1993). It is a giant leap to nowadays categorisation of causes of congenital deformities. As in earlier days, genetic and related sciences still search for satisfactory explanations fitting into our current opinions and frames of thought.

The management of abnormality

In contrast to contemporary views that all human beings have the same right to live and that the less capable or less healthy should be cared for, in earlier days deformed newborns were often eliminated from society or, if they survived, they were excluded from society or displayed in public (Sliggers and Wertheim 1993). For example, Spartans threw deformed newborns from the mountain Taygetus, and in Rome deformed babies were thrown into the river Tiber (Stricker, Meulen et al. 1990). This was partly because the deformed child represented a bad sign or omen. For the Spartans it was also important to keep their species flawless.

Yet, there is also evidence of very early medical interventions to restore or enhance one's appearance (Lindeboom 1985). The Egyptians, for example, used golden inlays. They even performed 'plastic operations' on their dead, probably to equip them better for their journey to the hereafter. Phoenicians fabricated false teeth and other prostheses to improve physical features. Patterson (Patterson and Powell 1974) introduces an interesting view on medical interventions to enhance one's beauty. He argues that at the dawn of civilization adornment and beautification, for example scars, tattoos, and head binding, were created by the medicine man.

In the Ayur-Veda the physician Sushruta (600-500 BC) described among other operations a plastic surgical reconstruction of the amputated nose, which was the penalty for adultery. The Indian method of nose reconstruction is still the basis of many present methods to reconstruct the nose. I can not express Sushruta's motivations for performing such operations better than by quoting him, stating that "the love of life is next to the love of our own faces, and thus the mutilated cry for help" (Macgregor 1979). Other examples of such socially motivated operations can be found with Celsus (circa 30 BC - 45 AD). He describes plastic operations on the face and surgical restoration of the prepuce after circumcision on Jews who wished to become accepted by Roman society (Khoo 1982). We may find this social, or ethnical, motivation for surgery again in today's rhinoplasties (nasal corrections) on Jewish women and Italian men who wish to be less conspicuous in a non-Jewish or non-Italian

society (Meyer, Jacobson et al. 1960; Jacobson, Meyer et al. 1961).

The Middle Ages are known as 'dark ages' characterised by superstition and a regression of science. Yet, in the 13th century Theodorik (1205-1296 AD), a surgeon at the University of Bologna, where science flourished, introduced a 'new' method for treating wounds: He used sutures to prevent profuse puss formation. Also, he used the 'spongia soporifera' a sponge soaked in an anaesthetic fluid (already used for ages by Arabians). This must have enabled him to do more detailed reconstructions. Unfortunately, he did not pass his knowledge on to next generations (Lindeboom 1985). In the 15th and 16th century several physicians stressed the importance of restoring or of carefully treating one's appearance. Hieronymus Brunschwig (1450-1533) stated that "human beauty is expressed in the face and well-formed body. Therefore, O Physician, be diligent in caring for facial wounds." (Khoo 1982). About the management of wounds Ambroise Paré (1510-1590) stated: "...If they require suturing, it should be dry suturing, so that the scars will not remain ugly, as there are many who fear such happening, particularly the belles demoiselles" (Khoo 1982).

The first plastic surgeon to be mentioned after Sushruta is the Italian surgeon Gaspare Tagliacozzi, again from Bologna (1546-1599). He developed his techniques from the reports left by Branca de Branca, a Sicilian layman who was renown for his surgical abilities in the 14th century. Supposedly, Branca developed a new technique for total nasal reconstruction described in ca. 1430 (Nichter, Morgan et al. 1983). The aim of Tagliagozzi's surgical activities was both realistic, social, and very modern: "...we restore, repair and make whole those parts of the face which nature has given but fortune has taken away, not so much that they may delight the eye but that they may buoy up the spirit and help the mind of the afflicted." (Khoo 1982). Although his motivations were very noble, not everybody agreed with changing "what fortune has taken away". This shows again the aversion of the Christian belief to interfere with God's influence on human appearance. After his death Tagliagozzi was buried without honour (Khoo 1982).

Besides plastic surgery, in the Netherlands in the early 16th century

one may find very 'traditional methods' to achieve beauty. Examples are bakeries (Hazelzet 1988) or flourmills (Wiggers, Wildt et al. 1993) to rebake and remould old women into young and beautiful ladies, and ugly men into handsome gentlemen. Of course, this only took place in legends. The stories accompanying these activities are characterised by cynical criticism and moralism concerning the wish to beautify one's 'exterior' instead of striving after a noble 'interior'.

Many people may not have been so fortunate as to receive surgery or other treatment for their deformity. They were often isolated from society, either within the family or in the 'caritas', the care of the church. The 'caritas' was a means for the rich to show their generosity toward the poor and the disfigured by founding hospitals or donating money (Brinkgreve and Kuppers 1982). Already at the courtyards of the Egyptians, the Romans, and the Greeks did dwarfs play their tricks and entertain the emperors. These creatures emphasised the wealth, beauty, and strength of their masters. From the 15th to the 17th century the jester's culture flourished, especially at English and French courts. These jesters were held in high esteem. They represented a certain art. As long as the disfigured had certain special skills, they were exhibited (Sliggers and Wertheim 1993). They either tried to survive by displaying themselves at markets and fairs, or were exploited by their 'managers'. The most bizarre creatures travelled and visited royal courts. The largest circus ever was the 'Ringling Brothers and Barnum & Baily Circus' (1871-1919) and its world-famous freak show. Not until this century did exhibiting the so called 'freaks' become prohibited. This was influenced by the German *National-sozialismus* that did not hold the *Untermenschen* in high esteem. Performers had to be physically and mentally healthy. If otherwise, they were eliminated in gas chambers. Only after the second World War was the exhibition of 'freaks' considered unethical. Also, social insurances enabled the disabled to lead relatively normal lives, without depending on charity, exploiters, or the public's need for excitement. Still, fat ladies, dwarfs, and giants may be found in certain fairs (Sliggers and Wertheim 1993).

Turbulent changes and enormous innovations characterise the modern development of plastic surgery during wars. Pioneer plastic surgeons reconstructed the *gueules cassées*, or battered faces, during and after the first World War. In the second World War many RAF pilots suffered severe burns of the hands and face. These *gueules brûlées* were patched up quite wonderfully by all possible means at that time. In times of peace the gained knowledge was further elaborated and plastic surgeons operated upon healthy people in increasing frequency (Meulen and Wladimiroff 1990).

A picture of beauty through the centuries

Marwick (Marwick 1988) distinguishes between a traditional view of beauty and a modern one. The first being beauty intertwined with moral virtues, the latter being beauty of personal appearance, bodily beauty. He stresses the fact that people have always been aware of beauty being a powerful force, but beauty was hardly ever described as an autonomous characteristic. Beauty was usually related to certain values, such as moral, intellectual, or religious values.

'Beautiful' may be defined as 'arousing aesthetical pleasure'. But what arouses this pleasure? It may be the desirability of something. Moreover, something can be desirable if it is scarce or difficult to get. An example of how desirability might determine beauty is by fertility in prehistory. Of course, we do not know whether the Willendorf Venus represents beauty. Moreover, it is our modern explanation of an ancient little statue. However, the idea is that this Venus statue represents an ideal body image of a female: A round belly and large breasts. The head and arms are less accentuated, not being relevant to fertility. In periods of need fat people are beautiful, or at least fatness is desirable, as the Venus of Willendorf may show also.

The ideas of the ancient Greeks about beauty, as many other ideas, have rooted deeply in Western society. In short, the Greeks distinguished between earthly or outer beauty, and divine or absolute beauty. Λογος, or reason characterised absolute or ideal beauty (Stafford, Puma et al. 1989). The ideal forms of life were thought to be geometrical. This ideal was also

related to κοσμος, the orderly system of the universe. Other meanings of the word κοσμος are 'ornament' and 'as it belongs to be'. So, κοσμος encompassed both beauty and orderliness: The orderly was both beautiful and good; the beautiful approximated perfection and divinity, and was as such good. The form of either a statue or a human being expressed its value and its functionality. This geometrical appreciation of life and of human existence was also an inflexible model of perfection that had its effect on the perception of human appearance. Philosophers such as Pythagoras, Plato, Neoplatonics, and in later centuries natural philosophers such as Descartes and Newton, supported this geometrical approach.

Absolute beauty was an abstract idea of beauty. Plato described the lesson of Diotima to Socrates about love and beauty. She explained to him the growth of beauty from 'juvenile' bodily beauty into 'young adult' beauty in laws and institutions, 'adult' beauty in science, and finally the beauty in all. The growth from juvenile to adult, from pupil to philosopher, from bodily to absolute beauty contains the hierarchy from the lower forms of beauty to the highest and most desired form of beauty. This hierarchy contains an ambivalence: Although bodily beauty expressed a devine good, 'mere' bodily beauty was held in lower esteem than philosophical and abstract beauty. Actually, Socrates, who expressed this idea, was a paragon of ugliness to the Greeks with his flat nose, protruding eyes, fat neck, and bulging belly. It is hardly surprising that he should prefer moral beauty to bodily beauty.

Interestingly, physical beauty only concerned men, not women. Men competed in beauty contests and in stories physical beauty of men was described, not of women; for example the beauty of Ganymede, son of Trojan king Tros, and servant at the table of the gods. Zeus ordered him from mountain Ida near Troy to the Olympus, where he gave him eternal youth to preserve his extraordinary beauty.

The Greeks passed their rather ambivalent beauty on to the Romans and early medieval successors. As a heritage of classical thought and pagan superstition beauty and ugliness became even more strongly intertwined with moral virtues during the middle ages. The Christian church was very ambiguous about female beauty: By definition, a beautiful

woman possessed good virtues. Yet she would arouse lust. Therefore, especially virtuous women were portrayed. If we want to know something about medieval bodily beauty, we should not study the average female portrait, but look for women who were meant to be tempting. A painting by Il Civetta (his Dutch name was Henrick Met De Bles, mid-16th century) shows the temptation of St. Antony, depicting two females with white skin, sweet faces, and round breasts and bellies. The same bodily form can be recognised in Botticelli's paintings (15th century). The pietistic monk Savonarola burnt some of his paintings, probably because of their 'disturbing' beauty...

Renaissance did not suddenly change perceptions of beauty. Actually, it entailed the revival of classical learning. Yet, in the 16th century both the classical Greek and medieval opinions about beauty were challenged. The most important ideas came from Renaissance humanism and from urban culture. The urban culture allowed comparisons and choices between attractive potential sexual partners. Early humanism promoted hedonism. The combination made enjoying 'mere' beauty possible. Marwick describes how the relationship beauty-virtues may have further 'loosened up' so that beauty could become an autonomous quality (Marwick 1988). A necessary condition was that circumstances (social, economic, medical) made comparison between beautiful people possible. In rural societies this was hardly ever the case. Beauty played no important role in these societies, where marriage was based on procreation (for the poorer) and intended to preserve or expand one's wealth and power. Another process that untied beauty from her virtues was the process of *Entzauberung* or 'demagification'. In modern ages this caused the rise of individualism, the growth of scepticism, and the spread of rationality. It also led to the questioning of Platonic and theocratic notions of beauty.

The physiognomic 'sciences' show the persistence of the traditional beauty perception (Stafford, Puma et al. 1989). Physiognomics presupposed a direct connection between internal characteristics and external features. They described moral virtues and intellectual capacities by analysing and describing appearances (see figure 2). The starting point was a prototype, for example the 'Profiles of the Head of Christ' used by

Lavater. In 1623 Giambattista Della Porta applied his external morphological studies to anthropology and criminology in his work 'Fisionomia dell' Huomo'. Lavater published his works between 1775 and 1778. The 18th century Dutch artist Camper published an educational manual, a mathematic schedule for artists, based on the 'Proportions of Apollo Belvedere', so that they would not mix "features of different nations in the same individual". The quantifying of appearances and deducing psychological attributes from them, resembles nowadays medical imaging techniques, because these aim to quantify the body and sometimes draw far-reaching conclusions about the entire person. One person who criticised physiognomics, was Georg Christoph Lichtenberg, professor of philosophy and natural sciences at Goettingen, and a contemporary of Lavater. His pathognomy (1778 AD) described how the play of features and gestures represented a certain inner state. Lichtenberg recognised that

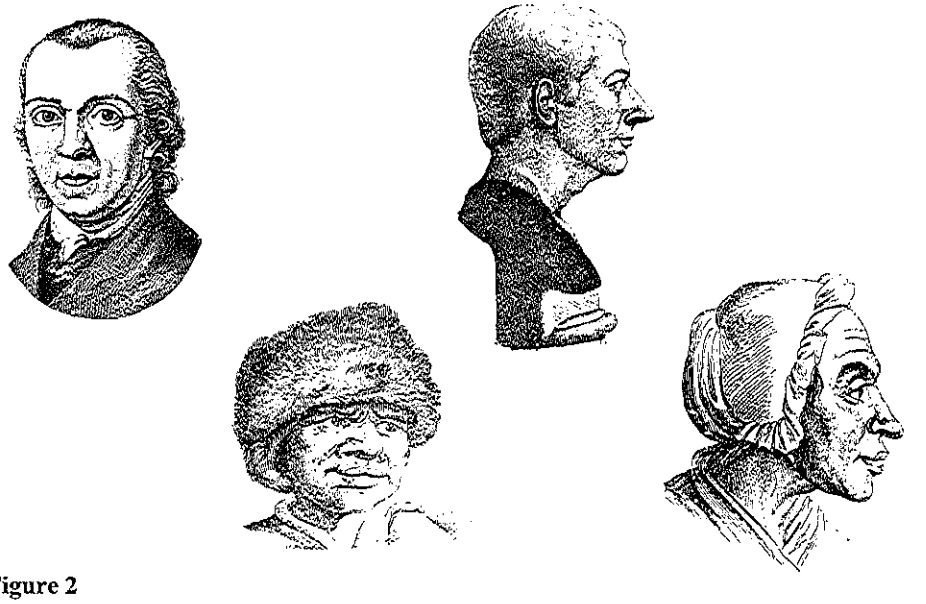

Figure 2
Portrayals by Lavater of sensible, agreeable, but melancholic features (top left); inexhaustibly brilliant features (top right); rough and uncivilised features, incompatible with intellectual efforts (left below); weak features, suggesting lability, lack of modesty and self-control, and a tendency to chatter (right below) (Bruno).

everything (for example a person, the world) changes continuously in relationship with something else. Mere superficial features did not bear any meaning about psychological characteristics. By the way, it is not surprising that Lichtenberg put physiognomy in perspective, being a hunchback himself.

Making a giant leap to the present we still find remnants of the traditional view of beauty. Consider the quest for the perfect body. An impossible quest, because the perfect body is a universal one. Or: A Platonic or traditional one. Moreover, apart from this universal ideal, the perfect looks keep changing. Only recently male ideal appearances emerge again and men, like women, try to meet these ideals. For example, recent commercials in magazines and on television use male models in advertisements for cosmetics. Another recent trend is a shift to the androgynous ideal body image for both men and women (Ffrench 1997). And although Marwick argues that a real revolution that untied beauty from presupposed values did not occur until the sixties this century, even now we still find many complex remnants of the traditional perception of beauty, being intertwined with certain virtues and values.

What is a desirable appearance and why is it desirable?

Some researchers state that the ability to perceive and appreciate beauty may be innate. Beauty itself may represent the human prototype. However, it may also be constituted by those curves, colours, proportions, etcetera, perceived by people as beautiful, and causing aesthetical pleasure. Langlois (Langlois, Roggman et al. 1987; Langlois, Roggman et al. 1990) studied infant preferences for attractive faces. Until the eighties it was considered that an attractiveness preference did not become evident until ages three to five. The child's awareness of appearance and his/her ability to distinguish between attractiveness and unattractiveness were thought to be learned gradually during years of exposure to the media and through social practice. Babies were known to prefer regular faces to scrambled faces at the age of three months. If this would hold for attractive and unattractive faces it would imply that the attractiveness preference is not a learned quality but that it may be innate or acquired at a very early age.

Langlois (Langlois, Roggman et al. 1987) showed that both older (six to eight months) and younger (two to three months) infants looked longer at attractive faces than at unattractive faces when pictures were presented in contrasting pairs. A point of discussion was whether the demonstrated visual behaviour really implied a preference. Very young babies are not capable of elaborate social behaviour. Langlois (Langlois, Roggman et al. 1990) did a similar study with 12 months old babies, at which age babies have developed a repertoire of social behaviour, yet have scarcely been influenced by 'cultural input'. These babies played significantly longer with a researcher wearing an attractive mask. The researcher did not know which latex mask was used not to influence her behaviour toward the babies. Also, the babies played longer with attractive than with unattractive dolls. The selected attractive faces no doubt were more desirable to the infants. But why should they prefer attractive faces? Langlois suggests several possible explanations. First, preferences for attractive faces may be due to the visual system's sensitivity to certain qualities of visual stimuli. So, certain forms and proportions may determine the perception of attractiveness. Second, attractive faces may be more prototypic or 'face-like' and have better defined features. One might compare the idea of a prototypic human with the ancient Greek idea of an absolute or divine beauty as the measure for 'all'.

I shall take a side road here to explain something about divine proportion (Snijders 1992). The divine proportion, or golden section is based on the pentagram and its diagonals. The diagonals form isosceles triangles, the apexes have 36 ° angles. The shorter sections of the diagonals are always in the same proportion to the longer ones. This ratio is determined by the arithmetic φ : 1,618034 (see figure 3). It was known to the Greeks and Egyptians and probably even before. Leonardo Pisano, also called Filius Bonacci (meaning: Softy's Son), born in 1175 AD in Pisa, constructed the Fibonacci progression series. All measures in the architecture of the Nautilus shell appeared to follow the Fibonacci progression series, all proportions the golden section (see figure 4). It also appeared that the proportion could be recognised in many natural forms, such as oak leaves, plants, animals, corals, human faces, etcetera.

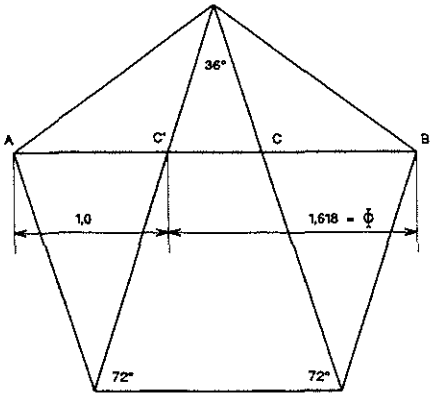

Figure 3
The ratio AC' : C' B = AC: CB = 1: 1,618034 = 1 : φ. The sharp isosceles triangles have apexes with 36° angles.

The golden section can also be shown in beautiful faces. Robert Ricketts (Ricketts 1982), a professor in orthodontics analysed several dozens of photographs of beautiful models from magazines. He found that the divine proportion was applicable in 95 to 99 percent in these beautiful faces. These findings might suggest a certain harmonious composition of human appearance that is aesthetically pleasing. Because the golden section can be shown in so many growing life forms it might also be the prototype of human appearance. One may even connect a divine property to perfect features, but, to my taste, this only says something about the intriguing architecture of it all, not of other qualities, except the external... (see figure 5). Langlois hypothesises we may be watching the rudiments of a stereotype. Opinions vary whether this stereotype is characterised by averageness (Etcoff mentions research by Galton, 1878, and Langlois, 1990 (Etcoff 1994) or non-averageness of human appearances (e.g. Etcoff (Etcoff 1994) and Perret (Perret, May et al. 1994). Other examples of appearance measurement studies can be found (e.g. Patterson and Powell 1974), fitting conceptions about appearance in a current frame of thought.

The physical appearance stereotype

Many people try to meet the current standards and ideals of beauty -as they always did. Although people say that beauty is *not* a very important factor in determining one's choices or one's behaviour, they act otherwise.

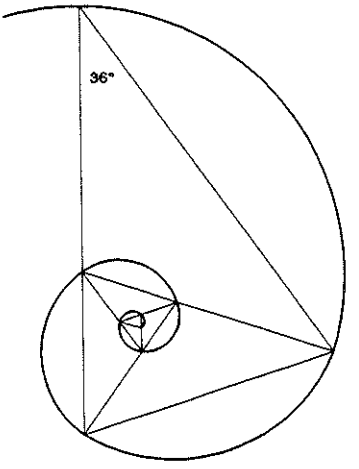

Figure 4

The Nautilus shell is composed of 36 ° isosceles triangles. The proportions follow the fibonacci progression series.

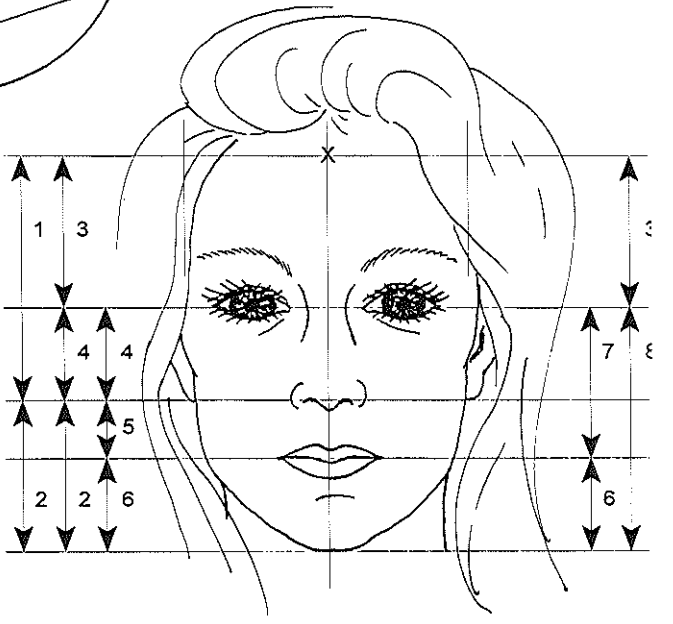

Figure 5

The 'ideal face'; all proportions approximate the golden section in the vertical plane from trichion (the point where the aponeurosis of the scalp starts, shown by a wrinkle when frowning the forehead, indicated by X) to menton (the lower border of the soft tissue chin). Other markings are the nostrils, and the axes of the eyes and mouth. Analysis shows the following proportions: 1 : 2 ≈ 2 : 4 ≈ 3 : 4 ≈ 4 : 5 ≈ 6 : 5 ≈ 7 : 6 ≈ 8 : 3 ≈ φ : 1. Note that sections 2, 3, and 7 are similar, as are the sections 1 and 8, and 4 and 6 (after Ricketts 1982).

Berscheid and Walster (Berscheid and Gangestad 1982) describe this paradox. People may actually act sincerely, but be influenced by the physical attractiveness stereotype that very strongly colours our perception. This stereotype contains human properties such as kindness, intelligence, social behaviour, sincerity, warmth, etcetera. "At a single glance one perceives beauty and immediately attributes all these positive qualities to it. People are often unaware of where the inferences they make about physically attractive people come from. These judgements can be made so rapidly that the fact that the 'kind' and 'intelligent' person is also attractive may seem to be simply an irrelevant, added bonus". At a very young age children treat attractive peers in a more positive way than the unattractive. Also kindergarten teachers treat and actually perceive the attractive children in a more favourable way. This continues to be so, all the way up to a professional career. One may easily state that attractive people grow up in a social environment that is very different from those who are unattractive, because these stereotypes are such strong social forces and so strongly socially desirable. A danger is that people appear to live up to the expectations of others. For example, teachers are more positive toward attractive pupils, who in their turn are more encouraged to do their best and actually will perform better. In contrast, the unattractive pupils will eventually perform worse. There is a similar circular relation with social behaviour. For example, attractive young women, who are perceived as sociable and sexually warm, are approached in a friendlier, easier way, which in return may build up their self esteem. This way they may gain more social and eventually sexual experience, so that indeed they become more sociable and sexually warmer. Berscheid (Berscheid and Walster 1972) describes another effect of the physical appearance stereotype. She interviewed middle-aged women who were rated as beautiful in their twenties. The results were quite disturbing: The once attractive women were less satisfied with their lives, unhappier, and less adjusted than 25 years ago. Kirkpatrick and Cotton explained that "husbands may feel betrayed and disillusioned in various ways and even disgusted with the reliance on charms which have faded with the passing of years". Interestingly, Berscheid mentions, they did *not* study how aging

wives felt about their once beautiful aging husbands. There are also some reverse inferences about beauty. For example, pretty women may be perceived as less intelligent. Attractive people may be seen as vain and self-centered (Eagly, Ashmore et al. 1991). In legal situations attractive swindlers, using their good looks, are punished more harshly than unattractive swindlers, whereas attractive burglars, whose appearance plays no role in their kind of crime, get less severe punishments (Adams 1977).

Attractiveness influences people's lives and behaviour, but not always in the same manner, nor under the same circumstances. Eagly (Eagly, Ashmore et al. 1991) reviewed studies on the physical attractiveness stereotype. She examined the relationship between the physical attractiveness attribute and the attributes 'maturity', 'concern for others', 'integrity', 'psychological stability' or 'adjustment', 'social competence', and 'intellectual competence'. She found a *strong* relationship with social competence, *weaker* inferences about potency, adjustment, and intellectual competence, and *little* impact on beliefs about integrity and concern for others. Moreover, the stereotype was weakened by individual information about the attractive or unattractive person. Because these findings were based on a review of studies she argues that in a natural setting, often constrained by social roles and organisational norms, the stereotype may even become more reduced.

However, despite the supposed weak effects of the attractiveness stereotype, and despite the revolution descibed by Marwick, an extensive beauty culture has developed and people are sometimes forced to participate in it. Not only are they persuaded to visit fitness clubs promising firm breasts, and straight legs and bellies. Even worse, I think, people are called to account for not improving their appearance. Extreme emphasis is placed on the tight, young, and healthy body. Beauty now seems to be connected with health. And health ever more seems to be a new civic duty and moral standard (Laermans 1993). So, after we have disentangled beauty from moral virtues, we entangle it again with a new, quite similar, moral standard. This moral standard has much to do with the person's responsibility, of which he or she is constantly reminded. As one

is held responsible for one's health, one can be held responsible for one's beauty also, as one can be held responsible for one's ugliness...

The importance of it all . . .

The importance of being *normal* has implicitly been emphasized in the discussion on (ab)normality through the centuries. An abnormal appearance elicits fear, hostility, disgust, or ridicule. From history we know that those who fell outside the standards of normal features were often regarded as less human, mentally retarded and they were isolated from society or displayed in public. However, being normal is not a sufficient condition for happiness. Beauty has always been the property worth striving for. Ideal beauty has always, in one way or another, been connected to certain positive values. People make many different inferences about attractive and unattractive individuals. Moreover, people appear to live up to the expectations their appearance elicits. I favour the autonomous description of beauty, because it gives credit to the importance of beauty, but it also puts beauty in perspective, without being ambiguous or ambivalent, and unclearly interwoven with other attributes.

Stafford (Stafford, Puma et al. 1989) suggests a shift away from our current fashion-magazine, youth-oriented aesthetic, and toward an aesthetic of imperfection. Especially in medicine physicians and medical students should be made aware of underlying aesthetical presuppositions that may influence their reactions to and their behaviour toward their patients and, moreover, their own cognitive and emotional responses they may encounter in daily medical practice. Awareness of the presuppositions and mechanisms that underlie our social and professional actions is of crucial importance. I would like to add to this that a more tolerant attitude towards beauty standards may 'stretch' their tight boundaries. Above all, the strength of the physical attractiveness stereotype should not be underestimated, as it has an obstinate tendency to get intertwined with facets of our daily functioning. Beauty does not depend on psychological attributes, moral virtues or other unrelated qualities, nor do these qualities and virtues depend on beauty.

3

Assessing adolescents and young adults for plastic surgical intervention: Pre-surgical appearance ratings and appearance-related burdens as reported by adolescents and young adults, parents, and surgeons

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Abstract

Currently available research on psychological aspects of plastic surgery offers little basis for clinical decision making in the plastic surgeon's assessment of adolescents and young adults applying for surgery. Therefore, the research aims were to study: first, how these adolescents and young adults estimate their appearance as compared to their parents and plastic surgeons to determine the reality of their own appearance perception; second, what appearance-related burdens they experience to determine the urgency of their request for surgery; and third, the surgeons' considerations for the operation. Data were obtained from 184 plastic surgical patients aged 12 to 22 years (71.2% girls), 172 of their parents, and 37 surgeons from 16 hospitals in The Netherlands, using appearance rating scales and telephone interviews. Results showed that adolescents and young adults rated their appearance realistically as compared to surgeons and parents, and reported substantial appearance-related suffering. There was a moderate to large overlap between the adolescent- and parent-reported burdens. In their assessment, surgeons took psychological and social impediments into consideration. In conclusion, plastic surgeons may rightfully assume that adolescents and young adults have a realistic view on their appearance and that they suffer from significant appearance-related burdens. Parents prove to be an important additional source of information.

Introduction

Appearance-related self consciousness is characteristic of adolescence. While establishing their identity and independence adolescents and young adults are confronted with physical changes and changing peer relationships. Appearance-related problems may seriously interfere with psychosocial development (Pruzinsky and Cash 1990) and some adolescents and young adults apply for plastic surgical intervention to overcome them. These interventions may include otoplasties (Bradbury, Hewison et al. 1992; Sheerin, MacLeod et al. 1995), port wine stain reductions (Kalick 1982; Sheerin, MacLeod et al. 1995), secondary surgery for cleft lip (Clifford, Crocker et al. 1972; Brantley and Clifford 1979; Clifford 1982; Clifford and Clifford 1986), craniofacial reconstruction (Clifford, Crocker et al. 1972; Lefebvre and Munro 1978; Brantley and Clifford 1979; Clifford 1982; Lefebvre and Barclay 1982; Pertschuk and Whitaker 1982; Pertschuk and Whitaker 1985; Clifford and Clifford 1986; Lefebvre, Travis et al. 1986; Pertschuk and Whitaker 1988; Leonard, Dwyer Brust et al. 1991), and other operations for either congenital or acquired deformities.

In the assessment of adolescents and young adults requesting plastic surgery, plastic surgeons should be aware of the adolescent's motivations for undergoing plastic surgery. In the decision-making process, it is important to know how these patients estimate their appearance and whether their estimation is realistic, what appearance-related burdens they experience and to what extent they suffer from their appearance, and, ultimately, whether the surgeon's analysis focuses on the reported burdens. However, the current status of research in plastic surgery does not provide a basis for the clinical psychological assessment of adolescents and young adults applying for plastic surgery (Sarwer, Pertschuk et al. 1998a). Yet, it has been stressed that the adolescent's perspective on the problem is the only perspective that really matters (Pruzinsky and Cash 1990), which makes a thorough insight into the psychosocial developmental aspects of plastic surgery on adolescents and young adults all the more urgent.

It may be assumed that the principal reason for requiring plastic surgery is perceived abnormality of appearance. However, it remains

unclear whether adolescent plastic surgical patients tend to either over- or underestimate their deformity. The limited information available does not lead to firm conclusions, as both adolescent and adult cosmetic and reconstructive patients may either overestimate (Hay 1970; Napoleon 1993) or underestimate (Lefebvre and Munro 1978) their deformity as compared to their surgeons. On the other hand, adolescents seem to be more critical than their parents are (Lefebvre and Barclay 1982). Since no study has addressed adolescents and young adults' perceptions specifically as compared to their surgeons and parents across a broad range of deformities, this was the first aim of the present study. From here, we use 'adolescents', to include the 12-22-year-old adolescents and young adults in this study.

A second aim was to assess the adolescents' motivations for undergoing plastic surgery. Studies report that for children and young adolescents undergoing prominent ear corrections or port wine stain reductions, the motivation for undergoing surgery may be self-reported aesthetic dissatisfaction or psychosocial distress, or distress anticipated by parents (Bradbury, Hewison et al. 1992; Sheerin, MacLeod et al. 1995). Children and adolescents may report appearance-related teasing, not wanting to see themselves in the mirror, or feeling unattractive (Sheerin, MacLeod et al. 1995). However, these studies only provide broad information on burdens (Knorr, Hoopes et al. 1968; Goin and Goin 1981), focus on adult patients (Knorr, Hoopes et al. 1968; Goin and Goin 1981) or younger children (Bradbury, Hewison et al. 1992; Sheerin, MacLeod et al. 1995), or concern specific diagnostic groups (Goin and Goin 1981; Bradbury, Hewison et al. 1992; Sheerin, MacLeod et al. 1995). The present study aims to provide detailed information on the burdens expressed before the operation by adolescents undergoing plastic surgery for a broad range of deformities. We expected adolescents across all diagnostic categories to report burdens on age-related areas, such as making friends, engaging in romantic relationships and self-confidence.

Finally, we know of no studies assessing the surgeons' considerations either to operate or not. Napoleon suggested that "surgeons may not view patients' concerns about a particular body area with the same degree of

urgency or need" (page 199) (Napoleon 1993). Although plastic surgeons seem very much aware of the psychological nature of their patients' motivations (Macgregor 1989), and are often wary of patients having too high or unrealistic expectations (Courtiss 1978; Goin and Goin 1981; Hinderer 1984; Wright 1987; Wright and Wright 1987; Napoleon 1993), nothing is known about the considerations which plastic surgeons have in deciding whether to operate or not. The burden as expressed by the patient is probably the surgeon's central point of concern as soon as surgical-technical, physical, and psychological contraindications are absent. Moreover, the surgeon's considerations should go beyond the technical feasibility and the patient's psychological stability: He or she should focus on adolescent-specific areas of concern, for example, on social functioning and peer acceptance.

This study aimed at: first, presurgical appearance ratings by adolescents, parents and surgeons to determine the reality of the adolescents' appearance perception; second, self- and parent-reported appearance-related burdens to determine the urgency of their request for surgery; and third, the surgeons' considerations for operation to determine their assessment of the patients' psychosocial functioning.

Methods

Participants

From 1995 to 1997 adolescents aged 12-22 years who were to undergo any elective appearance correcting operation were recruited from 12 hospitals virtually covering the south-west region of The Netherlands and from 4 hospitals in the north-west region as part of an ongoing study on effects of plastic surgery on psychosocial functioning of adolescents. Exclusion criteria were cognitive and physical handicaps. Acquired deformities had to be at least one year old. Of the 240 eligible patients 184 (76.7%) agreed to participate, as well as 172 of their parents (71.7%), 148 of whom were mothers, 19 fathers and 5 'others' (e.g. caregiver substitutes). This group consisted of 53 boys (28.8%) and 131 girls (71.2%) with a mean age of 16.9 years (SD = 2.9), the girls being somewhat older (17.3 years; SD = 2.8) than the boys (16.1 years; SD =

3.1). Of those who did not participate, 15 patients (13 girls, 2 boys) indicated to the surgeon they did not want to be contacted for the research, 5 patients (4 girls, 1 boy) could not be contacted despite permission to contact them, and 36 patients (18 girls, 18 boys) refused participation after receiving additional information about the study. Thirty-three adolescents did not undergo surgery (25 girls, 6 of whom refused participation, and 8 boys, 2 of whom refused); 5 for financial reasons, 6 because of being overweight, 3 were too young, 4 because of a different medical treatment was indicated, 3 because of a technical contraindication, 1 for psychiatric reasons, 1 for social reasons, 7 because of the patient's own decision, and 3 for unknown reasons.

Most adolescents (92.7%) were Dutch. Other nationalities represent the major immigrant groups in The Netherlands: Turkish (0.6%); Moroccan (1.2%); Surinam/ Antillean (1.8%) and other nationalities (3.7%). Mean socio-economic status as determined by the highest available occupational score within the family was 2.9 (SD = 1.05), ranging from 1 = elementary occupations to 5 = scientific occupations (CBS 1993b). The mean adolescent educational level was 2.8 (SD = 0.93), ranging from 1 = elementary school to 7 = postgraduate university degree (CBS 1993a). Self-perceived appearance ratings did not differ across social economic status. However, the diagnostic groups were distributed differently over the social economic status levels (see Figure 1). Significantly more adolescents in the middle social economic class reported appearance-related burdens on sports. The middle social economic class also contained the most girls undergoing breast corrections (46.9%).

Procedure

Approval to conduct the research was obtained from the Medical Ethical Committee of each participating hospital. Participating surgeons (n = 37, including 11 plastic surgery residents) filled out a checklist on which basis each patient was either included or excluded. Patients were informed about the research by the surgeon and the outpatient clinic staff. The researcher gave further information by telephone. Written informed

consent was obtained from the patients and their parents. Patients and parents received demographic questionnaires with separate mailing of response. An in-person telephone interview was taken independently from patients and parents within a month before surgery by the researcher. The researcher performed all telephone interviews. Questions were read aloud, presenting closed answering categories, and asking open questions where detailed information was needed. Most patients (69.6%; n = 128) could be interviewed preoperatively. If a telephone appointment could not be made, the researcher interviewed the patient at the ward. Due to varying response rates to the interview and the questionnaires respectively, sample sizes may vary slightly throughout the article.

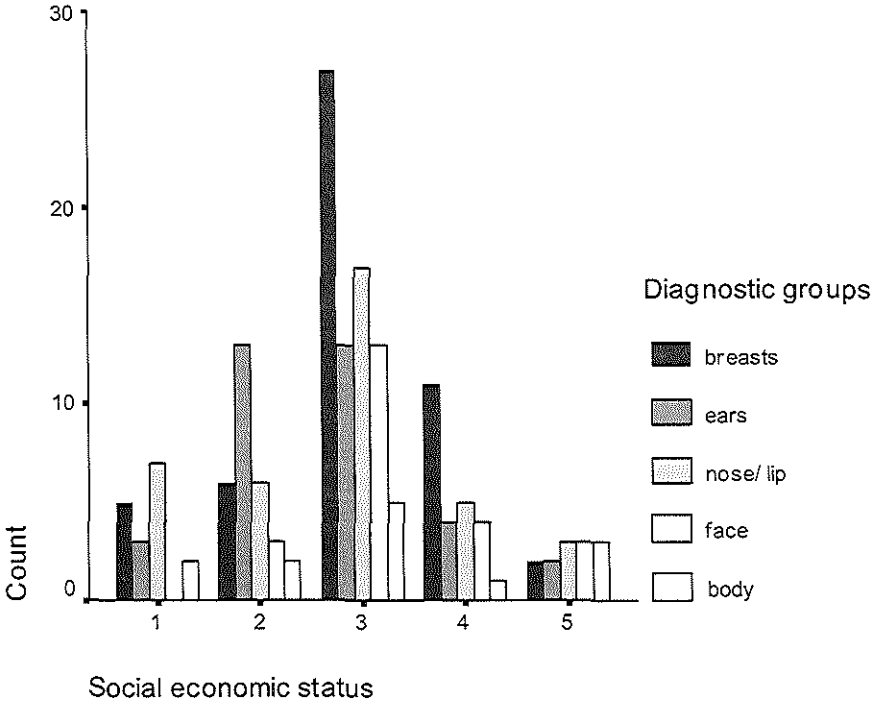

Figure 1
Distribution of diagnostic groups over social economic status levels.

Although 56 patients (30.4%) were interviewed shortly after the operation (mean 27 days), there were no differences in appearance ratings and appearance-related burdens across the groups that were interviewed before and after the operation, except self-reported severity ratings: Ratings were lower for those interviewed before the operation than for those interviewed afterwards (2.46 versus 2.94; p = .003). The group interviewed before the operation contained relatively more patients in the breasts group (25.5% versus 8.2%).

Instruments

General information. Surgeons filled out a checklist providing information on severity and visibility ratings of the deformity, and their considerations for surgery. Both parental and adolescent questionnaires provided demographic data.

Telephone interview. A fully structured telephone interview was developed for this study and taken from both adolescents and parents, providing information on the patients' appearance, appearance-related burdens, and expectations of the operation. All questions were read to the respondent.

Visibility and severity ratings. Severity of the deformity was rated by all three informants on a six-point scale, rating the adolescent from 1 = 'more attractive than others' to 6 = 'severely deformed'. Visibility of the deformity was rated on a five-point scale, ranging from 1 = 'invisible' to 5 = 'immediately visible'.

Reports on burdens. On a three-point scale (0 = not at all, 1 = somewhat, 2 = a lot) adolescents and parents were asked whether the adolescents experienced appearance-related burdens in 1. practising sports; 2. joining clubs; 3. hobbies or leisure time; 4. making friends; 5. romantic relationships; or regarding 6. mood; 7. self-confidence; and 8. future plans such as building a career or finding a mate.

Surgical considerations. Using a yes/ no format, surgeons were asked whether the following topics played a role in their decision to operate: 1. severity of the deformity; 2. surgical and technical feasibility; 3. aesthetic result; 4. physical maturity; 5. physical suffering; 6.

psychological suffering; 7. suspected psychological disturbances; 8. suspected unrealistic expectations, and impediments in: 9. school or at work; 10. leisure time; 11. applying for a job; 12. making friends; 13. dating and relationships.

Methods of analysis

Descriptive statistics were used for appearance ratings, appearance-related burdens, expectations of surgery and the surgeons' considerations. We used Chi-squared tests for proportional gender, diagnostic, and rater differences. Multivariate techniques (MANOVAs) and non-parametric Wilcoxon signed rank tests were used to analyse gender, diagnostic, and rater differences in severity and visibility scores, and reported burdens and expectations: Mann-Whitney U Test were used for two observations and a Kruskal-Wallis H Test for more than two observations (Altman 1991).

Table 1
Diagnostic characteristics of the patient group

	Total		*Girls*		*Boys*	
	n	%	*n*	%	*n*	%
Breasts (hyper-/ hypotrophy, asymmetry)	62	33.7	58	44.2	4	7.5
Nose/ lip corrections (clefts, hump nose)	44	23.9	26	19.9	18	34.0
Ears (protruding, lop ears)	39	21.2	21	16.0	18	34.0
Facial naevi, port wine stains, small tumours	11	5.9	10	7.6	1	1.9
Naevi, port wine stains on body/extremities	4	2.2	2	1.5	2	3.8
Facial scars, contour defects	4	2.2	2	1.5	2	3.8
Scars, contour defects on body/extremities	7	3.8	6	4.6	1	1.9
Craniofacial deformities	7	3.8	3	2.3	4	7.5
Eye corrections (ptosis, deformities)	3	1.6	1	0.8	2	3.8
'Other' (navel, neck)	2	1.1	2	1.5	1	1.9
Total	184	100.0	131	100.0	53	100.0

Results

Diagnostic features

The breasts group consisted mainly of girls (93.5%; n = 58), and four boys (6.5%) with gynaecomastia (see Table 1). Craniofacial deformities included Crouzon, Opitz, Proteus, and Cohen syndrome, and bilateral hemifacial microsomia. Other deformities included an umbilical deformity, a webbed neck in a girl with Turner syndrome, and a surplus of trochanteric fatty tissue. For further analyses the diagnostic information was grouped into five areas: breasts (n = 62), ears (n = 39), nose/lips (including clefts) (n = 44), face (including eye, facial, and craniofacial deformities) (n = 25), and body (containing all other deformities) (n = 14).

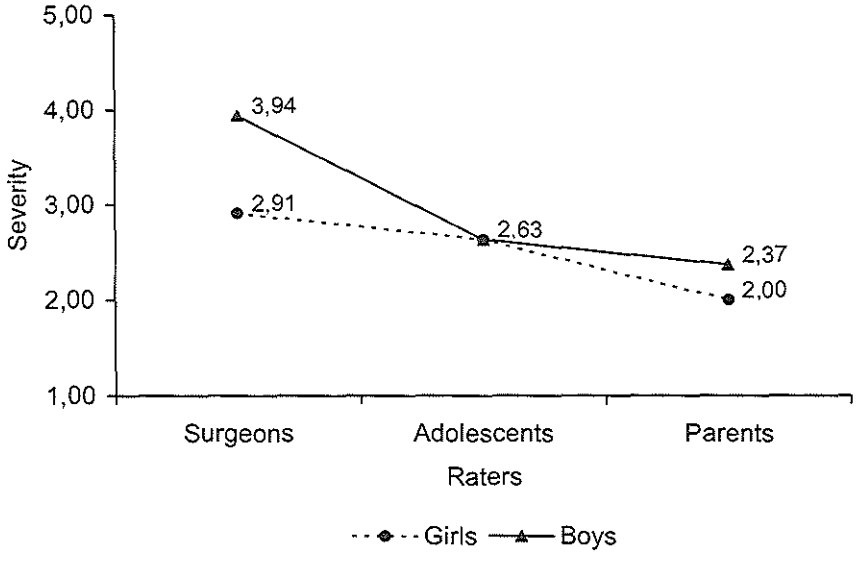

Figure 2a

Mean values of severity ratings by surgeons, adolescents and parents across gender.

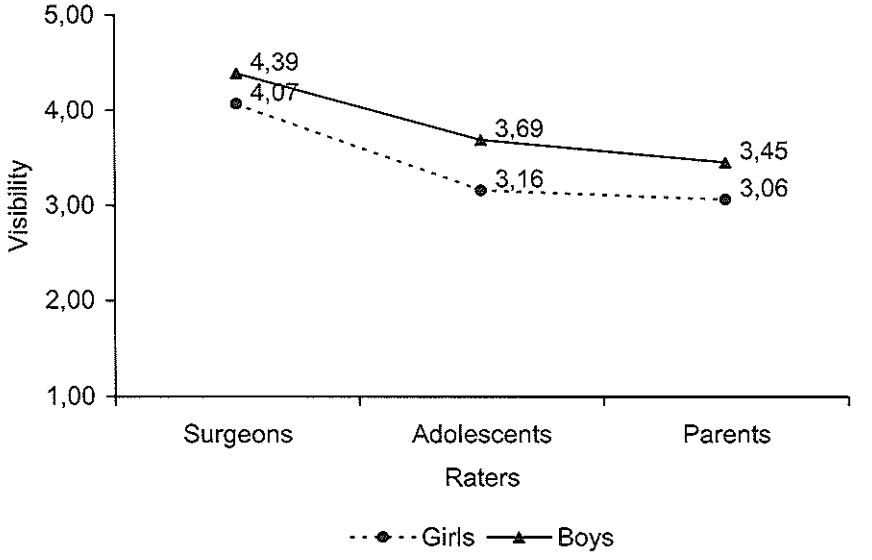

Figure 2b

Mean values of visibility ratings by surgeons, adolescents and parents across gender.

Severity and visibility of the deformity

Repeated measures MANOVAs were used to analyse the differences in appearance measures between the raters. There appeared to be a significant rater effect ($p = .000$) and rater by gender interaction effect ($p = .002$) for severity and a significant rater effect for visibility ($p = .000$) across gender. Further T-tests for paired samples of the rater effect showed that both severity and visibility of the deformity were rated significantly higher by surgeons than by adolescents and parents (see Figures 2a and 2b). Adolescents gave significantly higher ratings than their parents did on severity, but not on visibility.

One-way ANOVAs as a post-hoc test of the rater by gender interaction effect showed that severity and visibility ratings by surgeons were significantly higher ($p = .0005$ and $p = .02$, respectively) for boys than for girls. Boys and girls had similar self-reported severity ratings,

while boys rated visibility significantly higher than girls did (p = .01). Parental severity and visibility ratings did not differ significantly across gender.

When rating severity and visibility across the various diagnostic groups, severity did not differ significantly across the diagnostic groups (see Figure 3a), but visibility did for all three rater groups (p = .002). Duncan post-hoc tests (p = .05) showed that deformities in either the nose/lip or the face groups were rated significantly more visible than in either the breasts or the body groups (see Figure 3b). The significant rater effect remained for severity and visibility ratings (p = .000), but there were no interaction effects for raters and diagnostic groups.

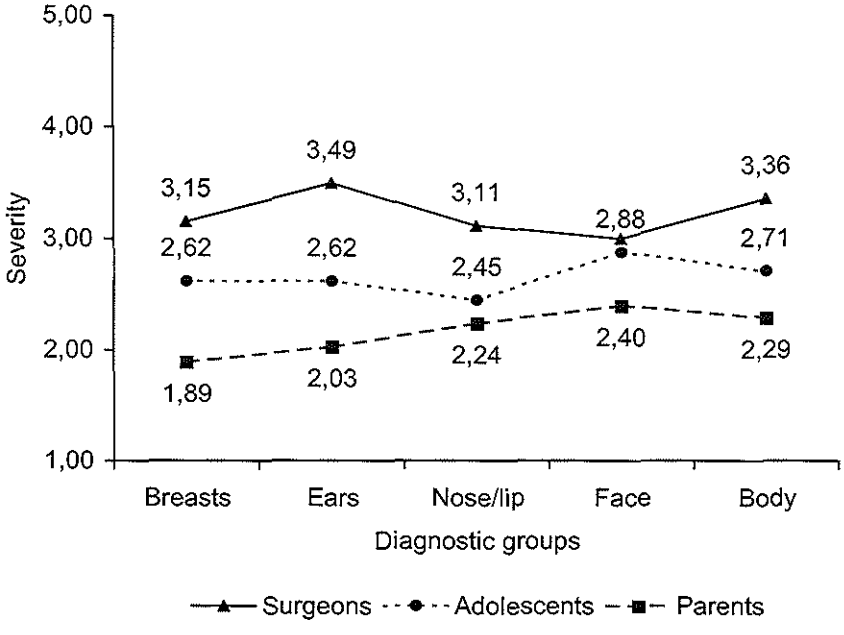

Figure 3a

Mean values of severity ratings by surgeons, adolescents and parents across five diagnostic groups.

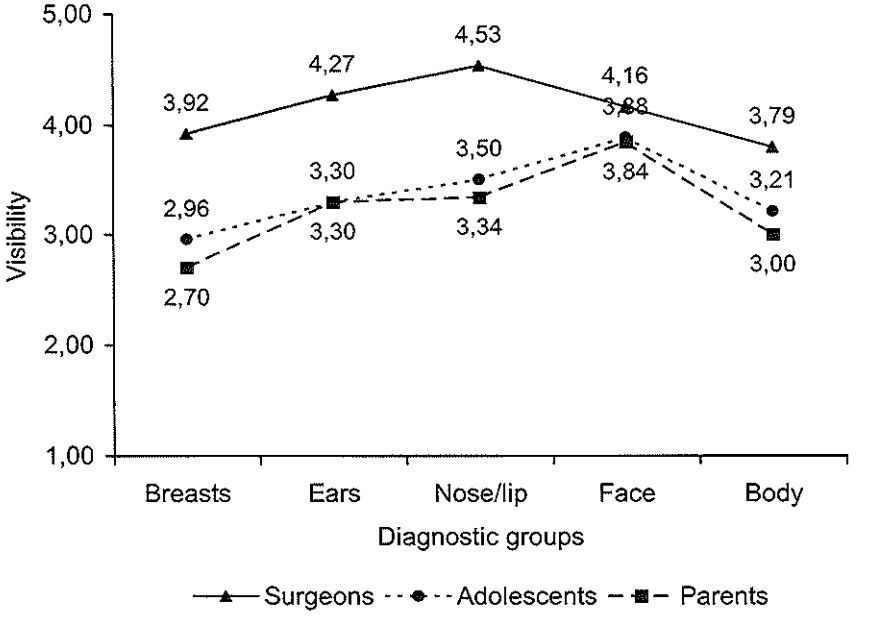

Figure 3b

Mean values of visibility ratings by surgeons, adolescents and parents across five diagnostic groups.

Burdens reported by adolescents and their parents

Fifteen percent of both adolescents and their parents reported no burdens at all, 33% reported one or two burdens, and 52% reported burdens on three or more domains. Both adolescents and parents reported most appearance-related burdens for the domains self-confidence, mood, sports, and romantic relationships, followed by future plans, making friends, spending leisure time, and joining clubs (see Tables 2 and 3).

Girls reported significantly more burdens than boys did on sports, mood and self-confidence. Most burdens were reported by the breasts and body groups as compared to the other diagnostic groups. Boys reported significantly more burdens on making friends. The breasts and body groups reported significantly more burdens on leisure time than the facial groups (see Table 2).

Table 2

Burdens reported by adolescents (n = 180)

	Reported burdens (%)			Group differences*	
Domain	None	Some	A lot	Gender	Diagnostic
Sports	53.6	23.5	22.9	F>M	1>5>2,4,3
Joining clubs	83.3	13.3	3.3	ns	ns
Leisure time	77.2	17.2	5.6	ns	1>2,4,3 5>3
Making friends	75.0	18.9	6.1	M>F	ns
Romantic	65.7	21.7	12.6	ns	ns
Mood	46.1	42.8	11.1	F>M	5,1>4,2,3
Self-confidence	44.4	35.6	20.0	F>M	1>4,2,3
Future	75.0	17.8	7.2	ns	ns

Note: *Differences were tested with Non-parametric tests. The symbol ">" represents "significantly more than". M = male; F = female; 1 = breasts; 2 = ears; 3 = nose/lip; 4 = face; 5 = body.

Table 3

Burdens reported by parents (n = 172)

	Reported burdens (%)			Group differences*	
Domain	None	Some	A lot	Gender	Diagnostic
Sports	58.7	15.1	26.2	F>M	1,5>2>3,4
Joining clubs	82.5	13.4	4.1	ns	ns
Leisure time	85.4	8.2	6.4	ns	1>2,3; 4>3
Making friends	77.3	16.3	6.4	ns	ns
Romantic	63.4	20.7	15.9	M>F	ns
Mood	51.7	33.1	15.1	ns	ns
Self-confidence	38.4	42.4	19.2	ns	ns
Future	68.4	21.1	10.5	ns	ns

Note: *Differences were tested with Non-parametric tests. The symbol ">" represents "significantly more than". M = male; F = female; 1 = breasts; 2 = ears; 3 = nose/lip; 4 = face; 5 = body.

The average burdens reported by parents across domains did not differ significantly from the adolescents' reports. When assessing the agreement between the burdens reported by adolescents and their parents, using Chi-squared tests, there was significant and moderate to large overlap on all domains, indicating specific agreement between adolescents and parents who did and who did not report on: sports 78% ($\chi^2 = 73.47$; $p = .000$), joining clubs 37% ($\chi^2 = 9.33$; $p = .002$), leisure time 35% ($\chi^2 = 15.92$; $p = .000$), making friends 38% ($\chi^2 = 7.93$; $p = .005$), romantic relationships 56% ($\chi^2 = 15.16$; $p = .000$), mood 65% ($\chi^2 = 21.27$; $p = .000$), self-confidence 71% ($\chi^2 = 7.10$; $p = .008$), and future 55% ($\chi^2 = 14.46$; $p = .000$).

Considerations for plastic surgical intervention

Most surgeons took surgical-technical and aesthetic reasons into consideration, followed by the severity of the deformity and the patient's physical maturity (see Table 4). Further, a substantial proportion of the surgeons considered impediments in school or at work and in leisure time, as well as physical and psychological suffering.

Surgical-technical feasibility, physical maturity, occupational or educational and leisure impediments, and psychological suffering were considered significantly more often for girls than for boys.

Considerations about severity, technical and aesthetic feasibility, maturity, physical suffering, leisure time, and occupational/ educational impediments differed significantly across the diagnostic groups. These areas were considered most often for the breasts group, and least often for the facial groups, except on impediments in school or work, which was considered most often for the ears group (see Table 4).

Discussion

This study showed that adolescents who apply for plastic surgery, in 16 hospitals in the south- and north-west regions of The Netherlands, do so for a variety of deformities, ranging from sequelae following cleft lip surgery to hypertrophic breasts, from protruding ears to unsightly scars. These adolescents did not differ from adolescents from the general

Table 4
Proportions (%) of surgeons (n = 37) who took medical, psychological and social considerations into account by gender and body area

Considerations:	Total	Girls	Boys	p*	Breasts	Nose/lip	Ears	Face	Body	p*
Medical: ***(n)***	(182)	(129)	(53)		(60)	(44)	(39)	(25)	(14)	
Severity of the deformity	70.2	73.6	61.5	ns	88.3	56.8	61.5	58.3	78.6	.002
Surgical and technical feasibility	96.7	98.4	92.5	.040	98.3	100.0	94.9	92.0	92.9	ns
Aesthetic result	96.7	97.7	94.3	ns	98.3	100.0	94.9	96.0	85.7	ns
Physical maturity	71.4	78.3	54.7	.001[1]	90.0	77.3	59.0	56.0	35.7	.000
Physical suffering	27.3	31.6	17.6	ns	63.3	12.2	0.0	16.0	35.7	.000
Psychological:										
Psychological suffering	26.7	31.3	15.4	.029[2]	35.0	23.3	23.1	20.8	21.4	ns
Suspected psychological disturbances	18.7	20.9	13.2	ns	20.0	27.3	12.8	12.0	14.3	ns
Suspected unrealistic expectations	12.2	14.8	5.7	ns	16.7	7.0	7.7	16.0	14.3	ns
Social impediments:										
School/ work	43.9	49.2	30.8	.024	58.3	20.9	61.5	25.0	35.7	.000
Leisure time	46.4	51.2	34.6	.044[2]	76.7	19.0	43.6	25.0	42.9	.000
Job applications	14.0	16.5	7.7	ns	11.7	16.7	12.8	20.8	7.1	ns
Making friends	27.5	31.0	19.2	ns	27.1	23.8	25.6	29.2	42.9	ns
Romantic relationships	34.6	36.2	30.8	ns	33.9	32.6	38.5	29.2	42.9	ns

Note: *Significance level of Chi-square values; [1] = Significant only for the younger age group (= 12-16 years); [2] = Significant only for the older age group (= 17-22 years).

population. The aims of this study were to determine: first, the reality of the adolescents' appearance perception using presurgical appearance ratings by adolescents, parents and surgeons; second, the urgency of their request for surgery by assessing self- and parent-reported appearance-related burdens; and third, the surgeons' considerations for operation and the agreement between their considerations and the adolescent-reported burdens.

Contrary to suggestions from the literature that adolescents tend to denigrate their physical appearance (Pruzinsky and Cash 1990), and plastic surgical patients seem to overestimate their deformity (Hay 1970; Napoleon 1993), both boys and girls in this study were rated by their surgeons as having a more severe and more visible deformity than they reported themselves, suggesting they did not overestimate their deformity. On the other hand, adolescents did not underestimate their deformity either, rating their deformity as equally visible as, but more severe than, their parents did, which is consistent with the view that 'normal' adolescents tend to denigrate their appearance. Thus, it can be concluded that adolescents have a realistic view of their own appearance.

Regarding the urgency of the request for plastic surgery, half of the adolescents and their parents reported burdens on three or more domains, suggesting substantial suffering. Most burdens concerned domains highly relevant to adolescence: mood, self-confidence, romantic relationships, future plans and making friends. Girls reported more problems on self-confidence, mood, and sports, while boys reported more problems on making friends. The average burdens reported by adolescents did not differ significantly from the parents' reports. The sizeable overlap between proportions of burdens reported by adolescents and their parents shows that there was moderate to large agreement on all domains.

With respect to the surgeons' considerations, after surgical-technical considerations, surgeons did take psychosocial issues into consideration, more often so for girls than for boys. The proportions of surgeons' considerations showed considerable overlap with the adolescent-reported burdens on specific domains. Thus, the suggestion that surgeons may not view patients' concerns about a particular body area with the same degree

of urgency or need (Napoleon 1993), does not hold. This study showed that plastic surgeons do give considerable attention to psychological and social functioning. As the parents' reports showed larger agreement with the adolescents' reports than the surgeons' reports on making friends (38%), and especially on romantic relationships (56%), and on mood/ psychological suffering (65%), parents may be a valuable additional source of information in the surgeon's assessment of the adolescent applying for plastic surgery.

An important feature of this study group is the predominance of girls: the breasts group consisted mainly of girls (93.5%), as did the face and body groups (64% and 71% respectively), and, less pronouncedly, the ears and nose/lip groups (proportions of girls: 54% and 59% respectively). The proportion of boys refusing participation (27%) as compared to girls (19%) could not explain this predominance. Because of the small proportion of boys, one might hypothesise that boys in general are either less dissatisfied with their appearance, or need more appearance-related dissatisfaction or emotional problems before they apply for plastic surgery. This suggestion is confirmed by the results from this study, in which both subjective and objective severity and visibility ratings suggested that boys had more reason to be dissatisfied than girls. Thus, boys, if they apply for plastic surgery, may be disproportionally dissatisfied about their appearance. It has been suggested that male plastic surgical patients, as opposed to female patients, may constitute a psychologically more disturbed group (Wright 1987). However, this study's results do not support this suggestion. First, boys gave a realistic estimation of both severity and visibility. Second, boys did not report more troubles than girls did, except on the domain of making friends, which would not support their being more psychologically disturbed.

A limitation to the present study is that a substantial proportion of the research group consisted of girls requesting various breast corrections. Because most gender effects found in the adolescent-reported burdens and surgeons' considerations converged with diagnostic group effects, one might hypothesise that the sex differences were attributable to the breasts group. Therefore, we decided to repeat the analyses for appearance

measures, self-reported burdens and surgeons' considerations without the breasts group. Results showed that the rater differences in appearance measures across gender and diagnostic groups were virtually identical, suggesting that the breasts group did not confound the appearance measures at all. Concerning the adolescent-reported burdens, the gender difference on the domain of 'mood' and all diagnostic differences, except on the domain of 'sports', were biased by the breasts group. None of the surgeons' considerations reached significance for gender differences without the breasts group. The remaining diagnostic group differences in the surgeons' considerations remained virtually the same, except for the severity of the deformity and impediments in leisure time. Post-hoc power analyses showed that the lack of significant differences when the breasts group was removed from the analyses cannot be attributed to a reduction in statistical power.

In summary, this study showed that, when an adolescent applies for plastic surgical intervention, the plastic surgeon may rightfully assume that this adolescent will present with realistic appearance perceptions, as adolescents in this study neither overestimated nor underestimated their deformity as compared to their surgeons and their parents, respectively. Further, this study showed that the adolescent applying for plastic surgery will probably suffer substantial appearance-related burdens, as this was reported not only by adolescents, but also by parents and surgeons. These burdens differed for girls and boys. Although the surgeon does give special attention to psychological and social burdens of this adolescent, the agreement between the surgeon's considerations and what the adolescent would report as burdens, is rather low. Parental reports on appearance-related suffering showed moderate to large agreement with the adolescents' reports. Thus, when assessing this adolescent for plastic surgery, the surgeon should best inquire on all domains of appearance-related burdens, as reported by the adolescents in this study. Further, in the surgeons' decision making process to either operate or not upon an adolescent requesting plastic surgery, parents can be an important help in providing information to the plastic surgeon when examining the adolescent's psychological and social functioning. For the interpretation of

these findings, one has to bear in mind that the gender difference on the domain of 'mood' and the diagnostic differences in the adolescent-reported burdens, and the gender differences in the surgeons' considerations appeared to be largely determined by the breasts group.

The findings presented here offer a basis for further study of appearance-related psychological and social functioning in adolescents undergoing plastic surgery. Both appearance ratings and appearance-related burdens are worth studying further, for example in relation to self-perceived competence and depression, to probe the adolescents' appearance-related psychosocial functioning. Postoperative comparisons will determine the impact of the plastic surgical intervention on appearance ratings and appearance-related burdens, and on the psychological and social functioning of these adolescents.

4

Body image, psychosocial functioning, and personality: How different are adolescents and young adults applying for plastic surgery?

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Abstract

This study addressed three questions: 1) Do adolescents undergoing plastic surgery have a realistic view of their body? 2) How urgent is the psychosocial need of adolescents to undergo plastic surgery? 3) Which relations exist between bodily attitudes and psychosocial functioning and personality? From 1995 to 1997, 184 plastic surgical patients aged 12 to 22, and a comparison group of 684 adolescents and young adults from the general population aged 12 to 22 years, and their parents, were interviewed and completed questionnaires and standardised rating scales. Adolescents accepted for plastic surgery had realistic appearance attitudes and were psychologically healthy overall. Patients were equally satisfied with their overall appearance as the comparison group, but more dissatisfied with the specific body parts concerned for operation, especially when undergoing corrective operations. Patients had measurable appearance-related psychosocial problems. Patient boys reported less self-confidence on social areas than all other groups. There were very few patient-comparison group differences in correlations between bodily and psychosocial variables, indicating that bodily attitudes and satisfaction are not differentially related to psychosocial functioning and self-perception in patients than in peers. We concluded that adolescents accepted for plastic surgery have considerable appearance-related psychosocial problems, patients in the corrective group reporting more so than in the reconstructive group. Plastic surgeons may assume that these adolescents in general have a realistic attitude towards their appearance, are psychologically healthy, and are mainly dissatisfied about the body parts concerned for operation, corrective patients more so than reconstructive patients. Introverted patients may need more attention from plastic surgeons during the psychosocial assessment.

Abbreviations

BAS: *Bodily Attitudes Scale;* ***BCS:*** *Body Cathexis Scale;* ***BFI:*** *Big Five Inventory;* ***CBCL:*** *Child Behavior Checklist;* ***CDI:*** *Children's Depression Inventory;* ***HSPP-A:*** *Harter Self-Perception Profile for Adolescents;* ***HSSS:*** *Harter Social Support Scale;* ***UCL:*** *Utrecht Coping List;* ***YABCL:*** *Young Adult Behavior Checklist;* ***YASR:*** *Young Adult Self-Report;* ***YSR:*** *Youth Self-Report.*

Introduction

In recent years, plastic surgery on adolescents has increasingly become an accepted procedure (ASPRS/ASAPS 1997). For the plastic surgeon this causes the problem of deciding whether or not to operate during a period of rapid physical and psychological development with uncertain outcome. However, plastic surgery may offer significant benefits to the adolescent's self-confidence, provided that these adolescents are properly psychologically evaluated before the operation (Morani 1970; ASPRS/ASAPS 1997).

This study tries to offer a basis for the psychosocial assessment of adolescents, by addressing three problems. First, how do bodily satisfaction and attitudes of adolescents applying for plastic surgery compare to those of adolescents in general? More specifically, do adolescents undergoing plastic surgery have a generalised negative view of their body, or is dissatisfaction focused on deviant body parts? Second, how urgent is the need of adolescents to undergo plastic surgery: How is the dissatisfaction with their appearance related to their psychosocial functioning? Third, which are the relations between bodily attitudes, psychosocial functioning, and personality characteristics, i.e. to what extent is psychosocial functioning related to bodily attitudes and are bodily attitudes related to personality factors? Up to now, no comparisons have been made between adolescents applying for corrective (such as breast reductions and prominent ear corrections) and reconstructive surgery (such as corrections of sequelae following cleft lip surgery, or scar corrections). This study will explore the differences in bodily attitudes and psychosocial functioning between these groups.

Our first aim regarded the problem that it is unknown whether adolescents applying for plastic surgery experience a generalised dissatisfaction with their body compared to adolescents in the general population. In focusing on body image dissatisfaction, we follow recent literature about the psychology of plastic surgical patients, suggesting that research on body image dissatisfaction, and not overall psychopathology, is the most fruitful way to assess this problem (Sarwer, Pertschuk et al. 1998a; Sarwer, Wadden et al. 1998b; Sarwer, Wadden et al. 1998c).

Irrespective of the plastic surgical patients' level of dissatisfaction, it is unknown whether their dissatisfaction is focussed on the body parts considered for operation, or whether they are dissatisfied with their appearance over-all. Generalised dissatisfaction may be a contra-indication for surgical intervention on specific body parts.

In surgical practice, the assessment of adolescents' satisfaction is difficult, because the increased self-consciousness and dissatisfaction about physical appearance are characteristic for the adolescent age period (Thompson, Coovert et al. 1995), for girls more so than for boys (Davies and Furnham 1986; Levinson, Powell et al. 1986; Rauste-von Wright 1989; Rierdan and Koff 1997). Up to now, patient data have been inconclusive in this respect. Studies show that adult plastic surgical patients undergoing either cosmetic or reconstructive operations tend to exaggerate their deformity (Hay 1970; Napoleon 1993), whereas studies on children and adolescents undergoing cleft lip and craniofacial surgery showed that they tend to underestimate their deformity as compared to their surgeons' and their parents' appearance ratings (Lefebvre and Munro 1978; Lefebvre and Barclay 1982). However, a previous study on the same sample, comparing adolescents', parents' and surgeons' views, suggested a realistic appearance-perception of adolescents undergoing plastic surgery for a broad range of deformities (Simis, Koot et al. 2000).

Assuming that they do not differ from their agemates in the general population, we may expect that adolescents who apply for plastic surgery will be as dissatisfied with their appearance as those from the general population, and that girls in this group would be more dissatisfied about their appearance than boys (Rauste-von Wright 1989). Alternatively, the dissatisfaction might only focus on the body parts that are the object for the operation. This would favour the conclusion of their making a realistic evaluation of their appearance.

Our second aim was to assess the urgency of the request for surgery by determining appearance-related aspects of daily functioning. Impediments in psychosocial functioning are the primary motivation for plastic surgery in children, adolescents and adults (Harris 1982; Pruzinsky and Cash 1990; Bradbury, Hewison et al. 1992). The task for the plastic

surgeon is to weigh the patient's psychosocial problems against the limitations and risks of surgery (Harris 1982). It has been stressed that the adolescent's perspective on the problem is the only perspective that really matters in the consideration of surgeons to operate or not (Pruzinsky and Cash 1990). Since body image dissatisfaction is strongly related to lower self-esteem (Rauste-von Wright 1989; Thompson, Coovert et al. 1995; Harter and Whitesell 1996; Kostanski and Gullone 1998), and depression (Harter and Whitesell 1996; Rierdan and Koff 1997; Kostanski and Gullone 1998), it is hard for the surgeon to assess which adolescent-reported psychological or social problems are age-appropriate and which may be increased due to appearance dissatisfaction.

In studies on plastic surgical patients, standardised psychological measures usually demonstrate only mild or no psychosocial problems (Kalick 1982; Lefebvre and Barclay 1982; Clifford 1983; Pertschuk and Whitaker 1985; Pertschuk and Whitaker 1988; Lanigan and Cotterill 1989; Leonard, Dwyer Brust et al. 1991; Sarwer, Pertschuk et al. 1998a). By contrast, clinical reports, semi-structured interviews and study-specific questionnaires do reveal that child and adolescent patients encounter a large range of appearance-related problems, such as being teased (Bradbury, Hewison et al. 1992; Sheerin, MacLeod et al. 1995), feeling inferior and rejected (Lefebvre and Munro 1978) or self-conscious (Harris 1982; Beale, Hambert et al. 1985; Goin and Rees 1991), being upset about their disfigurement (Sheerin, MacLeod et al. 1995), and feeling depressed (Lefebvre and Munro 1978). Therefore, in comparison with adolescents from the general population, adolescent plastic surgical patients may be expected not to report overall behavioural and emotional problems, but significant and specific problems related to their appearance.

Our third question regarded the relation between bodily attitudes, psychosocial problems, and personality characteristics and bodily attitudes in plastic surgical patients. Personality characteristics may determine bodily attitudes and appearance-related problems (Wallander and Thompson 1995). If bodily attitudes are strongly related to psychosocial problems and personality characteristics, these factors may have more influence on satisfaction with the surgical result than the surgical

intervention itself (Courtiss 1978; Venot 1998). Neurotic personality characteristics may result in postsurgical psychological problems (Goin and Goin 1981; Dixon, Rotering et al. 1984; Beale, Hambert et al. 1985; Goin and Rees 1991; Bradbury, Hewison et al. 1992; Napoleon 1993).

Body image dissatisfaction in adolescent patients may be expected to show relations to psychological problems, such as depression and self-esteem comparable to those of agemates in the general population. However, corrective patients are attributed various neurotic characteristics (Napoleon 1993), and therefore their bodily attitudes may be expected to be more influenced by personality characteristics than that of reconstructive patients. Further, a gender difference may be expected. Boys undergoing plastic surgery may show more characteristics that may cause problems after the operation than girls in the patient group (Wright 1987; Bradbury, Hewison et al. 1992).

In summary, the present study aims to provide a basis for the surgeons' clinical assessment of adolescent appearance-related problems and appearance-related psychosocial functioning in a plastic surgical patient sample. In an adolescent plastic surgical patient group and an adolescent general population sample we shall 1) determine the reality with which adolescents undergoing plastic surgery estimate their appearance by comparing the subjective perception of appearance between the patient and general population group, and the generalisation of their dissatisfaction, accounting for both group and gender effects; 2) assess the urgency of their request for surgery by comparing the psychosocial functioning of the patient and general population group; and 3) assess whether bodily attitudes in the patient group are more strongly related to psychosocial problems or personality characteristics than in the general population, by determining differences in correlations between bodily attitudes, psychosocial functioning and personality characteristics between the patient and general population group.

Method

Participants

Patient sample. From 1995 to 1997, adolescents aged 12 to 22 years who were to undergo any elective appearance correcting operation were recruited from 12 hospitals virtually covering the south-western region of The Netherlands and from 4 hospitals in the north-western region. Exclusion criteria were cognitive and physical handicaps. Acquired deformities had to exist for at least one year. During the sampling period, 275 adolescents applied for plastic surgery. Thirty-five adolescents did not undergo surgery, and were excluded from the research sample. The reasons why 35 applicants did not undergo a surgical procedure were the following: for financial reasons (n = 5), because of being over-weight (n = 6), because of being over-weight that was requested to be slimmed down before surgery (n = 2), because they were judged to be too young (n = 3), because a different, non-surgical medical treatment was indicated, including treatment by a dermatologist or orthodontist (n = 4), because of a technical contra-indication (n = 3), because her school exams didn't allow her the time for the plastic surgical intervention (n = 1), because of the patient's own decision to withdraw the application (n = 7), for unknown reasons (n = 3), and because of a too high surgical risk (n = 1). Of the 240 eligible patients 184 (77%) and 172 of their parents (72%) agreed to participate. The group consisted mainly of girls (71%). The body parts concerned for operation were grouped into five areas: breasts (n = 62), ears (n = 39), nose/lips (including clefts) (n = 44), face (including eye, facial, and craniofacial deformities) (n = 25), and body (containing all other deformities) (n = 14). The breasts group consisted mainly of girls undergoing various breast corrections (94%; n = 58). The patient group was divided in a corrective (n = 100; 79% girls) and a reconstructive group (n = 84; 62% girls) (see Table 1). This group is fairly representative of all adolescents who apply for plastic surgery (SIG Zorginformatie 1992-1996).

The mean educational level, ranging from 1 (= elementary school) to 7 (= postgraduate university degree) (CBS 1993a), was 3.6 (SD = .85). Mean socio-economic status as determined by the highest available

Table 1
Numbers of 'corrective' and 'reconstructive' deformities in the patient group

Type of deformity	**Girls (n)**	**Boys (n)**
Corrective		
Mamma hypertrophy, -hypoplasy	53	4
Nose and lip deformities	4	2
Protruding ears	19	13
Lipodystrophy	1	-
'Other' (e.g. sequelae of acné vulgaris)	2	2
Total corrective	79	21
Reconstructive		
Scars	8	2
Benign tumours	11	3
Sequelae of craniofacial and cleft lip corrections	25	22
Congenital ear deformities	2	5
Congenital breast deformities (e.g. tubular breasts)	5	-
'Other' (e.g. alopecia areata)	1	-
Total reconstructive	52	32

occupational score within the family, ranging from 1 (= elementary occupations) to 5 (= scientific occupations) (CBS 1993b), was 2.9 (SD = 1.05). Most patients (92.7%) were Dutch. Other nationalities represented the major immigrant groups in The Netherlands, proportions ranging from 0.6% to 3.7%: Turkish, Moroccan, Surinam/ Antillean, and other nationalities.

General population sample. From 1996 to 1997, a sample of 1582 adolescents and young adults aged 12 to 22 was randomly selected from three municipalities representing different levels of urbanisation (14% rural; 39% sub-urban; 47% urban), similar to the general population of Zuid-Holland (CBS 1989). Twenty-three subjects (1.5%) were excluded because they were involved in plastic surgery (n = 15), because of a cognitive handicap (n = 2), or because of language problems (n = 6). Another 322 subjects (20.4%) could not be reached by telephone. Twenty-

two subjects (1.4%) could not be traced at all, leaving a sample of 1213 subjects. Of these adolescents 344 refused participation (28.4%) and 185 did not respond after repeated reminders (15.3%). Data were collected from 684 adolescents (56.4% of the sample of 1213 subjects; 60% girls versus 40% boys), 84 of whom only filled out a shortened 'screening' questionnaire on body satisfaction. The mean educational level was 3.5 (SD = .89) and mean socio-economic status was 3.0 (SD = 1.07). Most adolescents in the general population group (93.8%) were Dutch. Other nationalities were Turkish, Moroccan, Surinam/ Antillean, and other, proportions ranging from 0.9% to 2.8%.

Differences between patient and general population groups. Gender distribution differed significantly between the patient and general population group (71% patient girls, 60% general population girls; χ^2 = 7.54; p = .006). In both groups girls were older (patients 17.3; general population 16.4 years) than boys (patients 16.1; general population 16.3 years), significantly so in the patient group (F = 6.25; p = .013). The mean educational level and socio-economic status did not differ significantly across the two groups. Due to varying response rates to the interviews and the questionnaires respectively, sample sizes may vary slightly throughout the article.

Procedure

Approval for the research was obtained from the Medical Ethical Committee of each participating hospital. Plastic surgeons (n = 37, 11 of whom were plastic surgery residents) filled out a checklist for each patient on which basis each patient was either in- or excluded. Patients were informed about the research by the surgeon and the outpatient clinic staff. The researcher gave further information by telephone and written informed consent was obtained from the patients and their parents. Patients and parents received questionnaires on demographics, appearance and psychosocial functioning, and were contacted for a telephone interview within a month before the operation. If a telephone appointment could not be made, the interview took place at the ward.

Three municipalities, representing Dutch urbanisation, provided

names and addresses of randomly selected samples of adolescents aged 12 to 22. These adolescents were contacted by telephone and, if they agreed to participate, received the questionnaires accompanied by written information about the survey.

Instruments

General information. Both parental and adolescent questionnaires provided data on occupational and educational level, nationality, and severity and visibility of the deformity. A telephone interview was developed for the patients in this study and taken from both adolescents and parents. Surgeons filled out a checklist providing personal and clinical information about the patients, and the surgeon's ratings of the severity and visibility of the deformity.

Bodily satisfaction and attitudes. The *Body Cathexis Scale* (BCS; Secord and Jourard 1953; Jourard and Secord 1955) was used to measure (dis)satisfaction with one's body. This 53-item 5-point Likert scale contains items inquiring after satisfaction on most body parts and bodily functions, with higher scores indicating more satisfaction. Exploratory factor analysis with VARIMAX rotation on the scores from the combined samples, including the screening subsample (n = 809), produced five factors which differed somewhat from the original factors. These factors were labelled: 'Facial features' (α = .91), containing 19 items pertaining to satisfaction on body parts such as face, lips, and head; 'Figure' (α = .93), containing 10 items such as figure, weight and buttocks; 'Torso' (α = .84), containing 7 items such as breast, breasts, and shoulders; 'Bodily functions' (α = .83), containing 10 items such as health, breathing, and energy; and 'Extremities' (α = .75), containing 5 items such as hands, fingers, and ankles.

To assess whether patients might be only dissatisfied with the body parts related to their identified deformity as compared to other body parts, item scores relating to these identified deformities were summed. Mean scores of these clusters and mean scores of the remaining items were compared. Items included: breast, nipples, and breasts for the 'breasts' group; ears for the 'ears' group; nose, lips and mouth, and teeth for the

nose/ lip group; chin, form of head, eyes, forehead, face, and back of the head for the 'face' group; waist, skin, belly, navel, and rump for the 'body' group.

Bodily attitudes were measured with the *Bodily Attitudes Scale* (BAS; Baardman 1989), a 45-item 5-point Likert scale. Because the original scales were based on adults, we analysed the data from our combined patient and general population samples (n = 716). Exploratory factor analysis with VARIMAX rotation yielded an 'Appraisal' factor (α = .94), including 22 items such as 'Are you satisfied with the way your body looks?', and 'How do you like showing yourself at the swimming pool?'; an 'Attribution' factor (α = .88), including 13 items such as 'Do you think people avoid you because of your appearance?', and 'Have you ever had the idea that people don't like you because of your appearance?'; and a 'Physical contact' factor (α = .77), including 7 items such as 'In general, how much do you like being touched by someone else?', and 'In general, how much do you like touching people?'. Scales were constructed from the items included in the factors, with high scores indicating positive bodily attitudes.

Psychosocial functioning. The *Youth Self-Report* (YSR; Achenbach 1991b) and *Child Behavior Checklist* (CBCL; Achenbach 1991a) are standardised questionnaires on competencies and behavioural and emotional problems, as reported by children aged 11 to 18 years old and by parents for children aged 4 to 18 years, respectively. The problem section contains 120 items using a 3-point scale (0 = not true, 1 = somewhat or sometimes true, 2 = very or often true). The scales are translated and validated for the Dutch population (Verhulst, Van der Ende et al. 1996; Verhulst, Van der Ende et al. 1997). The two broad band scales, Internalising and Externalising, and the Total Problem score are used. The good reliability and validity of the American versions (Achenbach 1991a; Achenbach 1991b) were confirmed for the Dutch version (Verhulst, Van der Ende et al. 1996; Verhulst, Van der Ende et al. 1997).

The Young Adult Self-Report (YASR; Achenbach 1997) and the *Young Adult Behavior Checklist* (YABCL; Achenbach 1997) are constructed similarly to the YSR and CBCL for ages 18 to 30 years. Both

parents and parent substitutes can complete the YABCL. The two broadband scales and Total Problem score were used. Good reliability and validity have been reported for both the American YASR and YABCL (Achenbach 1997) and for the Dutch YASR (Wiznitzer, Verhulst et al. 1992; Ferdinand, Verhulst et al. 1995). Crohnbach's alphas for the Dutch YABCL in the general population sample were .88 (Internalising Problems), .83 (Externalising Problems), and .92 (Total Problems).

Self-perceived competence was measured with the *Harter Self-Perception Profile for Adolescents* (HSPP-A; Harter 1988). This 45 item 4-point scale intends to measure the global structure of self-esteem in 9 areas: 1) scholastic competence, 2) social acceptance, 3) athletic competence, 4) physical appearance, 5) job competence, 6) romantic appeal, 7) behavioural conduct, 8) close friendships, and 9) global self worth. High scores indicate high self-esteem. Crohnbach's alphas in this sample ranged from .58 for 'behavioural conduct' to .90 for 'athletic competence' (median $\alpha = .76$).

The *Harter Social Support Scale* (HSSS; Harter 1985) contains 24 4-point scale items measuring perceived support and regard from parents, classmates/ colleagues, teachers/ employers, and close friends. Crohnbach's alphas in this sample were .83 (parental support), .78 (support from classmates/ colleagues), .85 (support from teachers/ employers), and .88 (support from best friends). High scores indicate high perceived social support.

The *Social Anxiety Scale* (SAS; Willems, Tuender-de Haan et al. 1973) contains 24 5-point items, and was developed to measure dispositional social fear. Reliability and validity are sufficient (Evers, Vliet-Mulder et al. 1992). High scores indicate social anxiety. Crohnbach's alpha in this sample was .89 for the total social fear score.

The *Children's Depression Inventory* (CDI; Kovacs 1992), a 27 item 3-point scale was designed to measure depression in children. American psychometric properties show good internal consistency and an acceptable level of stability and the scale appears to distinguish well between clinical and 'normal' groups. Factor analysis with VARIMAX rotation on the general population sample produced one factor including all items. Scores

on the items in this factor were summed into a total depression scale score, which showed high reliability ($\alpha = .86$). Higher scores indicate depression.

Psychological determinants. The *Big Five Inventory* (BFI; John, Donahue et al. 1991), a 44 item 5-point scale, was used to measure personality on five factors recently described as the relevant factors determining personality. High scores indicate a more prominent personality characteristic. Factor analysis using VARIMAX rotation on the general population sample (n = 571) replicated the original five-factor structure rather well in this sample: 1) extraversion ($\alpha = .79$), 2) agreeableness ($\alpha = .61$), 3) conscientiousness ($\alpha = .72$), 4) neuroticism ($\alpha = .78$, and 5) intellect, or 'openness to experience' ($\alpha = .74$).

The *Utrecht Coping List* (UCL; Schreurs and Willige 1988), a 47 item 4-point scale, was designed to measure seven ways of coping with stressful events: 1) active approach, 2) palliative reaction, 3) avoiding/ anticipating, 4) seeking social support, 5) passive reactional pattern, 6) expression of emotions, and 7) reassuring thoughts. High scores indicate a more prominent coping style. The UCL has been shown to be a reliable and valid instrument to assess coping dispositions (Schaufeli and Van Dierendonck 1992). In our sample, Crohnbach's alphas were .78 (active approach), .72 (palliative reaction), .61 (avoiding/ anticipating), .84 (seeking social support), .69 (passive reactional pattern), .52 (expression of emotions), and .69 (reassuring thoughts).

Methods of analysis/ statistics

Multivariate analyses (MANOVAs), followed by Duncan's post-hoc tests ($\alpha = .05$), were used to analyse group and gender differences in bodily satisfaction and attitudes, psychosocial functioning, and psychological characteristics, with age as a covariate. For the single total scores of depression and social anxiety, general factorial analyses were performed. Only significant multivariate tests (significance of Hotelling's Trace $\leq .05$) will be reported. T-tests were used to test differences between the patient and general population samples on behavioural and emotional problems. Because different versions of the behavioural and emotional questionnaires were used for different age groups we combined the CBCL/ YABCL and

YSR/ YASR data using z-scores. Mean scores of the mean clustered BCS scores and mean scores of the remaining BCS items were compared pair-wise within the patient group by means of repeated measures MANOVAs, using paired samples t-tests as post-hoc tests. As mean scores may obscure low or high scores, the sample was also divided into a group with scores within two standard deviations of the mean ('mean scores') and a group with scores above or below two standard deviations of the mean ('high' or 'low scores'). Chi-square tests were used to determine the proportions of adolescents scoring two or more standard deviations below the overall mean. Pearson correlations were calculated to determine the relations between bodily attitudes, psychosocial functioning and personality factors. Differences in correlations between groups and gender were tested using Fisher-Z tests.

Results

Results will be discussed according to the three research questions, which are focussed on patient and general population group differences. However, across groups, main gender effects were found for all variables, except 'depression'. In general, girls reported more negative bodily attitudes than boys, whereas boys reported less self-confidence on social areas. Further, as expected, boys showed more externalising behavioural patterns, whereas girls showed more internalising patterns. Where applicable, group by gender interaction effects will be presented.

Bodily satisfaction and attitudes

The results from the MANOVA on bodily satisfaction by groups and gender showed the following significant effects: Adolescents in the patient group reported more satisfaction with their figure ($p = .042$) and extremities ($p = .001$) on the BCS than adolescents in the general population, although effect sizes were very small ($\eta^2 = 0.6\%$ and 1.5%, respectively) (see Table 2). Patient girls were least satisfied on the torso domain as compared to all other groups ($p = .017$; $\eta^2 = 0.8\%$), reflecting the large proportion of patient girls undergoing breast reductions. When proportions of adolescents in each group with deviant scores were

compared, it appeared that only patient girls fell into the 'low' range more often than girls in the general population on the 'torso' domain (8.4% versus 2.2%; $\chi^2 = 9.8$; $p = .002$).

Within the patient group, patients undergoing corrective operations were significantly more dissatisfied about their appearance than adolescents in the reconstructive group (differences in mean scores: 'figure'.64; $p < .001$; $\eta^2 = 6.4\%$; 'health' .33; $p = .002$; $\eta^2 = 6.3\%$; 'torso' .57; $p = .001$; $\eta^2 = 7.9\%$; 'extremities'.22; $p = .05$; $\eta^2 = 2.6\%$), except on the domain of 'face' where there was no difference.

Within the patient group, all diagnostic groups, except the 'face' group, appeared to have significantly lower mean satisfaction scores on their 'deformity clusters' (breasts: 2.16, SD = .80; ears: 1.94, SD = 1.27; nose/ lip: 3.23, SD = 1.02; face: 3.85, SD = .54; body: 3.30, SD = .66) as compared to the rest of their body (breasts: 3.62, SD = .47, $p < .001$; ears: 4.09, SD = .45, $p < .001$; nose/ lip: 4.17, SD = .50, $p < .001$; face: 3.95, SD = .42, n.s.; body: 3.87, SD = .38, $p = .003$). This indicates that all patients, except the patients in the 'face' group, reported more dissatisfaction about the body part considered for operation than about all other body parts. A significant cluster/rest by corrective/reconstructive interaction effect on the 'breasts' and 'ears' clusters showed that patients in the corrective group were more dissatisfied about these body parts ('breasts' M = 2.88; SD = 1.19; $\eta^2 = 14.2\%$; 'ears' M = 3.32; SD = 1.40; $\eta^2 = 7.1\%$; $p < .001$) than the rest of their body (M = 3.77; SD = .51, and M = 3.73; SD = .53, respectively), whereas there was no significant difference between satisfaction about body part and rest in the reconstructive group. A similar interaction effect on the 'nose' cluster ($\eta^2 = 13.9\%$; $p < .001$) showed that patients in the reconstructive group were more dissatisfied about their nose (M = 3.59; SD = .97) than about the rest of their body (M = 4.04; SD = .47), whereas patients in the corrective group were more dissatisfied about the rest of their body (M = 3.71; SD = .52) than about their nose (M = 3.88; SD = .67).

Bodily attitude scores were significantly lower for the patients than for adolescents in the general population on all three domains, although effect sizes were very small (appraisal: $\eta^2 = 1.0\%$; $p = .007$; attribution: η^2

= 2.2%; $p < .001$; touch: $\eta^2 = 0.9\%$; $p = .011$) (see Table 2). Patient boys made the most negative inferences about their appearance ($\eta^2 = 0.6\%$, $p = .038$). Patients in the corrective group reported lower bodily appraisal ($M = 3.43$; $SD = .82$) than in the reconstructive group ($M = 3.99$; $SD = .60$; $\eta^2 = 10.2\%$; $p = .001$).

More patients fell into the 'low scores' range of appraisal as compared to the general population (8.7% versus 4.2%; $\chi^2 = 5.8$; $p = .016$), indicating that patients were more often highly dissatisfied than adolescents in the general population. On attribution, patient boys fell into the 'low scores' range more often than boys in the general population (9.4% versus 2.9%; $\chi^2 = 4.7$; $p = .03$), indicating that more patient boys made very negative inferences about their appearance than general population boys.

Table 2

Mean scores on the Body Cathexis Scale (BCS) and Body Attitude Scale (BAS) across groups and gender

	Patients; M (SD)		General Population; M (SD)	
Scales	Girls	Boys	Girls	Boys
BCS	*(n = 107)*	*(n = 42)*	*(n = 352)*	*(n = 228)*
Figure	3.35 (.87)^{a}	4.12 (.62)^{a}	3.28 (.88)^{b}	3.89 (.66)^{b}
Face	3.95 (.48)	4.14 (.59)	3.89 (.48)	4.03 (.51)
Health	3.79 (.53)	4.12 (.49)	3.76 (.59)	4.01 (.58)
Torso	3.54 (.76)^{a}	4.02 (.63)^{c}	3.73 (.60)^{b}	3.89 (.66)^{c}
Extremities	3.92 (.60)^{a}	4.23 (.55)^{a}	3.79 (.59)^{b}	3.98 (.60)^{b}
BAS	*(n = 108)*	*(n = 42)*	*(n = 345)*	*(n = 221)*
Appraisal	3.55 (.80)^{a}	4.06 (.56)^{c}	3.73 (.69)^{b}	4.24 (.46)^{d}
Attribution	4.34 (.61)^{bc}	4.26 (.57)^{ab}	4.43 (.48)^{cd}	4.56 (.42)^{d}
Touch	3.43 (.56)^{a}	3.37 (.60)^{a}	3.49 (.64)^{b}	3.58 (.62)^{b}

Note: Subgroups with different superscripts are significantly different ($p < .05$; Duncan's post-hoc tests ($\alpha = .05$) on MANOVAs for BCS and BAS scales, with groups and gender as factors, and age as covariate (Hotelling's Trace $p \leq .05$).

Psychosocial functioning

Neither across patient and general population groups, nor within the patient group did MANOVAs reach significance.

When examining proportions of deviant CBCL/YABCL scores, more patients than adolescents in the general population showed internalising (8.7% versus 3.7%; $\chi^2 = 6.3$; $p = .017$) and total problems (8.0% versus 3.9%; $\chi^2 = 4.3$; $p = .050$). Particularly, patient boys more often had deviant scores CBCL/YABCL total problems than general population boys (14.0% versus 2.8%; $\chi^2 = 9.9$; $p = .007$).

When examining the nine factors of perceived competence, patients appeared to have lower self-esteem scores than the general population group on physical appearance ($M = 2.48$; $SD = .74$ and $M = 2.84$; $SD = .78$, respectively; $\eta^2 = 2.7\%$; $p < .001$) and romantic appeal ($M = 2.47$; $SD = .56$ and $M = 2.57$; $SD = .61$, respectively; $\eta^2 = .8\%$; $p = .020$). Patient boys reported lower self-competence scores than general population boys on social competence ($\eta^2 = 0.7\%$; $p = .025$), romantic appeal ($\eta^2 = 0.7\%$; $p = .024$), and close friends ($\eta^2 = 1.0\%$; $p = .007$). On the domain of close friends patient boys reported lower self-competence scores than all other subgroups. Across groups, boys had higher self-esteem than girls on sportive activities, physical appearance, and global self-worth, but lower self-esteem on close friendships. Within the patient group, adolescents in the reconstructive group had significantly higher self-competence scores on physical appearance ($M = 2.78$; $SD = .69$; $\eta^2 = 12.4\%$; $p < .001$), behavioural conduct ($M = 3.14$; $SD = .39$; $\eta^2 = 3.0\%$; $p = .036$), and global self-worth ($M = 3.28$; $SD = .58$; $\eta^2 = 9.2\%$; $p < .001$) than in the corrective group ($M = 2.22$; SD.69, $M = 3.03$; $SD = .47$, $M = 3.28$; $SD = .58$, respectively).

Perceived social support did not differ significantly across groups. There were two small interaction effects ($\eta^2 = 0.7\%$; $p = .033$ and $\eta^2 = 1.3\%$; $p = .002$, respectively), showing that patient girls felt more supported by classmates than patient boys. Further, patient boys felt least accepted by close friends as compared to all other groups. Also, proportions of deviant scores showed that patient boys felt much less supported by friends than general population boys (17% versus 7.9%; $p = .04$).

Social anxiety differed across gender (η^2 = 2.4%; p < .001), with a small interaction effect for groups (η^2 = .8%; p = .018): A Duncan post-hoc test showed that patient boys (M = 3.42; s.d = .66) were less socially anxious than general population boys (M = 3.20; SD = .60), and patient (M = 3.08; SD = .72) and general population girls (M = 2.98; SD =.68), who did not differ significantly amongst them. There were no significant differences in proportions of adolescents falling into low score ranges.

Depression scores differed neither across groups nor gender, ranging from not depressed (M = 1.00) to mildly depressed (M = 2.15). There were no significant differences between corrective and reconstructive patient groups, nor in proportions of adolescents falling into low score ranges.

Psychological characteristics

Mean personality scores ranged from 2.47 (SD = .67; general population boys on neuroticism) to 3.92 (SD = .55; patient girls on agreeableness). Personality factors did not differ across the groups. There were no significant differences in proportions of adolescents falling into high score ranges.

UCL scores ranged from 1.55 (SD = .41; general population boys on passive coping) to 2.55 (SD = .55; general population boys on active coping), but did not differ across groups. There were no significant differences across groups or gender in proportions of adolescents deviating two or more standard deviations from the overall mean.

Correlations between bodily satisfaction/ attitudes and psychosocial functioning and personality characteristics.

To assess the relation of bodily satisfaction and attitudes (BCS total score, BAS appraisal and BAS attribution) with psychosocial problems and personality, Pearson correlations were calculated across both groups (see Table 3). Between-group and -gender differences in strength of correlations were determined using Fisher-Z tests. The total score scales (Total Problems, Global Self-esteem) were omitted from the analyses because of the large overlap with the other subscales. Perceived job competence was discarded because the majority of participants were not involved in jobs; only the older adolescents were.

Across groups, high correlations (> .50; Cohen 1988) were found for BCS total scores with adolescent-reported self-competence on physical appearance, global self-worth, and depression (see Table 3). BAS appraisal scores correlated highly with adolescent-reported internalising problems, self-competence on physical appearance, global self-worth, and depression. BAS attribution scores correlated highly with global self-worth, and depression. BCS total scores correlated moderately ($.30 < r \geq .50$) with self-reported internalising and externalising problems, and athletic competence. BAS appraisal scores correlated moderately with social anxiety. BAS attribution scores correlated moderately with self-competence on physical appearance and making close friends, and adolescent-reported internalising problems. Further, moderate correlations were found between all three body satisfaction and bodily attitude scales, and social and romantic self-competence, and extravert and neurotic personality. All of these correlations were significant ($p \leq .01$).

Group- and gender comparisons produced a few significant differences that all concerned small correlations (ranging from -.10 to .27, $p \leq .01$). The correlations between BAS appraisal and attribution scales and extravert personality were moderate to high, and significantly higher for patients ($r = .51$; $p \leq .001$ and $r = .47$; $p \leq .001$, respectively) than for general population adolescents ($r = .28$; $p \leq .001$ and $r = .30$; $p \leq .001$, respectively).

Resuming, correlations indicated that low bodily attitudes (satisfaction, appraisal, and attribution) were related to emotional and behavioural problems, low self-esteem, low perceived social support, social anxiety, depression, low extraversion, and high neuroticism.

To determine the individual contribution of the psychosocial variables on bodily satisfaction and attitudes, stepwise discriminant analyses were performed (see Table 3). Using median split, high and low scoring groups were formed for the three bodily satisfaction and attitudes scales. Discriminant analysis for BCS total scores produced one function (Wilk's Lambda = .66; $p < .001$) with six variables significantly contributing to the discrimination of BCS high versus low total scores: 1. self-competence on physical appearance, 2. depression, 3. neuroticism, 4. self-competence on

Table 3

Pearson's correlations ($p \leq .01$) between bodily attitudes, psychosocial functioning and personality factors for patients and general population adolescents combined

Emotional and Behavioural Problems (n = 641)	BCS total	BAS appraisal	BAS attribution
Internalising, Youth	-.50	-.55*	-.47
Externalising, Youth	-.30*	-.21[5]	-.21*
Internalising, Parent	-.24	-.25	-.27
Externalising, Parent	-.10[2]	-.05[ns]	-.10[3]
Self-competence(n = 674)			
School	.17*	.22	.25*
Social	.31	.33	.43
Sportive	.32	.40	.25
Physical appearance	.63*	.78*	.49*
Romantic	.38	.43	.44*
Behaviour	.27	.23	.28
Close friends	.26	.27	.36
Social Support(n = 674)			
Parental	.26[2,5]	.23[5]	.27[5]
Class	.28	.27	.47
Teacher	.18	.12	.15
Friends	.16	.14	.31*
Social Anxiety(n = 674)			
Total	-.39	-.50*	-.44
Depression(n = 674)			
Total	-.53*	-.56	-.54
Personality(n = 706)			
Extraversion	.32*	.34[1,3,4]	.34[1]
Agreeableness	.15	.07[ns]	.15
Conscientiousness	.20	.14	.13
Neuroticism	-.42*	-.46	-.35
Openness	.09[ns]	.09[ns]	.08[ns]

Note: Fischer-Z tests results: ns = nonsignificant; * indicate variables that had a significant ($p < .001$) contribution to the discriminant function distinguishing high and low scores; [1] = P(atients) > G(eneral population); [2] = G > P; [3] = P girls > G girls; [4] = P boys > G boys; [5] = G boys > P boys.

school performance, 5. self-reported externalising problems, and 6. extraversion. Discriminant analysis for bodily appraisal scores produced one function (Wilk's Lambda = .56; $p < .001$) including three variables significantly contributing to the discrimination of BAS high versus low appraisal scores: 1. self-competence on physical appearance, 2. self-reported internalising problems, and 3. social anxiety. Discriminant analysis for BAS attribution scores produced one function (Wilk's Lambda = .76; $p < .001$) including five variables significantly contributing to the discrimination of BAS high versus low attribution scores: 1. self-competence on physical appearance, 2. romantic self-esteem, 3. self-reported externalising problems, 4. perceived social support by friends, and 5. self-competence on school performance.

Discussion

This study aimed to provide a basis for the process of decision making in the assessment of adolescents requesting plastic surgery. To do so, we studied the bodily satisfaction and attitudes, psychosocial functioning and psychological characteristics of 184 adolescents and young adults (ages 12-22) before plastic surgical intervention as compared to a general population sample, consisting of 684 adolescents of the same age range.

First, to assess how realistic the adolescent's body perception is, we compared over-all with specific body dissatisfaction. Each diagnostic patient group, except the 'face' group, was significantly more dissatisfied about the specific body parts considered for surgery, than about the remaining body parts, whereas over-all body dissatisfaction did not differ from the general population. This is similar to findings in a recent study on male plastic surgical patients, who also reported equal overall dissatisfaction as compared to normative data, but higher dissatisfaction with respect to the bodily feature they were considering for plastic surgery (Pertschuk, Sarwer et al. 1998). This dissatisfaction seems realistic, as it focused on the body parts considered for operation. This finding corroborates previous findings on the same sample, showing that the patients' subjective severity and visibility ratings of the deformity

considered for operation corresponded with the ratings by their parents and plastic surgeons (Simis, Koot et al. 2000). It also confirms findings from other studies, showing that patients undergoing reconstructive operations are surprisingly satisfied with their over-all appearance (Lefebvre and Munro 1978; Lefebvre and Barclay 1982; Clifford 1983).

Second, by considering psychosocial problems, we tried to assess the urgency of the request of the average adolescent applying for plastic surgery. Differences between patients and the general population group on overall behavioural and emotional problem scores were very small, suggesting little psychosocial urgency for surgery. However, in the current study, patients reported lower self-esteem on physical appearance and romantic appeal than adolescents from the general population, confirming adolescent patients' specific appearance-related problems, rather than overall psychosocial problems. These areas of self-esteem also correlated moderately to highly with bodily attitudes. Furthermore, in interviews described in a previous report on the same sample, patients reported considerable specific appearance-related problems (Simis, Koot et al. 2000). Therefore, the urgency of adolescents for undergoing plastic surgery seems to stem not so much from overall problems in psychosocial functioning, but all the more from specific appearance-related burdens, wherein they do distinguish themselves from general population adolescents. This finding clarifies seemingly contradicting findings from other studies, where investigations using clinical interviews, did find presurgical appearance-related psychological problems, while investigations using standardised assessment found patients relatively free of psychopathology (Sarwer, Pertschuk et al. 1998a).

Third, we assessed differences in the relation between body image and psychosocial variables for adolescents applying for plastic surgery versus their agemates from the general population. Across groups, self-competence concerning physical appearance, global self-worth, depression, behavioural and emotional problems, and extravert and neurotic personality all correlated moderately to highly with bodily satisfaction and bodily attitudes, indicating that experienced competence and wellbeing are related to subjective perception of appearance. Most

important contributors the distinction between adolescents scoring high versus low on bodily satisfaction and attitudes were self-perceived competence (physical appearance, romantic appeal), psychosocial functioning (internalising and externalising problems, depression, social anxiety), and personality (extraversion, neuroticism). This indicates that low bodily satisfaction and attitudes especially related to low self-perceived, appearance-related competence, poor mental health, and lower extraversion and high neuroticism. Given minimal differences in correlations between the patient and general population group, we may conclude that the relation between bodily attitudes, and wellbeing and personality are generally the same for both groups of adolescents. Still, extravert personality correlated significantly higher with appearance satisfaction, and bodily appraisal and attribution for patients than for general population adolescents, indicating that in the patient group bodily dissatisfaction and negative attitudes were more strongly related to introversion than in the general population group.

Within the patient group, a few differences appeared between patients in the corrective and the reconstructive group. Patients in the corrective group were more dissatisfied about their over-all appearance than patients in the reconstructive group. Further, the reconstructive group reported less emotional and behavioural problems, and higher physical appearance-related and global self-competence. This finding corroborates previous findings in reconstructive patient groups showing little or no psychosocial problems and being satisfied about their appearance (Clifford 1983; Pertschuk and Whitaker 1988).

Our findings suggest that, basically, the plastic surgeon may assume that adolescents they accept for plastic surgery have a realistic attitude towards their appearance and are psychologically healthy. These adolescents are mainly dissatisfied about the body parts concerned for operation, corrective patients more so than reconstructive patients. They do have measurable psychosocial problems related to their appearance dissatisfaction, especially patients in the corrective group. Finally, the appearance satisfaction of the patients is clearly related to their psychological and personality characteristics, but not differently from what

might be expected in adolescents in the general population. However, given that bodily dissatisfaction and negative attitudes are more typical of an introvert versus an extravert personality type, surgeons may need to put more effort in their interviews with introverts than with extraverts to get an appropriate insight in their bodily attitudes.

A few gender differences need special attention. In a previous study on the same patient sample, surgeons rated severity and visibility of the deformity higher for boys than for girls, and self-ratings of visibility of deformity were higher for boys than for girls (Simis, Koot et al. 2000). In the current study, patient boys reported relatively high bodily satisfaction. By this, they seem to compensate for their more deformed appearance, as confirmed by intersubjective judgement, and the higher levels of appearance-related problems on the social domains, especially with regard to friendship and romantic relationships, as found in this study. These findings suggest that if boys apply for plastic surgery they have sufficient reason to do so, consistent with recent literature (Pertschuk, Sarwer et al. 1998), but do not constitute a high-risk group for postsurgical psychological problems, as suggested by others (Wright 1987).

Caution is warranted with regards to interpreting the correlational data. Given the cross-sectional nature of the study, the reported associations should not be regarded to reflect any causality. Only a well-designed intervention study may throw light on any causal relationship between the variables in this study.

Adolescents who applied for, but did not undergo surgery were not included in the research sample. In one individual case, a female patient who could not be operated on a large haemangioma in the neck because of a too high mortality risk (medical/ technical contraindication), developed severe psychological problems. The listing of patients excluded from surgery does not give us reason to assume selectivity of applicants based on reasons of psychological ill-health. Therefore, we may conclude that adolescents applying for plastic surgery constitute a psychologically healthy group of adolescents, as the non-operated group included only one patient with known psychological problems, which were not the reason not to operate, but the reaction on the impossibility to reconstruct a severe

deformity. The finding of an over-all psychologically healthy surgical study population corroborates earlier findings in related research (Sarwer, Pertschuk et al. 1998a).

The present study provided unique information about the psychosocial functioning of a sizeable sample of adolescents and young adults applying for plastic surgical interventions currently performed in The Netherlands. It is still unknown whether adolescents will benefit from plastic surgical intervention. Postsurgical data, collected on the present research group, will provide an answer to this question.

5

After plastic surgery: Adolescent-reported appearance ratings and appearance-related burdens in patient and general population groups

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Abstract

Introduction. *The aim of this study was to determine the effects of appearance-related surgery on psychosocial functioning during adolescence. To this end, changes in bodily attitudes and appearance related burdens in adolescents undergoing corrective (for esthetic deformities) and reconstructive (for congenital or acquired deformities) surgery were compared to those in a general population sample.* ***Procedure.*** *A group of 184 adolescent plastic surgery patients (corrective: n = 100; reconstructive: n = 84), and a comparison group of 83 adolescents at random selected from three municipalities (corrective: n = 67; reconstructive: n = 16), aged 12-22 years, were studied at two time points with a 6-month interval. The plastic surgical patients were studied pre- and post surgically. Using fully structured telephone interviews and postal questionnaires, adolescents' ratings of their appearance, bodily satisfaction and attitudes, and appearance-related burdens were obtained.* ***Results.*** *All patients reported a significant decrease in burdens after surgery as compared to the comparison group, indicating a much more prominent improvement in the patient sample compared with the developmental changes that may be expected to occur in adolescence. The corrective patient group reported least burdens after the operation. More specifically, the 'breasts' group benefited most from the operation, indicating that breast corrections are rewarding interventions.* ***Conclusions.*** *The findings of this study imply that adolescents can be regarded good candidates for plastic surgery. They gain bodily satisfaction, and they are relieved of many appearance-related burdens. Physical, as well as social and psychological burdens related to appearance satisfaction improve considerably in both corrective and reconstructive adolescent patients.*

Introduction

Appearance enhancing plastic surgery on adolescents has become an accepted procedure. However, one may question the application of appearance-related surgery during adolescence. A minimal requirement should be that this kind of surgery benefits, or at least does not harm, the adolescent (Beauchamp and Childress 1979). To determine if this minimal condition is satisfied, we need to know if adolescents who undergo plastic surgery become more satisfied, and less bothered by their appearance. We also need to know whether such changes exceed 'natural changes' in bodily attitudes that are common in adolescence. This is an important issue, since the adolescents' body image is subject to enormous developmental change up to young adulthood (Rauste-von Wright 1989).

Several studies report improvement of bodily satisfaction and psychosocial functioning after various plastic surgical interventions for both children and adolescents (Lefebvre and Barclay 1982; Arndt, Travis et al. 1986; Lefebvre, Travis et al. 1986; Arndt, Travis et al. 1987; Bradbury, Hewison et al. 1992). However, these studies are limited in three ways. First, they did not use comparison groups which were studied with the same time interval, which makes it uncertain whether reported improvement in satisfaction and functioning may be attributed to the intervention. Second, the studied groups were homogeneous regarding diagnostic features, which prohibits comparison of effect size across diagnostic groups that typically are operated upon during adolescence. Third, no studies compared the results of interventions that were performed for corrective versus reconstructive reasons. Therefore, it is unknown whether effects of interventions depend on the reason for applying for plastic surgery. In this study, 'reconstructive' interventions refer to reconstructions of congenital deformities, or deformities caused by disease or trauma. 'Corrective' interventions refer to all other interventions with an esthetic nature. Further, studies often focus only on parts of the body image.

Body image is considered to be the most important construct to study, when estimating effects of appearance changes. Sarwer et al. suggested to assess four central elements, which contribute to the conceptual construct

of body image, when studying the effects of corrective (cosmetic) surgery: 1) the physical reality of appearance, 2) perceptions of appearance, 3) the importance of appearance, and 4) the degree of satisfaction of appearance (Sarwer, Pertschuk et al. 1998a).

This study aims to determine whether changes in body image and well-being six months after surgery are larger than the natural changes occurring in adolescents from the general population. To this end, post-surgical changes in bodily satisfaction and appearance-related burdens in adolescents and young adults (henceforward: adolescents) undergoing plastic surgery were compared to changes reported by adolescents from the general population who were dissatisfied about an appearance deformity, but who did not undergo surgery. These burdens can be defined as daily hassles, troubles or problems which the adolescent experiences, and which he/she relates to his/her appearance. We studied the participants' perception of improvement of their appearance in terms of severity and visibility of the deformity, the increase in appearance satisfaction, changes in bodily attitudes and improvement in appearance-related burdens.

Corresponding with recent findings on adult patients undergoing corrective interventions (Sarwer, Wadden et al. 1998b), and child and adolescent patients undergoing reconstructive operations (Lefebvre and Barclay 1982; Pertschuk and Whitaker 1982; Pertschuk and Whitaker 1988) the adolescents in this study were expected to improve after plastic surgery concerning appearance perception, bodily satisfaction, appearance-related burdens and self-confidence. Although comparisons between corrective and reconstructive plastic surgery have never been made, patients undergoing corrective surgery may be expected to profit most, since attaining normal appearance through reconstructive plastic surgery is very difficult.

Methods

Participants

Patient sample. From 1995 to 1997, 184 adolescents and young-adults aged 12 to 22 years who were to undergo any elective appearance correcting operation, were recruited from 12 hospitals virtually covering

the south-western region of The Netherlands and 4 hospitals in the north-western region. Exclusion criteria were cognitive and physical handicaps. Acquired deformities had to exist for at least one year. Of the 240 eligible patients 184 (77% response rate; 71% girls; mean age 17.3, boys 16.2 years) and 172 of their parents (72%) agreed to participate.

Table 1
Numbers of 'corrective' and 'reconstructive' deformities

Type of deformity:	Patients		Comparison group	
Corrective	Girls	Boys	Girls	Boys
Mamma hypertrophy, -hypoplasy	53	4	22	1
Nose and lip deformities	4	2	13	5
Protruding ears	19	13	6	3
Lipodystrophy	1	-	7	-
'Other' (e.g. sequelae or acné vulgaris)	2	2	3	7
Total corrective	79	21	51	16
Reconstructive				
Scars	8	2	3	2
Benign tumors	11	3	3	1
Sequelae of craniofacial and cleft lip corrections	25	22	-	-
Congenital ear deformities	2	5	-	-
Congenital breast deformities (e.g. tubular breasts)	5	-	2	1
'Other' (e.g. alopecia areata)	1	-	1	3
Total reconstructive	52	32	9	7

Diagnostic features included breast deformities (hyper- or hypotrophy, and asymmetry), nose and lip deformities (sequelae of cleft surgery, hump noses), protruding and otherwise deformed ears, sequelae of craniofacial surgery, eye deformities, naevi, port wine stains, scars, contour defects, and benign tumors on body/extremities and face (see Table 1; for further details, see Simis, Koot et al. 2000). For further analyses, the diagnostic information was grouped according to the targeted deformity: breasts (n=62; reconstructive n = 5), ears (n=39; reconstructive

n = 7), nose/lips (including clefts) (n=44; reconstructive n = 38), face (including eye, facial, and craniofacial deformities) (n=25; reconstructive n = 22), and body (containing all other deformities) (n=14; reconstructive n = 12). The distribution of diagnostic groups differed slightly across responders and non-responders (responding/non-responding: breasts: 34%/21%; ears: 21%/34%; nose/lip: 24%/13%; face: 14%/14%; body: 8%/18%). Patients refusing participation did not differ across gender, age, and corrective/reconstructive distribution (see further) from those who participated.

Comparison group. The comparison group consisted of adolescents from the general population with a self-reported deformity, not planning to undergo surgery. To compose this group, in 1996 a sample of 1579 adolescents aged 12 to 22 years was randomly selected from three municipalities from the general population of Zuid-Holland (CBS 1989), using community registers. Twenty-three subjects (1.5%) were excluded from the sample because they were involved in plastic surgery (n=15), because of a cognitive handicap (n=2), or because of language problems (n=6), and 347 subjects (22%) could not be reached by phone, leaving an eligible sample of 1209 subjects (Simis, Koot et al. 2001a). Of these adolescents, 344 refused participation (29%), and 182 did not respond after initial consent and subsequent repeated reminders (15%). Data were collected from 684 adolescents (57% of the sample of 1209 subjects; 60% girls; mean age girls 16.7, boys 16.5 years). Those who refused or did not respond after initial contact or consent were somewhat, but significantly older than those who participated (16.9 years versus 16.5 years), and were mostly boys (59%).

From this general population sample, a comparison group of 83 adolescents was selected, consisting of 60 girls (72%; mean age 16.0 years) and 23 boys (mean age 16.3 years). The selection was based on an appearance-related questionnaire designed for the comparison group. If adolescents reported at least a slight deformity, which fell into the range of targeted deformities, they were included in the comparison group. This implies that all adolescents in the comparison group had a self-reported deformity (see Table 4). Those who were selected based on completed

questionnaires, but who refused the interview did not differ from those who participated in the interview across gender, age, diagnostic features, and corrective/reconstructive distribution. The patient and comparison group did not differ regarding gender, age, educational level or socio-economic status.

Both patient and comparison groups were divided into a corrective (patients: n=100; comparison group: n=67) and a reconstructive group (patients: n=84; comparison group: n=16) (see Table 2). The comparison group was too small to be divided into diagnostic subgroups. The corrective and reconstructive groups did not differ regarding age, educational level, or socio-economic status, but gender differed: The corrective group contained more girls (patients: 79%; comparison group: 76%) than the reconstructive group (patients: 62%; comparison group: 56%).

Table 2

Counts of corrective and reconstructive surgical and comparison groups at Time 1 and Time 2

	Time 1	Time 2	Response
Corrective			
Surgery	100	90	90%
Comparison	67	50	75%
Reconstructive			
Surgery	84	79	94%
Comparison	16	13	81%

Procedure

Approval for the research was obtained from the Medical Ethical Committee of each participating hospital. At Time 1 (T1), plastic surgeons provided patient information, by filling in a checklist. Patients, adolescents from the comparison group, and parents received standardized questionnaires on demographics, appearance and psychological and social functioning, and were contacted for a structured telephone interview (patients within a month before the operation). Patient interviews were

performed by the first author; comparison group interviews were performed by the first author and trained interviewers. Patients were contacted again six months after the operation, and adolescents in the comparison group six months after the first measurement (Time 2, T2). All adolescents and their parents received the same questionnaires and an appointment was made for the second telephone interview.

T2 response rates were 92% for the patients, and 76% for the comparison group (see Table 2). Reasons for drop-out were: moved without leaving address/phone number (patients/comparison group: 14%/15%), no response after sending questionnaires and telephone contact (7%/30%), because of objections to the questionnaires (4%/5%), lack of time (21%/15%) or motivation (29%/35%), moved abroad (1 patient; 7%), and because of bad experiences with a hospital (1 patient; 7%). The adolescents who dropped out at T2, did not differ from the remaining group regarding distribution of gender, age, educational level, or socio-economic status. Due to varying response rates to the interviews and the questionnaires respectively, sample sizes may vary slightly throughout the article.

Instruments

General information. Both parental and adolescent questionnaires provided data on occupational and educational level, and nationality. Surgeons filled out a recruitment checklist about every patient, to inform the researcher about personal and clinical patient data.

Severity and visibility ratings. Severity of the deformity was rated on a six-point self- rating scale, ranging from 1='more attractive than others' to 6='severely deformed'. For analyses of proportions, these scores were dichotomized into 'deformed', including 'slightly deformed' through 'severely deformed', and 'not deformed', including 'more attractive than others' through 'not deformed'. Visibility of the deformity was rated on a five-point scale, ranging from 1='invisible' to 5='immediately visible'. For analyses of proportions, these scores were dichotomized into 'invisible', and 'visible', including 'hardly visible' through 'immediately visible'.

Telephone interview. A fully structured telephone interview with the adolescent was developed for this study, providing information on appearance, appearance-related burdens, and expectations of the operation. All questions were read to the respondent.

Bodily satisfaction. The *Body Cathexis Scale* (BCS; Secord and Jourard 1953; Jourard and Secord 1955) was used to measure (dis)satisfaction with one's body. This scale contains 53 5-point Likert items (1=very dissatisfied; 5=very satisfied) to indicate satisfaction on most body parts and bodily functions. Exploratory factor analysis with VARIMAX rotation on the scores from the combined patient and general population samples (n=809), produced five factors which were labeled: 'Facial features' (19 items; α=.91); 'Figure' (10 items; α=.93); 'Torso' (7 items; α=.84); 'Bodily functions' (10 items; α=.83); and 'Extremities' (5 items; α=.75). Scales were constructed from the items included in the factors, with higher scores indicating more satisfaction. To determine postsurgical changes in satisfaction specifically about the body parts considered deformed, deformity cluster scores were calculated concerning BCS items on of the deformity to be operated, or reported to be deformed in the comparison group. Item scores relating to these identified deformities were summed. Items included: breast, nipples, and breasts for the 'breasts' group; ears for the 'ears' group; nose, lips and mouth, and teeth for the nose/lip group; chin, form of head, eyes, forehead, face, and back of the head for the 'face' group; waist, skin, belly, navel, and rump for the 'body' group.

Bodily attitudes were measured with the *Bodily Attitudes Scale* (BAS; Baardman 1989), including three scales regarding 'appraisal', 'projection' and 'attribution'. Because the original scales were based on small samples of adults, we analyzed the data from our combined patient and general population samples (n=716) to develop age-appropriate scales. Exploratory factor analysis with VARIMAX rotation yielded an 'Appraisal' factor (22 items; α=.94); an 'Attribution' factor (13 items; α=.88); and a 'Physical contact' factor (7 items; α=.77). Scales were constructed from the items included in the factors, with high scores indicating positive bodily attitudes.

Eight *appearance-related burdens* were asked for in the telephone interview. Respondents were asked to what extent they experienced burdens on the items Sports, Joining clubs, Leisure time, Making friends, Romantic relationships, Mood, Self-confidence, and Future plans such as building a career or finding a mate. The items were rated by the adolescents on a 3-point scale ranging from 0='not at all a burden' to 2='very much or often a burden'.

Statistical methods

Repeated measures MANOVAs, with patient/comparison group and gender as factors, and age as covariate to adjust for age differences in these groups, were used to analyze group-wise T1-T2 changes in mean appearance ratings, the BCS scores and the BAS scores. Significant time by group interactions indicate group differences in mean change over time. Differences between diagnostic groups were only studied within the patient group, because numbers of subjects were too small to test differences in the comparison group. Time differences in deformity cluster scores and sum scores of the remaining items were compared by means of repeated measures ANOVAs in both patient and comparison group. When comparing diagnostic groups and corrective/reconstructive groups, only patient/comparison and corrective/reconstructive groups were used as a factor, with gender and age as a covariate. Post-hoc tests, to test differences within multivariate interaction effects, were performed using paired T-tests, and one-way ANOVAs. Since the covariates age and gender did not have appreciable effects (only one significant time by age interaction effect was found), and slope coefficients were not significantly influenced by covariates, actual means, i.e. not adjusted for effects of covariates, are displayed in the tables. Wilcoxon Signed-Rank tests were applied to analyze univariate changes in proportions of reported appearance ratings and appearance-related burdens.

Results

Intervention effects. Across patient and comparison groups, adolescent-reported severity (T1: M=2.81; SD=1.01; T2: M=2.29; SD=.71;

p=.04) and visibility ratings of the deformity (T1: M=3.17; SD=1.29; T2: M=2.04; SD=1.29; p=.008) decreased significantly over time, as indicated by the significant main effect of the factor Time (T in Table 3). However, as indicated by the significant interaction effect TxG (Table 3) and the differences in means, visibility ratings of the deformity showed a stronger mean decrease across time for the patients than for the comparison group, most notably the patients in the corrective group (TxCR interaction effect).

Mean BCS and BAS scores did not differ across patient and comparison groups, nor change over time. However, the patient and comparison corrective groups became more satisfied at T2 on the 'figure' domain (TxGxCR effect), while the reconstructive group's satisfaction remained unchanged. On the 'face' domain, only adolescents in the comparison group gained satisfaction (TxG effect). Only corrective patients gained more satisfaction than all other groups on 'torso' at T2 (TxCR effect). Patients became less satisfied after the operation, while the comparison group remained equally satisfied on the domain 'extremities' (TxG effect), most notably the 'corrective' subjects in the comparison group (TxCR effect). A time by age interaction effect (TxA effect) indicated a more positive appraisal over time with increasing age (from 18 onwards) across both patient and comparison groups. All corrective groups appeared to gain a more positive appraisal at T2 than the reconstructive groups (TxCR effect).

Across patient and comparison groups, significantly fewer adolescents reported their appearance to be deformed, and the deformity to be visible at T2 than at T1 (see Table 4).

Appearance-related burdens showed a significant drop from T1 to T2, for patients on all domains, but for the comparison group only on 'sports' and 'joining clubs'. A significant decrease in burdens was reported on all domains by the corrective patients, whereas reconstructive patients showed only a decrease in burdens on 'sports', 'making friends', and 'mood'. The corrective comparison group reported a significant decrease in burdens only on 'sports' and 'mood', and the reconstructive comparison group on 'joining clubs' (see Table 5).

Table 3

Average appearance ratings and BCS and BAS scores at Time 1 (T1) and Time 2 (T2)

					Patients M (SD)						Comparison group M (SD)					
		Post-Hoc [b]			Total		Corrective		Reconstructive		Total		Corrective		Reconstructive	
	Effect [a]	T1	T2	T1-T2 [c]	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
Ratings:					(n=163)		(n=88)		(n=75)		(n=50)		(n=40)		(n=10)	
Deformity	T*	-	-	-	2.63 (1.02)	2.14 (.54)	2.63 (1.00)	2.73 (.96)	2.63 (1.06)	2.25 (.74)	3.42 (.67)	2.78 (.95)	3.45 (.71)	2.73 (.96)	3.30 (.48)	3.00 (.94)
Visibility	T**; TxG**; TxCR**	-	1<2,3,4; 3<4	1-3 ↓	3.22 (1.36)	1.98 (1.24)	3.11 (1.41)	1.49 (.86)	3.35 (1.30)	2.56 (1.37)	3.00 (1.00)	2.26 (1.45)	2.95 (1.01)	2.05 (1.33)	3.22 (.97)	3.11 (1.69)
BCS scores:					(n=135)		(n=71)		(n=64)		(n=55)		(n=44)		(n=11)	
Figure	TxG*; TxGxCR*	1<2; 2>3,4	2>3	1 ↑	3.54 (.90)	3.62 (.78)	3.21 (.94)	3.45 (.88)	3.90 (.70)	3.80 (.62)	3.01 (.94)	3.22 (.98)	2.97 (.96)	3.17 (1.00)	3.15 (.87)	3.43 (.92)
Face	TxG*	1,2>3	-	3 ↑	4.01 (.52)	3.98 (.53)	3.98 (.51)	3.98 (.56)	4.04 (.54)	3.98 (.50)	3.63 (.52)	3.78 (.44)	3.57 (.50)	3.73 (.42)	3.87 (.56)	3.98 (.42)
Health	-	-	-	-	3.88 (.55)	3.90 (.61)	3.73 (.56)	3.81 (.67)	4.06 (.49)	4.00 (.53)	3.51 (.68)	3.62 (.58)	3.44 (.65)	3.57 (.58)	3.79 (.78)	3.84 (.56)
Torso	TxG*; TxCR**	1<2; 2>3	1,2>3	1 ↑	3.65 (.75)	3.94 (.57)	3.35 (.77)	3.93 (.62)	3.78 (.59)	3.94 (.51)	3.48 (.68)	3.53 (.70)	3.39 (.56)	3.49 (.73)	3.82 (.72)	3.69 (.58)
Extremities	TxG*; TxCR*	1,2>3	-	-	3.99 (.61)	3.87 (.60)	3.87 (.54)	3.77 (.60)	4.12 (.65)	3.98 (.59)	3.69 (.60)	3.80 (.49)	3.60 (.58)	3.78 (.49)	4.04 (.53)	3.86 (.53)

Table 3 continues on next page

Table 3 (continued)

					Patients M (SD)						Comparison group M (SD)					
		Post-Hoc [b]			Total		Corrective		Reconstructive		Total		Corrective		Reconstructive	
	Effect [a]	T1	T2	T1-T2 [c]	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
BAS scores:					(n=136)		(n=72)		(n=64)		(n=54)		(n=43)		(n=11)	
Appraisal	TxA*; TxCR*	1<2; 2>3	1,2>3	1,3 ↑	3.69 (.75)	3.98 (.63)	3.44 (.78)	3.89 (.72)	3.97 (.60)	4.09 (.50)	3.28 (.80)	3.42 (.92)	3.21 (.80)	3.39 (.91)	3.55 (.78)	3.56 (.97)
Attribution	-	-	-	-	4.34 (.57)	4.48 (.47)	4.34 (.58)	4.54 (.44)	4.33 (.57)	4.41 (.51)	4.10 (.60)	4.17 (.67)	4.07 (.62)	4.15 (.72)	4.22 (.53)	4.28 (.42)
Touch	-	-	-	-	3.43 (.57)	3.64 (.58)	3.50 (.53)	3.69 (.55)	3.69 (.55)	3.58 (.62)	3.24 (.48)	3.36 (.49)	3.22 (.49)	3.41 (.49)	3.34 (.44)	3.14 (.45)

Note: Deformity ratings range from 1 (More attractive than others) to 6 (Severely deformed); Visibility ratings range from 1 (Invisible) to 5 (Immediately visible); BCS and BAS scores range from 1 (Very dissatisfied) to 5 (Very satisfied). **a:** Effects of Repeated Measures MANOVAs: T = Time; G = Patient/Comparison Group; CR = Corrective/Reconstructive Group; A = Age * = p<.05; ** = p< .01. A single T indicates a significant main effect of Time; all other effects (e.g., TxG) indicate significant interaction effects (see e.g. Huck for further explanation). **b:** Post hoc one-way ANOVAs and paired T-tests of significant interaction effects (p<.01): 1 = Patients, corrective group; 2 = Patients, reconstructive group; 3 = Comparison group, corrective group; 4 = Comparison group, reconstructive group. **c:** Subgroups 1-4 showing significant T1-T2 difference (p<.01); ↑ = increase; ↓ = decrease.

Table 4
Percentages of adolescents rating their appearance to be deformed and visibly deformed at T1 and T2

		Deformity (%)		Visibility(%)	
Group:	N	T1	T2	T1	T2
Patient group	163	38.0	12.2**	88.8	50.3**
Comparison group	56	100	53.6**	95.5	50.0**
Diagnostic patient groups:					
Breasts	58	32.5	6.8**	77.0	17.2**
Ears	32	45.9	9.4*	89.2	46.9**
Nose/Lip	40	28.6	10.0**	97.6	85.0
Face	22	52.0	36.4	100	81.8*
Body	11	42.9	9.1*	92.9	45.5*

Note: Wilcoxon Signed-Rank tests. Significant time differences are displayed in the T2 columns: * p <.05; ** p <.001

Differences between diagnostic groups. Proportions of reported appearance deformity and visibility ratings decreased significantly over time for all diagnostic groups, except for the 'face' (on severity) and the 'nose' group (on visibility) (see Table 4).

When analyzing BCS scores for deformity clusters (mean clustered scores of items, related to the deformity to be operated, or reported to be deformed in the comparison group), a significant time by patient/ comparison group interaction effect indicated that bodily satisfaction increased (from 'dissatisfied' to 'satisfied') only for the patient 'breasts' group (see Table 6). Mean scores for all rest-items remained unchanged over time across all (patient and comparison) groups.

Discussion

The aim of this study was to explore the question if adolescents undergoing plastic surgery for a broad range of deformities benefit from plastic surgery.

All patients reported a significant decrease in burdens after surgery as compared to a comparison group composed of adolescents from a general

Table 5

Percentages of adolescents reporting burdens across groups and time

	Patients (%)						Comparison group (%)					
	Total (n=164)		Corrective (n=89)		Reconstructive (n=75)		Total (n=55)		Corrective (n=44)		Reconstructive (n=11)	
Domain	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Sports	47.9	12.3**	65.2	12.4**	27.4	12.2*	45.5	29.1*	45.5	29.5*	45.5	27.3
Joining clubs	18.3	6.1**	20.2	2.2**	16.0	10.7	20.0	5.5*	15.9	6.8	36.4	0.0*
Leisure time	23.8	4.9**	34.8	5.6**	10.7	4.0	12.7	7.3	13.6	6.8	9.1	9.1
Making friends	25.6	11.6**	23.6	7.9**	28.0	16.0*	29.1	23.6	29.5	20.5	27.3	36.4
Romantic relationships	36.5	25.2**	35.2	21.6**	38.0	29.6	47.3	40.0	47.7	38.6	45.5	45.5
Mood	55.5	27.4**	67.4	27.0**	41.3	28.0*	54.5	43.6	61.4	43.2*	27.3	45.5
Self-confidence	55.8	39.3**	64.8	34.1**	45.3	45.3	65.5	61.8	65.9	65.9	63.6	45.5
Future	26.4	16.0*	23.6	10.1*	29.7	23.0	16.4	12.7	15.9	13.6	18.2	9.1

Note: Wilcoxon Signed-Rank tests. Significant time differences are displayed in the T2 columns: * $p < .05$; ** $p < .001$

Table 6

Deformity cluster scores on the Body Cathexis Scale (BCS) by diagnostic groups across time and groups

	Patients; M(SD)			Comparison group; M(SD)			T x G *
	N	T1	T2	N	T1	T2	p
Breasts	48	2.19 (.80)	3.80 (.88)	15	2.91 (.50)	2.84 (.89)	< .001
Ears	27	2.04 (1.34)	3.93 (1.17)	7	1.14 (.38)	1.86 (.69)	.102
Nose/Lip	35	3.26 (1.06)	3.66 (.86)	14	3.24 (.76)	3.49 (.83)	.35
Face	15	3.88 (.58)	3.72 (.73)	10	3.58 (.67)	3.52 (.48)	.88
Body	10	3.30 (.66)	3.68 (.85)	10	3.08 (.79)	3.36 (.79)	.59

Note: BCS scores may range from 1-5, with higher scores indication more satisfaction. Repeated measures ANOVAs. * = Interaction effects; T=Time; G=Group. The significant interaction effect indicates a significant increase in satisfaction on the Breasts cluster score across time only for the patient group.

population sample who reported an appearance deformity, indicating a much more prominent improvement in the patient sample as compared to the developmental changes that were expected in adolescents in general. This improvement was largest for the corrective patient group. More specifically, the 'breasts' group benefited most from the operation, indicating that breast corrections are rewarding interventions. Corrective patients became more satisfied on the domain 'torso' (containing items such as 'breast', 'breasts', and 'nipples'), and patients undergoing corrective breast operations became most satisfied of all patients afterwards. This confirms existing literature about positive changes in patients undergoing breast corrections (Bradbury, Hewison et al. 1992; Boschert, Barone et al. 1996; Shakespeare and Postle 1999).

Yet, the fact that *across* patient and comparison groups, the corrective group gained more satisfaction about their figure, and a more positive appraisal of their body at T2 than the reconstructive group, raises the question to what extent the increase in satisfaction in the corrective group can be attributed to natural change. This is further suggested by the fact that, across patient- and comparison groups, body appraisal increased over time with increasing age, suggesting a 'natural' increase, raising the question if adolescents would not also improve in time, without surgery. In our study, this was not the case. The corrective group consisted largely of female patients undergoing corrective breast operations (see Table 1). The patients in the 'breasts' group were significantly older (18.5 year) than the adolescents in all other diagnostic groups (ages ranging from 15.3 to 16.7 years). Therefore, the improved bodily appraisal was mainly accounted for by the girls undergoing corrective breast surgery. Multiple analyses of variance (MANOVAs) showed no other age effects in this study.

We did not find the expected positive changes concerning appearance ratings, satisfaction, and appearance-related burdens for adolescent cleft lip and craniofacial patients, as reported by others (Lefebvre and Barclay 1982; Arndt, Travis et al. 1986; Lefebvre, Travis et al. 1986; Arndt, Travis et al. 1987; Siegert, Knolker et al. 1997). Because patients can be considered to have a realistic view on their appearance (Simis, Koot et al. 2000), and because most facial and nose/lip interventions were reconstructive (see table 1), this may indicate that these adolescents, who underwent primary surgery during infancy and early childhood, managed to gain, and maintained, a relatively high level of satisfaction, while their appearance remained relatively unchanged after the operation. This confirms findings from previous studies on craniofacial and cleft lip patients, who appeared to be psychologically well adjusted, and satisfied about their appearance before surgical intervention (Clifford 1983; Pertschuk and Whitaker 1985; Pertschuk and Whitaker 1988).

It must be noted that patient appearance ratings could not be compared to those in the comparison group, because comparison group adolescents were selected for a self-reported appearance deformity at T1. For the same reason, we could not compare adolescents' and their parents'

appearance ratings in the comparison group, whereas adolescent, parental, and surgeons' appearance ratings could be compared in a previous study on the same patient sample (Simis, Koot et al. 2000). Comparison of appearance ratings was not possible for adolescents in the general population. Based on the comparisons in the patient group, we have concluded that these adolescents have a realistic view of their appearance (Simis, Koot et al. 2000). However, it is uncertain whether this conclusion can be generalized to adolescents from the general population who do not apply for plastic surgery. Another limitation of this study is that some diagnostic clusters in the comparison group contained too few subjects to test differences between patients' and comparison adolescents' diagnostic groups. Further, this pre-post study design was limited because it was not a randomized effect study, so that differences in satisfaction and burdens across time between the research groups should be interpreted with caution.

From a clinical point of view, the findings of this study imply that adolescents appear to be good candidates for plastic surgery. However, some adolescents profit more from surgery than others (e.g. those undergoing breast corrections versus facial reconstructions). Especially adolescents undergoing corrective operations seem to benefit most. There appears to be a trend, however, for increasing body appraisal with age. However, this increase can be largely explained by the high age of girls undergoing breast corrections. Further, adolescents at all ages benefit from corrective surgery. This justifies corrective operations in this age group. The lack of an obvious amelioration of satisfaction and appearance-related burdens in the reconstructive groups can well be explained by 1) the subtle improvement of the deformity concerned, as major surgery already took place at a much earlier age, and 2) the high level of satisfaction and well-being these adolescents already secured long before surgery, which they maintain after surgery. In most cases, adolescents gain bodily satisfaction, and they are relieved of many appearance-related burdens. Physical, as well as social and psychological burdens related to appearance satisfaction improve considerably in both corrective and reconstructive patients.

This research studied the core components of body image as

described by Sarwer et al. (Sarwer, Pertschuk et al. 1998a). We reported on the physical reality of appearance in an earlier paper, comparing the intersubjective ratings of adolescent, parents, and plastic surgeons (Simis, Koot et al. 2000). We assessed perceptions of appearance by using the BAS, which contains questions about how adolescents judge their appearance to be viewed by others. The importance of appearance can be expressed as the individual's appearance-related self-confidence as assessed by one question in the telephone interview. Another important component of body image measured in this study, is the degree of satisfaction of appearance. As all components described above showed improvement in the patient group after surgery, we may conclude that the adolescents' whole body image improved after surgery. The conceptual construct of body image proves to be extremely useful in designing studies about body image and bodily change.

From a medical ethical viewpoint, there is considerable reason to assume that adolescent patients benefit from corrective interventions. However, we may still question why adolescents are dissatisfied and experience appearance-related burdens in the first place. How autonomous are they to decide an intervention to ameliorate their appearance? From previous studies on the same patients, it appeared that they had a realistic view on their appearance. In this study, those who were dissatisfied, and experienced problems before surgery, appeared to improve after surgery, indicating that they made a right choice to be operated. However, is surgery the 'right' way to teach adolescents to cope with daily hassles they experience? This question deserves further exploration in the future.

In summary, this study showed that adolescents benefit from plastic surgery, that this improvement is not accounted for by 'natural' development, and that improvement is stronger in those undergoing corrective surgery. Further study on the patients' psychological and social functioning may answer the question *why* adolescents decide for plastic surgery, and which psychological factors (such as self-esteem, personality and social support) are related to the psychological outcome of the surgery (emotional and behavioral problems, bodily satisfaction and attitudes).

6

Postsurgical body image, psychosocial functioning, and personality: Does plastic surgery help adolescents to overcome appearance-related problems?

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Abstract

Objective. *The aim of this study was to identify subject- and surgery-related, and psychological factors that may explain differences in psychosocial outcomes after surgery on adolescents.* ***Methods.*** *184 Adolescent plastic surgical patients (corrective: n=100; reconstructive: n=84), and a comparison group of 83 adolescents (corrective: n=67; reconstructive: n=16), aged 12-22 years, were studied at two time points with a 6-month interval. The plastic surgical patients were studied pre- and post-surgically. Fully structured telephone interviews and postal questionnaires provided information about adolescents' appearance-related burdens, bodily satisfaction and attitudes, and psychosocial functioning.* ***Results.*** *Patients showed more improvement than adolescents in the comparison group on appearance-related burdens. The most introverted and passive patients with lowest self-esteem undergoing corrective surgery showed most improvement in bodily satisfaction and attitudes, and psychosocial functioning after surgery.* ***Conclusions.*** *This study showed that corrective surgery is most helpful for those who feel least self-confident and have most neurotic personality features.*

Introduction

Adolescents presenting for plastic surgery, do so for substantial appearance-related problems (Simis, Koot et al. 2000). They gain significant bodily satisfaction, and report significantly less burdens postoperatively. However, not all adolescents improve substantially after surgery. For example, patients undergoing corrective plastic surgery profit most from the operation, whereas adolescents undergoing reconstructive surgery function fairly well before the operation, and improve little afterwards (Simis, Koot et al. 2001b). Several factors may account for differences in postsurgical bodily dissatisfaction and attitudes, and psychosocial functioning, such as gender and age, and the nature of the deformity. However, the psychological mechanisms underlying postsurgical differences in bodily attitudes and psychological and social functioning are still largely unknown. This study aimed to identify subject- and surgery-related and psychological factors that may explain these differences. To this end, changes in bodily satisfaction and attitudes and psychosocial functioning were assessed in adolescents and young adults (henceforward: adolescents) undergoing corrective or reconstructive plastic surgery and compared to those in a not-operated comparison group from the general population.

Several factors may influence the effects of plastic surgery on bodily satisfaction/ attitudes and psychosocial functioning. As suggested in the conceptual model on the psychosocial impact of chronic conditions advanced by Wallander and Varni (Wallander and Varni 1998), risk and protective factors may include the visibility and severity of the condition, perceived competence, personality, coping style, and social support.

Although adolescents undergoing plastic surgery hardly differ from adolescents in the general population on psychosocial functioning as assessed by general and standardized measures, they do so when specific appearance-related attitudes and outcomes are tapped (Simis, Koot et al. 2001a; Simis, Koot et al. 2001b), as has been confirmed for adults as well (Sarwer, Pertschuk et al. 1998a; Sarwer, Wadden et al. 1998c). Therefore, we expected in this study the change in appearance-related burdens, as measured with a specific interview, to differ more pronouncedly between

the patient and comparison groups than psychosocial outcomes as measured with standardized questionnaires.

In our previous study on the same patient sample (Simis, Koot et al. 2001b), patients undergoing corrective surgery, i.e. for esthetic deformities, appeared to profit more from surgery than patients undergoing reconstructive operations, i.e. for congenital of acquired deformities. Two mechanisms my account for this difference. Patients undergoing reconstructive surgery may not expect significant improvement of the deformity because it is very difficult to achieve 'normality' given the nature of their deformity. In addition, most adolescents undergoing reconstructive surgery do so for congenital deformities that have been well-integrated into their body image. Therefore, we expected to find larger postsurgical changes in bodily attitudes and psychosocial outcomes for those undergoing corrective rather than reconstructive surgery.

From a series of studies on children with chronic physical conditions, Wallander et al. concluded that visibility and severity of the condition and social stigma are common dimensions upon which adjustment to a condition varies (Wallander and Thompson 1995; Wallander and Varni 1998). Therefore, we expected that the more visible and severe the deviance in appearance of these adolescents was, the larger the improvement in outcomes would be.

During adolescence, appearance attitudes are strongly intertwined with self-esteem (Koff, Rierdan et al. 1990; Wallander and Thompson 1995; Varni and Setoguchi 1996; Kostanski and Gullone 1998). Varni et al. (Varni and Setoguchi 1996) applied the Wallander and Varni model in a study of adolescents with congenital and acquired limb deformities, and found that the effect of perceived physical appearance on psychosocial adjustment was mediated by general self-esteem. Therefore, we studied the effect of self-esteem on bodily attitudes and psychosocial adjustment after the operation, in this pre-post study design. We expected that global self-esteem would be positively related to postsurgical changes in psychosocial functioning in the patient group.

Personality characteristics, especially neuroticism, have been described as risk factors for psychological complications after surgery

(Courtiss 1978). Wallander mentioned personality factors (negative coping methods, such as negative thinking) as mediators for psychosocial adjustment in children with chronic conditions, although no clear patterns were found in previous studies (Wallander and Thompson 1995). Napoleon, however, found a clear relationship between neurotic personality characteristics and postsurgical dissatisfaction in adults (Napoleon 1993). Beale found that women undergoing breast augmentation who scored low on neuroticism, were more satisfied with the surgical outcome (Beale, Hambert et al. 1985). Therefore, we expected high neuroticism to be related with poorer outcome of both postsurgical psychosocial adjustment and postsurgical bodily satisfaction.

Ways of coping with deviant appearance have been described. People may cope with reactions on their stigma by devaluing these reactions, and attributing reactions to a prejudice against a stigmatized group, instead of against the person (Crocker and Major 1989). A sense of humor has also been mentioned as an effective way of coping (Bradbury 1994). Ways of coping remained unchanged in a group of adults after corrective surgery (Rankin, Borah et al. 1998). Nothing is known, however, how ways of coping relate to psychosocial outcomes after plastic surgery in adolescents. It may be expected that adolescents who employ active coping startegies profit more from the surgical intervention than those who use passive or avoiding strategies.

Given the important role of social support in coping with health problems (Wallander and Varni 1998) it was hypothesized that support received from family and peers may act as a buffer between appearance deformity and its associated dissatisfaction and mental health in young people, and hence, have an effect on postsurgical bodily satisfaction and attitudes, and psychosocial functioning.

Gender and age will probably determine postsurgical psychosocial outcomes only slightly. Despite postoperative psychological problems that were reported for boys (Bradbury, Hewison et al. 1992) and men (Goin and Goin 1981; Wright 1987), this tendency was not replicated in recent research (Pertschuk, Sarwer et al. 1998), and therefore, we expected no influence of gender on the surgical outcome. In a previous study on the

same patient sample, we found an indication of increasing bodily appraisal with increasing age (Simis, Koot et al. 2001b). Therefore, we may find a relation between bodily appraisal and age.

We studied adolescents undergoing plastic surgery in a pre-post study design, comparing patients' bodily attitudes, and psychosocial functioning with a non-operated comparison group of adolescents from the general population reporting an appearance deformity. We divided the study into two steps. First, we studied the differences in gain in bodily satisfaction and attitudes and psychosocial functioning between the two groups. Second, we assessed the relation between the subject- and surgery-related (gender, age, type of deformity), and risk and protective factors (perceived competence, personality, coping style, and social support), and the amount of change in bodily satisfaction and attitudes and psychosocial functioning in the patient group to explain differences in psychosocial outcomes (depression, social anxiety, internalizing problems, and appearance-related burdens) after surgery.

Methods

Participants

Patient sample. From 1995 to 1997, 184 plastic surgical patients aged 12-22 years were included in the study. Data were obtained from these adolescents and their parents, and 37 surgeons from 12 hospitals virtually covering the south-western region of The Netherlands and from 4 hospitals in the north-western region, using appearance rating scales, standardized questionnaires, and fully structured telephone interviews. Exclusion criteria were cognitive and physical handicaps. Acquired deformities had to exist for at least one year. Of the 240 eligible patients who were to undergo surgery 184 (77% response rate; 71% girls) and 172 of their parents (72%) agreed to participate. Patients refusing participation did not differ across gender, age, and corrective/ reconstructive distribution from those who participated.

Comparison group. From 1996 to 1997, data were collected from 683 adolescents and young adults aged 12 to 22 (56.5% of a sample of 1209 subjects; 59% girls), randomly selected from three municipalities

representing the general population of Zuid-Holland (CBS 1989), using community registers (Simis, Koot et al. 2001a). From this general population sample, a comparison group of 83 adolescents (60 girls (72%) and 23 boys) was selected on reporting at least a slight deformity on appearance rating scales, which fell into the range of targeted deformities, without planning or having had plastic surgery. Those who were selected based on completed questionnaires, but who refused the interview did not differ from those who participated in the interview across gender, age, diagnostic features, and corrective/ reconstructive distribution. Patient and comparison group did not differ regarding gender, age, educational level, or socio-economic status.

Subjects from both the patient and comparison groups were divided into a corrective (patients: n = 100; comparison group: n = 67) and a reconstructive group (patients: n = 84; comparison group: n = 16) (for further details, see: Simis, Koot et al. 2000). The corrective and reconstructive groups did not differ regarding age, educational level, or socio-economic status, but gender differed: The corrective groups contained more girls (patients: 79%; comparison group: 76%) than the reconstructive groups (patients: 62%; comparison group: 56%). Due to varying response rates to the interviews and the questionnaires respectively, sample sizes may vary slightly throughout the article.

Procedure

The Medical Ethical Committee of each participating hospital granted permission for the research. Plastic surgeons completed a checklist providing patient information. Patients and parents received standardized questionnaires, and were contacted for a telephone interview within a month before the operation. Adolescents from the general population were contacted by telephone and, if they agreed to participate, received written information about the survey and the questionnaires.

Patients were contacted again six months after surgery and comparison group adolescents 6 months after Time 1 for the same questionnaires and a second telephone interview. Time 2 response rates of T1 responders, were 92.4% for the patients, and 75.9% for the comparison

group. Reasons for drop out have been described extensively in a previous report (Simis, Koot et al. 2001b). Adolescents who dropped out at T2, did not differ from responders regarding gender, age, educational level, or socio-economic status.

Measures

General information. Both parental and adolescent questionnaires provided data on occupational and educational level, nationality, and severity and visibility of the deformity. A telephone interview was developed for the patients in this study and taken from both adolescents and parents. Surgeons filled out a checklist providing personal and clinical information about the patients, and the surgeon's ratings of the severity and visibility of the deformity.

Severity and visibility ratings. Severity of the deformity was rated on a six-point self- rating scale, ranging from 1='more attractive than others' to 6='severely deformed'. Visibility of the deformity was rated on a five-point scale, ranging from 1='invisible' to 5='immediately visible'.

Teasing was asked about in the interview, and scored in a yes/ no format.

Outcome measures

The *Body Cathexis Scale* (BCS; Secord and Jourard 1953; Jourard and Secord 1955) was used to measure (dis)satisfaction with one's body. This 53-item 5-point Likert scale contains items inquiring after satisfaction on most body parts and bodily functions, with higher scores indicating more satisfaction. Exploratory factor analysis with VARIMAX rotation on the scores from the combined samples(n = 809), produced five factors which differed somewhat from the original factors. These factors were: 'Facial features' (α = .91), containing 19 items pertaining to satisfaction on body parts such as face, lips, and head; 'Figure' (α = .93), containing 10 items such as figure, weight and buttocks; 'Torso' (α = .84), containing 7 items such as breast, breasts, and shoulders; 'Bodily functions' (α = .83), containing 10 items such as health, breathing, and energy; and 'Extremities' (α = .75), containing 5 items such as hands, fingers, and ankles.

Bodily attitudes were measured with the *Bodily Attitudes Scale* (BAS; Baardman 1989), a 45-item 5-point Likert scale. Because the original scales were based on adults, we analyzed the data from our combined patient and general population samples (n = 716). Exploratory factor analysis with VARIMAX rotation yielded an 'Appraisal' factor (α = .94), including 22 items such as 'Are you satisfied with the way your body looks?', and 'How do you like showing yourself at the swimming pool?'; an 'Attribution' factor (α = .88), including 13 items such as 'Do you think people avoid you because of your appearance?', and 'Have you ever had the idea that people don't like you because of your appearance?'; and a 'Physical contact' factor (α = .77), including 7 items such as 'In general, how much do you like being touched by someone else?', and 'In general, how much do you like touching people?'. Scales were constructed from the items included in the factors, with high scores indicating positive bodily attitudes.

The *Children's Depression Inventory* (CDI; Kovacs 1992), a 27 item 3-point scale was designed to measure depression in children. American psychometric properties show good internal consistency and an acceptable level of stability and the scale appears to distinguish well between clinical and 'normal' groups. Factor analysis with VARIMAX rotation on the general population sample produced one factor including all items. Scores on the items in this factor were summed into a total depression scale score, which showed high reliability (α = .86). Higher scores indicate depression.

The *Social Anxiety Scale* (SAS; Willems, Tuender-de Haan et al. 1973) contains 24 5-point items, and was developed to measure dispositional social fear. Reliability and validity are sufficient (Evers, Vliet-Mulder et al. 1992). Crohnbach's alpha in this sample was .89 for the total social fear score. High scores indicate social anxiety.

The *Youth Self-Report* (YSR; Achenbach 1991b) and *Child Behavior Checklist* (CBCL; Achenbach 1991a) are standardized questionnaires on competencies and behavioral and emotional problems, as reported by children aged 11 to 18 years old and by parents for children aged 4 to 18 years, respectively. The problem section contains 120 items using a 3-point scale (0 = not true, 1 = somewhat or sometimes true, 2 = very or often

true). The scales have been translated and validated for the Dutch population (Verhulst, Van der Ende et al. 1996; Verhulst, Van der Ende et al. 1997). The two broad band scales, Internalizing and Externalizing, and the Total Problem score were used. The good reliability and validity of the American versions (Achenbach 1991a; Achenbach 1991b) were confirmed for the Dutch version (Verhulst, Van der Ende et al. 1996; Verhulst, Van der Ende et al. 1997).

The *Young Adult Self-Report* (YASR; Achenbach 1997) and the *Young Adult Behavior Checklist* (YABCL; Achenbach 1997) are constructed similarly to the YSR and CBCL for ages 18 to 30 years. Both parents and parent substitutes can complete the YABCL. The two broadband scales and Total Problem score were used. Good reliability and validity have been reported for both the American YASR and YABCL (Achenbach 1997) and for the Dutch YASR (Wiznitzer, Verhulst et al. 1992; Ferdinand, Verhulst et al. 1995). Crohnbach's alphas for the Dutch YABCL in the general population sample were .88 (Internalizing Problems), .83 (Externalizing Problems), and .92 (Total Problems).

Reports on burdens. On a three-point scale (0 = not at all, 1 = somewhat, 2 = a lot) adolescents and parents were asked in the interview whether the adolescents experienced appearance-related burdens in 1) practising sports; 2) joining clubs; 3) hobbies or leisure time; 4) making friends; 5) romantic relationships; or regarding 6) mood; 7) self-confidence; and 8) future plans such as building a career or finding a mate.

Psychological determinants

Self-perceived competence was measured with the *Harter Self-Perception Profile for Adolescents* (HSPP-A; Harter 1988). This 45 item 4-point scale intends to measure the global structure of self-esteem in 9 areas: 1) scholastic competence, 2) social acceptance, 3) athletic competence, 4) physical appearance, 5) job competence, 6) romantic appeal, 7) behavioral conduct, 8) close friendships, and 9) global self worth. High scores indicate high self-esteem. Crohnbach's alphas in this sample ranged from .58 for 'behavioral conduct' to .90 for 'athletic competence' (median $\alpha = .76$).

The *Harter Social Support Scale* (HSSS; Harter 1985) contains 24 4-point scale items measuring perceived support and regard from parents, classmates/ colleagues, teachers/ employers, and close friends. Crohnbach's alphas in this sample were .83 (parental support), .78 (support from classmates/ colleagues), .85 (support from teachers/ employers), and .88 (support from best friends). High scores indicate high perceived social support.

The *McMaster Family Assessment Device* was designed to assess seven dimensions of family functioning: 1) Problem solving, 2) Communication, 3) roles, 4) affective responsiveness, 5) affective involvement, 6) behavior control, and, additionally, 7) general functioning. The general functioning subscale was used in the current study (Byles, Byrne et al. 1988).

The *Big Five Inventory* (BFI; John, Donahue et al. 1991), a 44 item 5-point scale, was used to measure personality on five factors recently described as the relevant factors determining personality. High scores indicate a more prominent personality characteristic. Factor analysis using VARIMAX rotation on the general population sample (n = 571) replicated the original five-factor structure rather well in this sample: 1) extraversion (α =.79), 2) agreeableness (α =.61), 3) conscientiousness (α =.72), 4) neuroticism (α =.78, and 5) intellect, or 'openness to experience' (α =.74).

The *Utrecht Coping List* (UCL; Schreurs and Willige 1988), a 47 item 4-point scale, was designed to measure seven ways of coping with stressful events: 1) active approach, 2) palliative reaction, 3) avoiding/ anticipating, 4) seeking social support, 5) passive reactional pattern, 6) expression of emotions, and 7) reassuring thoughts. High scores indicate a more prominent coping style. The UCL has been shown to be a reliable and valid instrument to assess coping dispositions (Schaufeli and Van Dierendonck 1992). In our sample, Crohnbach's alphas were .78 (active approach), .72 (palliative reaction), .61 (avoiding/ anticipating), .84 (seeking social support), .69 (passive reactional pattern), .52 (expression of emotions), and .69 (reassuring thoughts).

Data Analysis

To assess the effect of subject and psychological characteristics on changes in outcome variables, we applied the method of measurement for individual change (Mellenbergh and Brink 1998). We calculated individual change scores between Time 1 measurements and postsurgical/ Time 2 measurements. These change scores indicated the level of improvement or deterioration in bodily attitudes and psychosocial functioning after 6 months. We dichotomized the variables of individual change, as individual change scores are based on dichotomously scored items (Mellenbergh and Brink 1998). Item scores of the BCS were transformed into 'satisfied' ('1'), including 'very satisfied' through 'neutral', and 'dissatisfied' ('0'), including 'dissatisfied' and 'very dissatisfied'. SAS scores were transformed into 'not socially anxious' ('1'), including 'don't know' through 'this [problem] is not true at all', and 'socially anxious' ('0'), including 'this [problem] is kind of true' and 'this [problem] is true'. The CDI, YSR/YASR, and burdens 3-point Likert scales were dichotomized into 'healthy functioning' ('1'), including the 'not at all/ never' score, and 'poorly functioning' ('0'), including 'somewhat' and 'a lot/ often' scores. BAS scores were dichotomized using median split of the item scores, '1' indicating positive bodily attitudes and '0' negative bodily attitudes. Using these dichotomized scores, change statistics were calculated for each adolescent for bodily satisfaction and attitudes, depression, social anxiety, emotional and behavioral problems, and appearance-related burdens, using Mellenbergh and Van den Brink's Formula 15 (Mellenbergh and Brink 1998). The change statistic is represented by 'Δ_k', expressing the change of the k^{th} individual adolescent. In a normally distributed population, a Δ_k equal to or smaller than -1.65, or equal to or larger than 1.65 is significant at the 10% level. Using this 10% level, Δ-statistics could be divided into three groups of change: 1) a deteriorating group ($\Delta \leq -1.65$), 2) an unchanged group ($-1.65 < \Delta < 1.65$), and 3) an improved group ($\Delta \geq 1.65$).

First, T-tests were performed between the Δ_k scores of the patient and the comparison group. Second, proportions were calculated of those who improved, remained unchanged, and deteriorated at T2, using χ^2 tests. Finally, we correlated the change scores with subject characteristics

(gender, age, social-economic status, being operated or not, having a 'corrective' or 'reconstructive' deformity, and severity and visibility ratings) and psychological variables (self-esteem, perceived social support, being teased, family functioning, personality characteristics, and coping styles) at T1, which were hypothesized to have an impact on individual change in the patient group.

Results

Comparison of patient and comparison group on change-score means

Patients improved significantly more on reporting burdens than adolescents in the comparison group did (see Table 1; $t = -2.77$; $p < .01$). There were no significant differences between groups for the other change statistics.

Table 1

Mean change-scores (Δ_k) for patient and comparison groups

	Patient group (n=137)		Comparison group (n=55)	
	Δ_k	SD	Δ_k	SD
Bodily satisfaction	.65	1.25	.82	1.34
Bodily appraisal	.80	1.60	.73	1.45
Bodily attitudes	.34	1.37	.40	1.43
Depression	.39	1.29	.20	1.42
Social anxiety	.25	1.41	.33	1.14
Internalizing problems	.33	1.33	.64	1.33
Appearance-related burdens	.86*	1.18	.37*	1.02

Note: * Indication of a significant pair; $p < .01$

Comparisons of patient and comparison on outcome group proportions

A larger percentage of patients improved significantly after surgery than adolescents in the comparison group did at Time 2 (see Table 2; $\chi^2 = 8.34$; $p = .015$; Linear-by-Linear Association Exact test = 6.98; $p = .008$).

Table 2

Number and percentage of adolescents within the three outcome groups in the patient and comparison groups

	Deteriorated (z ≤-1.65)		Unchanged (-1.65<z<1.65)		Improved (z ≥1.65)	
	n	%	n	%	n	%
Bodily satisfaction						
- Patients	2	1.5	107	79.3	26	19.3
- Comparison group	4	7.3	37	67.3	14	25.5
Bodily appraisal						
- Patients	7	5.1	90	66.2	39	28.7
- Comparison group	3	5.7	40	75.5	10	18.9
Bodily attitudes						
- Patients	9	6.6	107	78.7	20	14.7
- Comparison group	2	3.8	41	77.4	10	18.9
Depression						
- Patients	9	6.7	106	79.1	19	14.2
- Comparison group	5	9.4	40	75.5	8	15.1
Social anxiety						
- Patients	11	8.0	100	73.0	26	19.0
- Comparison group	3	5.5	34	85.5	5	9.1
Internalizing problems						
- Patients	9	6.9	104	80.0	17	13.1
- Comparison group	1	1.9	42	79.2	10	18.9
Appearance-related burdens*						
- Patients	3	1.9	118	75.2	39	22.9
- Comparison group	1	1.8	51	92.7	3	5.5

Note: * $\chi^2 = 8.34$; p = .015; Exact test (Linear-by-Linear Association) = 6.98; p = .008

Correlations between change statistics and adolescent characteristics in the patient group

Most significant correlations between change statistics and adolescent characteristics were low (r ≤ .30; Cohen 1988) (see Table 3). Younger age

was related to a larger amelioration of burdens after the operation. Gender and socio-economic status were not related to any of the change statistics. Corrective surgery was related to gain in bodily satisfaction and appraisal, and appearance-related burdens, indicating that those who underwent corrective surgery showed a larger gain in bodily satisfaction and appraisal and a larger amelioration of burdens. Higher adolescent ratings of severity of their deformity was related to a decrease in internalizing problems, whereas lower parental ratings of their child's deformity (indicating a less severe deformity) were related to a gain in bodily attributions. A positive relation was found between the surgeons' severity ratings of the deformity, and a gain in bodily satisfaction and attribution, and decrease in depression, indicating that adolescents with a deformity estimated as more severe profited more from the operation.

Low physical self-esteem was related with a larger gain in postsurgical bodily satisfaction and attitudes, and a larger decrease in depressive feelings and burdens. Low global self-esteem was related to a larger postsurgical gain in bodily satisfaction and attitudes. Less extravert and more neurotic personality, and more passive and less active, social, and expressive coping were related to a larger postsurgical improvement in bodily satisfaction and attitudes and psychosocial functioning (depression, internalizing problems, and appearance-related burdens). Lower perceived support by parents and classmates was related to a larger decrease in depressive feelings and internalizing problems. Being teased was related to a larger amelioration of burdens after the operation. Family functioning did not correlate with any of the change statistics.

Over-all, the correlations indicate a relation between younger age, low presurgical self image and introverted, passive personality characteristics, experiencing little social support, and being teased, and a larger gain in satisfaction and psychosocial functioning after the operation. Further, higher adolescent severity ratings are related with less internalizing problems, whereas low parental severity ratings are related to a higher gain in bodily satisfaction and attribution after the operation.

Table 3

Correlations between change statistics and adolescent characteristics in the patient group (n = 157)

Change statistics:	Satisfaction	Appraisal	Attribution	Depression	Social Anxiety	Internalizing	Burdens
Adolescent characteristics							
Age	.06	.16	.02	.06	.15	.05	.16*
Corrective/Reconstructive	-.31**	-.30**	-.14	-.04	-.00	.01	-.40**
Appearance ratings							
Severity (adolescent)	-.01	.11	.14	.04	.12	.20*	.07
Visibility (adolescent)	-.11	-.08	-.10	-.05	.08	-.02	.05
Severity (parent)	-.17	-.07	-.21*	-.01	-.08	-.04	-.13
Visibility (parent)	-.16	-.09	-.00	-.09	-.09	-.08	-.02
Severity (surgeon)	.17*	.09	.19*	.23**	.12	.15	.02
Visibility (surgeon)	.00	-.02	.16	.03	.03	.02	.02
Self-esteem							
Physical appearance	-.26**	-.43**	-.28**	-.29**	-.01	-.16	-.23**
Global	-.18*	-.23**	-.26**	-.19*	-.04	-.15	-.17
Personality							
Extraversion	-.19*	-.19*	-.28**	-.19*	-.29**	-.33**	-.12
Agreeableness	-.03	-.06	-.14	-.04	-.04	-.06	-.12
Conscientiousness	-.01	-.04	-.10	-.14	.06	-.10	-.04
Neuroticism	.20*	.18*	.16	.21*	.11	.21*	.04
Openness	.02	-.07	-.10	-.02	-.07	-.12	.07

Table 3 continues on next page

Table 3 (continued)

Change statistics:	Satisfaction	Appraisal	Attribution	Depression	Social Anxiety	Internalizing	Burdens
Coping styles							
Active	-.20*	-.18*	-.09	-.19*	-.08	-.10	.07
Palliative	-.05	-.10	-.07	.03	-.06	-.05	.04
Avoiding	-.14	-.18*	.01	-.06	.13	.06	-.03
Social support	-.11	-.05	-.09	-.05	-.15	-.18*	-.07
Passive	.04	.10	.22**	.06	.10	.15	.14
Expressive	-.20*	-.24**	-.06	-.23**	-.13	-.18*	-.12
Comforting	-.07	-.18*	-.00	-.02	-.06	-.02	-.12
Social support							
Parents	-.06	-.04	-.07	-.07	-.02	-.18*	-.06
Classmates	-.14	-.06	-.15	-.13	-.21*	-.22**	.06
Teacher/employer	-.15	-.06	-.06	-.08	-.04	-.17	.02
Friends	.08	.14	-.02	.05	-.07	-.07	.15
Teasing	.10	-.01	-.04	-.01	-.08	-.15	.16*

Note: * $p < .05$; ** $p < .01$

Discussion

In the present study, we evaluated the effects of plastic surgery for a broad range of deformities in a group of adolescents, using measurements of individual change. Our aim was to identify adolescent and surgery related characteristics that may account for differences in postsurgical psychosocial outcome. Using appearance ratings, appearance attitudes measures, appearance-related self-esteem measures, and appearance satisfaction measures, we have been able to estimate changes in the concept of body image, as described by Sarwer et al. (Sarwer, Pertschuk et al. 1998a; Sarwer, Wadden et al. 1998c).

As expected, patients only showed more improvement than adolescents in the comparison group at Time 2 on the domain of appearance-related burdens as reported in the interviews. There were no differences in bodily satisfaction and attitudes, and psychological outcome changes when using standardized questionnaires. This corroborates the observation made by Sarwer et. al about the apparent discrepancy between standardized questionnaires (showing little or no psychological problems and changes in problems) and specific, appearance-related interviews (showing pronounced problems and changes in problems) (Sarwer, Pertschuk et al. 1998a; Sarwer, Wadden et al. 1998c).

Both self-reported and surgeon-reported higher severity ratings of the deformity were related to an increase in bodily satisfaction and attitudes, and a decrease in depression and internalizing problems, whereas parent reported *lower* severity ratings were related to a gain in bodily appraisal. We hypothesized that a more pronounced deformity might be related to a larger improvement after surgery. Therefore, as adolescents' ratings are corroborated by the surgeons' ratings, this finding might indicate that parents underestimate their children's deformity.

From a societal perspective, corrective surgery is often considered as 'luxury' (McCoy 1979; Hyman 1990). However, the corrective group gained most from surgery, as shown in a previous study on the same patient sample (Simis, Koot et al. 2001a), and showed a moderate correlation with increasing bodily satisfaction and decreasing burdens, as was to be expected.

Surprisingly, the younger, most introverted, neurotic, and passive patients with lowest self-esteem and social support undergoing corrective surgery showed most improvement in bodily satisfaction and attitudes, and psychosocial functioning after surgery, contrary to what we hypothesized. The factors that were predicted as risk factors, appeared to be related to a favorable surgical outcome. The adolescents showing poorest psychological features before the operation, appeared to profit most. In other words, those who most needed the change, profited most. Neuroticism appeared not to constitute a contraindication, but instead a good indication for surgery. This finding is contrary to earlier findings in plastic surgical literature suggesting a clear relationship between neuroticism and bodily dissatisfaction and psychological problems in adult patients (Beale, Hambert et al. 1985; Napoleon 1993) and from the literature about children with chronic physical conditions, where no relationship was expected (Wallander and Thompson 1995).

Concluding, this study showed that corrective surgery is most helpful for those who feel least self-confident and have most neurotic, introverted personality features. It has to be noted, that the patients participating in this study constitute an over-all psychologically healthy group of adolescents (Simis, Koot et al. 2001a). We were able to show that adolescents struggling with appearance-related problems, may be helped by plastic surgery. However, two important points should be kept in mind. First, not all adolescents who apply profit equally from plastic surgery. This study shows that those who seem to suffer most at intake also profit most. Second, across a time period of 6 months, positive changes in bodily satisfaction and appraisal and psychosocial functioning also occur for dissatisfied adolescents who do not undergo plastic surgery. Individual assessment of adolescents is warranted, as adolescence is a period of rapid psychological and bodily changes, during which severe psychological suffering should not be considered normal (Pruzinsky and Cash 1990). Future research is needed to determine the long-term outcomes in psychosocial functioning of adults who underwent plastic surgery during adolescence.

7

The adolescent and the plastic surgeon: The moral unease and the facts about appearance-related surgery on adolescents

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Abstract

Adolescents are much concerned about their appearance. This paper aims to analyse the question whether to operate on adolescents who request plastic surgery for deformities ranging from corrective to reconstructive. The question will be assessed from a psychosocial point of view, from the perspective of the goals of medicine, from a societal view, and from a medical ethical view, addressing the adolescents' autonomy, and their competence to choose for plastic surgery. Adolescents appear to be good candidates for plastic surgery from a psychosocial point of view, who profit from surgery. This does not necessarily correspond to a medical necessity for undergoing surgery, unless individual suffering is taken into account. Yet, individual suffering may be caused by societal influence. Adolescents are well capable of making rational choices. Their choice will have to be evaluated individually to estimate their motivation for surgery. Parents and surgeons play a valuable role when estimating the indication for surgery. Although plastic surgery is a good means to solve individual suffering, awareness of society's pressure on appearance standards is warranted. A more tolerant attitude towards appearance standards is advocated.

Introduction

Adolescents worry about their appearance. The obsession with their appearance is often interpreted as a temporary phase which will pass in time, as 'nothing to worry about'. However, the importance of appearance is approached with great ambivalence and moral unease. Intuitively, people may describe plastic surgery as problematic in the sense that it is 'unnecessary', or 'luxurious' for those dissatisfied with their appearance (Hyman 1990). However, historical studies conclude that appearance has been important since mankind exists. Through the ages, physical beauty was associated with virtues, and ugliness with vices (Simis 1997). Social studies have pointed out the pervasive influence of appearance on interpersonal relationships and social status (Adams 1977; Berscheid and Gangestad 1982), starting as early as during infancy (Langlois, Roggman et al. 1987). Others may even state that it is 'medically' *and* 'morally wrong', because psychological or social problems should not be solved with the scalpel (McCoy 1979). Yet, plastic surgery has proved to alleviate appearance-related psychosocial suffering in children and adolescents (Lefebvre and Barclay 1982; Arndt, Travis et al. 1986; Lefebvre, Travis et al. 1986; Arndt, Travis et al. 1987; Bradbury, Hewison et al. 1992), as well as in adults (Macgregor 1989; Goin and Rees 1991; Pertschuk, Sarwer et al. 1998).

Plastic surgery has become an accepted procedure for adolescents to overcome psychosocial suffering (Morani 1970; ASPRS/ASAPS 1997; ASPS 2000). Yet, questions are raised if adolescents should be operated during this developmental stage, or if surgical intervention should be postponed (Morani 1970; ASPRS/ASAPS 1997; ASPS 2000). What is morally problematic about appearance-related surgery on adolescents? To address this question, I will first describe our recent study on adolescents undergoing plastic surgery, to determine if they benefit from the operation. Secondly, I will discuss if adolescents should be operated on their appearance while the motivation for surgery is psychosocial (and not physical), a matter largely concerning the goals of medicine. A third question discussed in this article concerns societal reasons, i.e. if plastic surgery rightfully solves suffering. The social importance of appearance

(change) will be discussed. Finally, adolescent autonomy will be discussed, and the question will be addressed who is to decide about the operation: The adolescent, his or her parents, or the plastic surgeon?

Throughout this article, I will use the term 'plastic surgery' for any kind of appearance-related surgery. Plastic surgery entails the two extremes of 'cosmetic surgery' and 'reconstructive surgery'. In between the two extremes is a vast grey area of surgical interventions that can neither be defined as cosmetic, nor as reconstructive. For example, breast augmentation could be categorised as 'cosmetic', whereas constructing a congenitally absent ear would be 'reconstructive'. One could argue that breast reductions and bat ear corrections may fall somewhere in-between. Henceforth, I shall use the term 'corrective' instead of 'cosmetic', as to my judgement, it is hard to find interventions that could convincingly be defined as 'cosmetic'.

Adolescents undergoing plastic surgery

The adolescent's perception of body image and body related problems is considered as the most important indication for corrective surgery (Pruzinsky and Cash 1990). However, although appearance-related 'hypersensitivity' is characteristic for adolescence, appearance-related problems may seriously interfere with the adolescent's psychological and social development, and as such may go beyond the 'normal' range of preoccupation (Pruzinsky and Cash 1990). The psychosocial importance of appearance-related surgery has been stressed by several authors (van der Meulen, Marchac et al. 1975; Macgregor 1982; Macgregor 1989; van der Meulen 1990). Some adolescents apply for plastic surgical intervention to overcome these problems. Until recently, little was known about adolescents undergoing plastic surgery, and the impact of corrective surgery on the adolescents' psychosocial functioning. Our recent study on 184 corrective and reconstructive surgical patients and 684 adolescents from the general population, aged 12-22 years, provides pertinent data (Simis, Koot et al. 2000; Simis, Koot et al. 2001a; Simis, Koot et al. 2001b; Simis, Koot et al. 2001c). The aims of this research were to study a) the adolescents' subjective perspective and the reality of their

appearance perception, b) the urgency of their request for surgery, c), the psychosocial effects of surgery and, finally, d) the relation between bodily attitudes and psychological functioning, to discern factors that may explain the differences found between adolescents undergoing various types of corrective surgery.

Comparisons with parents' and surgeons' ratings showed that patients rated their appearance realistically. They reported substantial appearance-related suffering, which was also reported for them by parents and surgeons (Simis, Koot et al. 2000). Despite their over-all psychological health, patients reported considerable appearance-related psychosocial problems. Patients seemed as satisfied with their overall appearance as the comparison group, but appeared to be more dissatisfied with the specific body parts concerned for operation, especially when undergoing corrective operations. Self-esteem was related to bodily satisfaction in both patients and general population adolescents (Simis, Koot et al. 2001a). All patients reported a significant decrease in burdens after surgery as compared to the comparison group, indicating a substantial effect of the operation, which cannot be explained by normal developmental change in this particular age group. The corrective patient group reported least burdens and gained most global self-esteem after the operation (Simis, Koot et al. 2001b). Different outcomes in postsurgical satisfaction and psychosocial functioning were not determined by any personality factors that might hamper the surgical outcome. On the contrary, the most neurotic and introverted adolescents with least self-esteem profited most from the operation (Simis, Koot et al. 2001c).

These data suggest that plastic surgeons may assume that these adolescents in general have a realistic attitude towards their appearance, are psychologically healthy, and are specifically dissatisfied about the body parts concerned for operation, corrective patients more so than reconstructive patients. Yet, adolescents accepted for plastic surgery report considerable appearance-related psychosocial problems, the corrective group reporting more problems than the reconstructive group. These problems are relieved by plastic surgery. There are no personality characteristics that might contraindicate surgery. The adolescents who

need it most, are helped most by the operation. These findings imply that adolescents appear to be good candidates for plastic surgery, and they profit from it.

Why operate on adolescents? Are we touching the boundaries of medicine?

Adolescents undergo plastic surgery for various reasons. They experience their appearance as a burden, and wrestle with shame, being teased, and feelings of low self-esteem (Simis 1995-2000). Results reported by Pruzinsky and Cash (Pruzinsky and Cash 1990) suggest that the adolescents' perspective on appearance related problems, and their wish for medical intervention is the only perspective that matters. Our study showed that this perspective is represented by the adolescents' reports on appearance-related burdens or 'suffering' (reports which are not just subjective, but which are also confirmed by parents and surgeons) (Simis, Koot et al. 2000). Although 'suffering' is a central issue, it cannot always be a sufficient reason for corrective surgery; relief of suffering can be sought for the wrong reasons, such as feelings of inferiority imposed by society (Bolt 1998). The need to respond to mere 'suffering' also raises questions about the ends of medicine, because suffering alone does not distinguish between 'necessary' medical interventions and 'wished for' alleviating (or: enhancing) interventions (Parens 1998). Potentially 'wrong reasons' for seeking relief of suffering will be discussed from a societal perspective in the section ***'Societal and social matters'***. In the following sections we will explore the 'boundaries of medicine', which have been defined differently by various authors.

Physical necessity

Several authors (McCoy 1979; Hyman 1990) make a distinction between 'aesthetic', or 'not medically necessary' interventions and 'reconstructive', or 'medically necessary interventions'. 'Medically necessary' is defined as 'restoring physical health'. In this line of thought, psychosocial motivations for surgery corrupt the system of medical decision making. From this point of view, the plastic surgical patient is a

consumer and the plastic surgeon a highly skilled beautician (McCoy 1979). Corrective plastic surgery is no therapy, but a consumer's service. I would argue that restricting medicine purely to a 'somatic discipline' is hard to defend. For example, secondary reconstructions of cleft lip or craniofacial surgery are usually socially indicated, and often do not enhance somatic functionality. It appears that the patients in the reconstructive group in this study function as 'well' as the general population, and even 'better' in most respects than the comparison group, both before and after the operation (Simis, Koot et al. 2001a; Simis, Koot et al. 2001b). There is no physical necessity, and only a relative psychosocial necessity for this kind of surgery. As such, this kind of surgery should be excluded from the realm of medicine. In my opinion, one may easily agree with the statement that secondary cleft and craniofacial operations *are* medically indicated. However, if these interventions are to remain within the realm of medicine, then so should psychosocially indicated hump nose corrections, breast reductions, and breast augmentations. Further, irrespective of the nature of the deformity, the suffering caused by the deformity can be pathological. For example, a woman who becomes suicidal when she does not get approval for breast augmentation surgery, becomes a psychiatric patient in the medical meaning of the word (assuming the psychiatric disorder is an organic disorder). Her motivation for undergoing surgery can not be defined as 'cosmetic'. Therefore, I argue that the physical necessity claim does *not* hold as a distinguishing system between medical and non-medical interventions.

Restoring normal function

According to Norman Daniels, medicine's 'proper' goal is to restore (and *not* to enhance) the 'normal function' (Parens 1998). Normal function is characterised by 'the natural functional organization of a typical member of the species', in which individuals are 'by nature' unequal (Parens 1998). This 'inequality' should be understood as differences in opportunity or personal characteristics such as IQ, personality, appearance, et cetera. For individuals to have 'equal opportunity' to 'pursue their life plans' refers to

the various opportunities these individuals would have had without disease or disability. In this view, corrective plastic operations would enhance a 'normal' situation, and hence are not medically indicated. Serious problems with the 'normal function model' are how to *distinguish* between restoring and enhancing, and how to *define* 'the natural functional organization of a typical member of the species'.

From Daniels' 'normal function' view, secondary operations on cleft lips or craniofacial deformities would probably fall within the realm of medicine, as they are part of a reconstruction process of a pathological deformity that started in infancy to restore the child's natural 'equal opportunities' in life. However, at what point can one consider the normal function to be restored? Does this depend on the quality of life that has been achieved, or does the original pathological situation determine the individual's *dys*function for the rest of his/ her life? If so, we would end up with persons who were successfully operated, but are still stigmatised as falling outside the boundaries of normal functioning, whereas adolescents suffering from their appearance should not be operated because they function within 'normal' parameters. However, should we disregard individual suffering for the sake of restoring only disease (Allen & Fost in Parens 1998)? Still, Daniels does not discard individual suffering from the normal oppportuntiy range (Daniels 1985):

"Of course, impairment of the normal species functioning has another distinct effect. It can diminish individual happiness or satisfaction, which depends on the individual's conception of the 'good'. ... an individual is deciding which servises to use from among those society is obliged to provide -if the society is just. Here individual choices about happiness will be the final determinant of what is done." (p.35) He adds, however: "But this appeal to individual happiness will not solve my central problem, which concerns what society is obliged to provide." (p.35)

In my opinion, having a socially acceptable appearance is one of the basic 'functions' which need to be restored, if it is failing. What needs to be determined, is the level of social functioning, and not the deformity itself, to determine if 'normal functioning' needs to be restored. Therefore, not the nature or origin of the deformity, but the consequences determine

whether plastic (either corrective or reconstructive) surgery is indicated or not. The consequences can only be expressed in terms of psychosocial functioning. I would suggest that adolescents who are limited because of their appearance do not manage to function according to their opportunities, an issue not covered by the normal function theory. From this position, what is the status of appearance-related suffering, and the position of plastic surgery in our (Western Society) health care system? This question demands further exploration of the status of *individual suffering*.

Individual suffering as a criterion?

Appearance standards shift with their cultural context. Normality, or 'objective' appearance measures, appear not to predict the amount of suffering or well-being of the individual. The impact of an appearance deformity is described in various research domains. Directly concerning physical appearance is the literature on plastic surgical patients, indirect literature on physical appearance concerns spina bifida, limb loss, cancer and other physical disorders. Both the plastic surgical (Hay 1970; Harris 1982; Marcus 1984; Sheerin, MacLeod et al. 1995) and the other physical appearance related literature (Varni, Setoguchi et al. 1992; Wallander and Thompson 1995; Varni and Setoguchi 1996) conclude that the severity of a deformity is not related to or no predictor for psychosocial problems: A more reliable source of information seems to be the (dis)satisfaction about appearance of the adolescent herself (Pruzinsky and Cash 1990).

All patients in our study (Simis, Koot et al. 2000; Simis, Koot et al. 2001a; Simis, Koot et al. 2001b; Simis, Koot et al. 2001c), distinguished themselves from the general population by lower bodily self-esteem, and more daily troubles directly related to their appearance, patients in the corrective group even more so than in the reconstructive group. Neither from the physical necessity view, nor from the normal function theory, would there be a necessity to operate these adolescents. However, from a 'socialised' and 'broadened' point of view (e.g. as described as early as by the World Health Organisation in 1948 as "a state of complete physical, mental, and social well-being"), corrective surgery in general should well

belong to our health care system.

The 'reconstructive' subspecialty of plastic surgery is by definition a medical subspecialty, whereas 'cosmetic'surgery is purely elective, individually based, and non-medical. This distinction between 'reconstructive' and 'cosmetic' does no justice to the complex nature of appearance deformities, the psychological suffering and physical burdens they may cause, and the reactions they may evoke from the environment. It is in the grey area of appearance deformities that constitute no threat to physical health at all, where the discussion about medical and social indications for surgery becomes blurred. For who would *not* operate upon a 12 year old who is being teased because of protruding ears? Who would *not* support a secondary correction of the upper lip of a well adjusted young adult who was operated for a cleft lip and palate at a younger age? And who would deny a 13 year old girl a breast reduction if she is very much ashamed, cannot participate in sports, and has difficulties finding fitting clothes, knowing that the operation might have to be repeated at, say, age 20? Health is more than a physical state, and a lack of wellbeing may indicate illness.

Although all patients share the common features that the indication for plastic surgery is mainly psychosocial, the deformities differ on a range from severely deformed to hardly visible. Is the deformity in itself reason to include one into the medical system, and to deny the other? Literature has shown that neither the nature, nor the severity of the deformity is related to psychosocial functioning, and that the deformity in itself cannot be a measure for intervention (Pruzinsky and Cash 1990). In conclusion, individual suffering is the only criterion that remains to determine whether plastic surgery is indicated, or not.

Societal and social matters

"My aim is to look *not* like Pamela Anderson." (citation from the research interviews, Simis 1995-2000)

The body image has been described as heavily influenced by beauty ideals, as (supposedly) imposed by media (e.g. Wolf 1991; Ffrench in:

Beaufort, Hilhorst et al. 1997) or (from a feminist point of view) male-oriented societal norms (e.g. Davis 1995; Little in: Beaufort, Hilhorst et al. 1997), not just for adolescents, but for people in general, and for women specifically. Not being able to comply to these ideals or standards, may cause suffering. Alleviating adolescents' suffering in itself is not problematic, but using corrective surgery as a means might be. "Means matter morally", as Parens puts it, and "some new means that work on our bodies instead of our environments may incline us to ignore the complex social roots of the suffering of individuals" (Parens 1998). In the following sections, two concerns are raised when discussing these social roots of suffering: About unfairness and complicity, and about authenticity. These concerns can be applied to the question if adolescents should be operated on their appearance.

Unfairness and complicity

The unfairness-issue concerns just distribution of a means, in this case corrective surgery. Corrective surgery might widen the gap between people who have (e.g. financial, social) opportunities, and those who have little. A factor known to broaden a person's relational, career, or other opportunities is (an attractive) appearance (Berscheid and Gangestad 1982). Unequal access to corrective surgery, would for that reason be unfair, or even unjust: Looks matter, and cause differences in societal chances and perspectives. During adolescence these perspectives are: Being accepted by peers, being popular, having better chances in romance, and receiving preferential treatment in school (Berscheid and Gangestad 1982).

In my view, of great concern is the potential complicity with unjust norms. Little (Beaufort, Hilhorst et al. 1997) distinguishes between three qualities of appearance-related suffering (in order increasing of severity): 1) having unfortunate features (not being able to meet beauty ideals, and suffering from it), 2) suffering unfair cruelties (deviating from a 'normal' appearance, and being subject to ridicule and cruelty), and 3) being subject to unjust discrimination, such as racism and sexism ("because the norms of appearance in issue are grounded in or get life from a broader system of

attitudes and actions that are in fact unjust"). Participating in a morally suspect system renders one accessory to this system. I would argue that not only appearance discrimination based on racism or sexism, but *all* appearance discrimination is morally suspect. If one studies history, appearance-related discrimination and cruelties are as deeply rooted and systematically unjust as racism and sexism (Simis 1997), although not based in a particular political system. Some argue that the appearance value-system is in itself very similar to a political system (Laermans 1993), though. To take this even further, the beauty preference may well be congenital (Langlois, Roggman et al. 1987), and deeply rooted in nature (Perret, May et al. 1994). One might speak of a hidden history of appearance (although not so hidden when considering that less than a century ago 'freaks' were exhibited at fairs and in circuses; Sliggers and Wertheim 1993; Naruyama 1999). It seems very difficult to escape the beauty politics when any choice concerning corrective surgery has to be made. To what extent is it the person's *own* choice, and to what extent a forced decision, pressures by society's appearance standards?

Authenticity

The question if the pursuit of beauty is a freely chosen lifestyle, or the enforcement of society's beauty (Wijsbek 2000) norms sprouts from a feminist debate. The question concerns the catch 22 between choosing freely for corrective surgery to relieve suffering, which is caused by enforced beauty standards (and makes the choice to relieve it enforced). The dilemma comes down to explaining why corrective surgery is legitimate in the individual case, but unacceptable in general (p.162) (Davis 1995). I will assess the authenticity of plastic surgery as a means, and the authenticity of adolescents' reasons to undergo plastic surgery.

Plastic surgery as a means to solve suffering is not neutral. During adolescence, being accepted by peers is strongly related to appearance perception. Research has shown that appearance satisfaction, feeling socially accepted, and self-esteem are closely related (Wallander and Thompson 1995; Simis, Koot et al. 2001a). Being able to have external control over one's appearance at a young age might firmly establish

physical appearance norms in a society, the value system that is related to it, and the means to manipulate it. In favour of a 'superficial', or 'symptomatical' means to solve a psychological problem we can say that it may take away obstacles, and free the way for further development, a so called 'ripple effect' (Spiegel and Linn 1969).

It is troubling to realise that adolescents may even be more vulnerable to the pressure to meet appearance norms or ideals than the women Little describes, as acceptance by peers -which is highly dependent on physical appearance- is an important goal in adolescents' lives (Field, Cheung et al. 1999; Ricciardelli, McCabe et al. 2000). Although Davis describes that "Cosmetic surgery is not about beauty, but about identity. - a way to negotiate identity through her body. ... For a woman whose suffering has gone beyond a certain point ... the only fair thing to do", identity, and authentic choices cannot be taken for granted during adolescence. We will take the issue of authenticity further under the subject ***'Adolescent autonomy'***.

Who is going to choose?

"I wanted it since I was 11 ... mom speeded up the referral process when we heard it could be done before 18 ... and the plastic surgeon said it was 'ok'..." (15 year old girl applying for breast reduction, Simis 1995-2000).

From a legal point of view, minors have considerable influence in the decision whether to have surgery or not (see, for example CEJA 1997; Berghmans 2000; House of Lords 2000). From age 12 onwards, both parent *and* adolescent need to consent. At age 16 and older, the adolescent is presumed to be capable of deciding independently from his/ her parents/ care givers). However, adolescents are self-conscious about their appearance, and vulnerable to the pressure from peers and media. This 'vulnerability' may refer to the adolescent's psychological instability, and inclination to give in to the social pressure to belong to a specific 'peer group'. Does this influence their capability to decide for an operation? Despite the findings in favour of plastic surgery, the question remains if

adolescents are competent enough to decide to undergo plastic surgery because of appearance-related psychosocial problems. Further, the fact that surgical intervention is by definition irreversible warrants greater concern about choosing for plastic surgery during adolescence. What role may or should parents play in making a decision? Do they 'know better'? Finally, on what conditions may or should surgeons either advise or deny an operation?

Adolescent autonomy

Recently, autonomy has been discussed concerning competence in (mental) health care (Klippe 1991; Berghmans 2000). The insight into the character of the situation, which requires full insight in one's own situation (i.e. illness) was strongly emphasised. From this view, competence is based on rationality and factual understanding. Besides the criteria for persons' cognitive competence, person-oriented criteria should also be considered in the decision making process, such as emotions, identity, and the person's life story (Berghmans 2000).

Adolescents seem to comply fully to cognitive competence criteria. However, problems may arise when considering issues such as emotions, identity, and life stories of adolescents. Adolescence is a period of developmental changes, characterised by emotional development and identity formation, which should lead to a mature and independent adulthood, or translated into moral terms, autonomy and self-ownership. It is exactly during this transitional period, that criteria such as identity-congruent decisions, and decisions corresponding to a person's life story become problematic. The literature is not consistent about adolescents, their identity, and their body image. Adolescence has been described as a turbulent period of 'bewildering' bodily and psychological changes (Goin and Goin 1981). In general, adolescents tend to denigrate their appearance (Pruzinsky and Cash 1990). On the other hand, body image satisfaction is reported to be stable across adolescence (Koot 1997). Identity has been described to be reasonably stable during adolescence (de Wit and v.d. Veer 1993). More generally, the 'emotional turmoil' of adolescence has been refuted by recent research, and even been referred to as 'The Myths of

Adolescence" (Offer and Schonert-Reichl 1992). In summary, adolescents seem well capable of making autonomous decisions, *but* may be vulnerable concerning their body image.

Irreversible changes

A concern is that adolescents should not tamper with their body yet. The concern sprouts from the 'Bodily Integrity View', stating that certain changes are inherently wrong. From a Kantian approach, the Bodily Integrity View implies the categorical imperative 'to treat humanity, whether in your own person or in that of another, only as an end, but not as a means only'. The individual has the same duty towards one's (or another person's) body. Holtug states that undergoing corrective surgery *is* a self-respecting end, namely to 'flourish' as a human, when people 'subject' their body to corrective surgery (Holtug 1997).

Then again, the irreversibility of corrective surgery may corroborate the Bodily Integrity View argument against corrective surgical operations on adolescents. However, irreversibility of corrective surgery is the case throughout the human life span. During the various stages of life, people seek specific age-related corrective surgery, which might be regretted at a later age. For example ear corrections in childhood, breast reductions during adolescence, breast augmentations in young adulthood, and face lifts at middle age. The idea that adolescents *cannot* choose for plastic surgery yet, makes no sense from a developmental perspective alone. The fact that adolescents are still developing, which is a 'contra' within the irreversibiltiy concept, is a 'pro' when considering that adolescents especially find themselves in a period in which they are well equipped to cope with the biological and psychological changes (McGrath and Mukerji 2000; Surgeons 2000). Changes they have to go through anyway:

"Mike, [a plastic surgeon] who had teenagers of his own, had been listening with increasing impatience. 'Listen', he said, 'all teenagers are crazy. Without exception. -- It doesn't matter what you do to them,' he says. 'You can make any change you want because they don't know who the hell they are anyway.' " (Goin and Goin 1981)

The problem lies in the characteristics of adolescence, in the searching for, and experimenting with identity. Experimenting with appearance is part of growing up, but clothes and a hairdo can be changed -contrary to any surgical intervention. The irreversibility of the 'experiment' will make us more cautious, and the experiment less harmless than, for example a punk hairdo. Further, obsession with appearance, and suffering from appearance is *not* normal during adolescence, and warrants closer attention to the problem. So, who is to decide about any appearance-related surgery on the adolescent? The adolescent, the parent, or the surgeon?

The adolescent, the parent, and the surgeon

Our study has shown that adolescents have a realistic view of their appearance (Simis, Koot et al. 2000), have stable over-all bodily satisfaction, and are psychologically healthy as compared to the general population (Simis, Koot et al. 2001a). Yet, the fact remains, that adolescence is a developmental phase, with maturing identity, and changing life stories, during which phase, adolescents experiment with bodily and personal identity. However, 'emotional turmoil' should not be considered normal, but alert (for example) physicians that further assessment of the problems is indicated (Pruzinsky and Cash 1990).There are indications that preoccupation with physical appearance is not a sign of some fashion, but an indication of psychological problems (Casper and Offer 1990).

Adolescents seem well able to decide for an operation, but alertness is warranted, as patients may urgently seek plastic surgery from emotional problems which may need assessment other than plastic surgery. However, does this render the adolescent incompetent to choose? In case of doubt, parents are a valuable source of information for the plastic surgeon, when it comes to the adolescent's troubles their view on their appearance (Simis, Koot et al. 2000). Also, the surgeon has an eye for the adolescent's emotional troubles (Simis, Koot et al. 2000).

The importance of peer group and media has already been mentioned. These are the influences adolescents seem most vulnerable to. The

significance of these influences is that they represent our current moral values. These values may restrict people's possibilities, and maintain a 'wrong' perception of people. Adolescents may not be aware of the influences underlying their burdens, and also their parents may be unaware of anything else than their children's suffering. The plastic surgeon might be 'complicit' to the morally 'corrupted' appearance values. All participants in the decision of the adolescent to undergo plastic surgery, may be caught in the same appearance value system. Being aware of it, and taking a decision in view of it, seems to me a way to autonomously decide for any plastic surgery. If adolescent, parent and plastic surgeon cannot look outside the boundaries of this system, there seems to me to be a role for society (for example in schools, or by distributing public information) to make people aware of the influence of appearance norms.

Discussion

From a psychosocial point of view, adolescents are good candidates for plastic surgery. Despite their over-all psychological health, they have substantial problems directly related to appearance, which are largely relieved after plastic surgery. The reasons to request corrective surgery are far from 'luxurious'.

We may, however, question if appearance-related suffering constitutes a medical need. I argued against a somatic need for corrective surgery because of its inconsistency: Most secondary corrections of somatic 'abnormalities', for example secondary cleft lip corrections, are considered medically necessary, but are *not* indicated for somatic reasons. Also, restoring 'normal function' is problematic because of defining 'normality' and 'individual opportunities in the absence of disease or disability' of the stigmatised person. The need for plastic (either corrective or reconstructive) surgery can only be defined from the individual's psychosocial (dys)functioning. Yet, the problems an adolescent experiences should not automatically indicate plastic surgery. Adolescents are vulnerable to societal, and probably even more to peer pressure.

Solving psychosocial problems by medical means might confirm the narrow appearance standards at a young age. Adolescents might learn to

solve only the circumstantial, and not the underlying, problems. This brings us to the broader, societal issue that solving appearance-related problems by surgery confirms the appearance norms and ideals, and the way to comply to them. Are patients and plastic surgeons complicit to a system of restrictive body image boundaries when modifying one's appearance? Should their actions be limited for the sake of broader body image norms? I seriously doubt if adolescents (and adults too, for that matter) should be refused surgical relief of their suffering, because they are 'victims' of a restrictive moral system of physical appearance beliefs. I see a societal responsibility here, to stretch the boundaries of 'ideal' physical appearance. Actions into this direction (campaigns, regulations) can already be seen in Spain (Martin 2000) and England (BBC 2000a; BBC 2000b; BBC 2000c), where governments invoke public debates about body image and ideal appearance.

I argued that adolescents seem perfectly competent in a cognitive way. However, making authentic decisions, which fully correspond with their emotions, identity, and life stories, seems more problematic during a life period characterised by psychological and bodily changes and identity formation.

Adolescence is not unique in having specific, age-related bodily problems, which may (or may *not*!) disappear in time. Judging adolescents to be less competent on the developmental ground only, would imply the same for adults requesting other corrective surgical interventions during further developmental stages. Experimenting with their appearance, will have to be approached with more caution when the 'experiment' is irreversible. The adolescent's maturity may vary largely, and will have to be assessed individually. Parents may be a useful source of information for assessing the adolescent's problems, and estimate the urgency and reality of those problems. The surgeon is skilled in estimating the patient's problem, and informing the patient in such a way that a carefully weighed informed consent can be given. But how to inform a patient adequately, and without paternalising, about society's restrictive appearance ideals? Little suggests " ... that the relation one must maintain to the norms is *holistically* defined: one must, if one participates in such surgeries at all,

maintain an overall stance of fighting against the system." In other words: "Sometimes perform the surgery, and always fight the system." (Beaufort, Hilhorst et al. 1997) I find this a problematic position, in which the surgeon is told to sit on two chairs. His/ her first and only aim should be to act only in the benefit of the patient, and the needs of the patients may be opposite to the ethical ideals of tolerant appearance norms, as described above.

For the time being, 'circumstantial solving' seems an adequate way to help adolescents to free the path for further development into adulthood; external solving of a problem does not necessarily exclude internal control and solving of underlying problems. Society seems to me the right institution to inform and educate people about tolerance for appearance in all its varieties. Adolescents are cognitively well equipped to ask for, and reconsider plastic surgery. In practise, most adolescents ask for understandable, non-luxurious corrections of appearance. Assessing each adolescent individually is the only sensible thing to do. Both parents and surgeons can play an assisting role in the decision process, when it comes to information, and weighing 'pros' and 'cons'. There will always be the 'Catch 22' of choosing freely for corrective plastic surgery to escape the burdens of restrictive appearance (or beauty) standards. A more tolerant attitude towards those standards may stretch their tight boundaries. Only in the very long term, we may know what a new bodily attitude will implicate for modern society.

8

General discussion

Introduction

The adolescent's perception of body image and body-related problems is considered the most important indication for corrective surgery. Although appearance-related 'hypersensitivity' is characteristic for adolescence, appearance-related problems may seriously interfere with the adolescent's psychological and social development, and may go beyond the 'normal' range of preoccupation. Some adolescents apply for plastic surgical intervention to overcome these problems. Until recently, little was known about adolescents undergoing plastic surgery, and the impact of corrective surgery on the adolescents' psychosocial functioning. This thesis aimed to analyse the question whether to operate on adolescents requesting plastic surgery for deformities ranging from corrective to reconstructive. The question was assessed from a psychosocial point of view, from the perspective of the goals of medicine, from a societal view, and from a medical ethical view, addressing the adolescents' autonomy, and their competence to choose for plastic surgery.

The aims of the psychosocial study on 184 corrective and reconstructive surgical patients and 684 adolescents from the general population, reported in this thesis, were to examine a) the adolescents' subjective perspective and the reality of their appearance perception, b) the urgency of their request for surgery, c) the psychosocial effects of surgery and, finally, d) the relation between bodily attitudes and psychological functioning, to discern factors that may explain the differences found between adolescents undergoing various types of plastic surgery. In this chapter, the findings and conclusions from this study are summarized and discussed in relation to the question put forward in chapter 1.

Adolescents' subjective perspective and the reality of their appearance perception

The study showed that plastic surgeons may rightfully assume that adolescents applying for plastic surgical interventions present with realistic appearance perceptions, as adolescents in this study neither overestimated, nor underestimated their deformity as compared to their surgeons and their parents, respectively. They suffer from substantial appearance-related

burdens, as this was reported not only by adolescents, but also by parents and surgeons. Girls reported significantly more burdens than boys did on sports, mood and self-confidence, while boys reported significantly more burdens on making friends. Although surgeons appear to pay special attention to psychological and social burdens of this adolescent, the agreement between the surgeon's considerations and what the adolescent would report as burdens, is rather low, while parental reports on appearance-related suffering showed moderate to large agreement with the adolescents' reports. So, the surgeon should best inquire on all domains of appearance-related burdens, as reported by the adolescents in this study. Further, in the surgeons' decision making process to either operate or not upon an adolescent requesting plastic surgery, parents can be an important source of information to the plastic surgeon when examining the adolescent's psychological and social functioning.

Presurgical psychosocial functioning: The urgency to undergo surgery

Basically, the plastic surgeon may assume that adolescents they accept for plastic surgery have a realistic attitude towards their appearance and are psychologically healthy. These adolescents appear to be mainly dissatisfied about the body parts concerned for operation, corrective patients more so than reconstructive patients. If dissatisfaction would have been generalized, one may well doubt if surgery on a specific body part would be effective. Their focused dissatisfaction is a feature in favour of surgery. They do have measurable psychosocial problems related to their appearance dissatisfaction, especially patients in the corrective group. These problems are found by using semi-structured interviews constructed for this study, and body-related questionnaires, whereas questionnaires assessing general psychological and social functioning show that overall patients are psychologically healthy. Apparently, this way of measuring exposes body-related problems in an otherwise psychologically healthy population.

Finally, the appearance satisfaction of the patients is clearly related to their psychological and personality characteristics, but not differently from what might be expected in adolescents in the general population. However,

given that bodily dissatisfaction and negative attitudes are more typical of an introvert versus an extravert personality type, surgeons may need to put more effort in their interviews with introverts than with extraverts to get an appropriate insight in their bodily attitudes.

The psychosocial effects of surgery: Pre- and postsurgical appearance ratings and appearance-related burdens

Some adolescents appear to profit more from surgery than others (e.g. those undergoing breast corrections versus facial reconstructions). Especially adolescents undergoing corrective operations seem to benefit most. Adolescents at all ages benefit from corrective surgery. This justifies corrective operations in this age group. The apparent lack of an obvious amelioration of satisfaction and appearance-related burdens in the reconstructive groups can well be explained by 1) the subtle improvement of the deformity concerned, as major surgery already took place at a much earlier age, and 2) the high level of satisfaction and well-being these adolescents already secured long before surgery, which they maintain after surgery. In most cases, adolescents gain bodily satisfaction after surgery, and they are relieved of many appearance-related burdens. Physical, as well as social and psychological burdens related to appearance satisfaction improve considerably in both corrective and reconstructive patients. There appears to be a trend for increasing body appraisal with age. However, this increase can be largely explained by the high age of girls undergoing breast corrections. Further, changes over time were significantly larger in the patient group than in the comparison group, suggesting a favourable effect of the operation.

Discerning factors: Who benefits most?

To assess the effect of subject and psychological characteristics on changes in outcome variables, we applied Mellenbergh's method of measurement for individual change. We calculated individual change scores, which indicated the level of improvement or deterioration in bodily attitudes and psychosocial functioning after 6 months. Adolescents in our study appear to benefit from plastic surgery. This improvement is not

accounted for by 'natural' development, and improvement is stronger in those undergoing corrective surgery than in those undergoing reconstructive surgery. Corrective surgery appears to be most helpful for those who feel least self-confident and have most neurotic, introverted personality features. Adolescents struggling with appearance-related problems, may be helped by plastic surgery. However, two important points should be kept in mind. First, not all adolescents who apply profit equally from plastic surgery. This study shows that those who seem to suffer most at intake also profit most. Second, across a time period of 6 months, positive changes in bodily satisfaction and appraisal and psychosocial functioning also occur for dissatisfied adolescents who do not undergo plastic surgery, although significantly less pronouncedly so. It has to be noted, that the patients participating in this study constitute an overall psychologically healthy group of adolescents. However, adolescence is a period of rapid psychological and bodily changes. Thus, although severe appearance-related psychological suffering should not be considered normal and may indicate plastic surgery, individual assessment is warranted to exclude undue surgery.

Adolescent autonomy

From a clinical point and psychosocial point of view, adolescents applying for plastic surgery seem to be good candidates for plastic surgery, because they appear to be psychologically healthy, their problems are directly related to appearance, and these problems are largely relieved after plastic surgery. For these adolescents, corrective surgery is far from 'luxurious'. It was questioned if appearance-related suffering constitutes a medical need. I argued against a somatic need for corrective surgery because of the inconsistency of its application. For example, secondary corrections in cleft lip patients often are not medically necessary, as the remaining deformity usually does not cause any functional impediment. The motivation for operation is purely psychosocial. Still, psychosocially motivated interventions for patients with congenital deformities meet no criticism, while psychosocially motivated interventions for 'non-medical', more subtle deformities do. Further, restoring 'normal function' is

problematic because of the difficulty of defining 'normality' and 'individual opportunities in the absence of disease or disability' of the stigmatised person. Therefore, the need for plastic (either corrective or reconstructive) surgery can only be defined from the individual's psychosocial (dys)functioning. Still, the problems an adolescent experiences should not automatically indicate plastic surgery. Adolescents are vulnerable to societal and peer pressure. They seem to comply fully with cognitive criteria of competence, but problems may arise when considering issues such as the adolescents' emotional motivation for surgery, establishing their identity, and the life stories of adolescents. During the developmental changes, characterised by emotional development and identity formation, leading to autonomy and self-ownership, criteria such as emotion- and identity-congruent decisions, and decisions corresponding to a person's life story may become problematic. Another problem lies in the searching for, and experimenting with identity. The irreversibility of the 'experiment' will make us more cautious, and the experiment potentially harmful. Yet, obsession with appearance, and suffering from appearance is not normal during adolescence, and warrants closer attention to the problem. Therefore, who is to decide about any appearance-related surgery on the adolescent? The adolescent, the parent, or the surgeon? Parents have proven to be a valuable source of information on this matter. The plastic surgeon needs to weigh the adolescent's request and all physical, psychological, and social information that is available.

In summary, adolescents seem well capable of making autonomous decisions, but may be vulnerable concerning their body image.

To operate or not to operate? A 'Catch 22'

In Chapter 7, I stated that solving psychosocial problems by medical means might confirm the narrow appearance standards at a young age. Adolescents learn to solve only the circumstantial, and not the underlying, problems. However, should adolescents not undergo plastic surgery for the sake of broader body image norms? I seriously doubt if adolescents should be refused surgical relief of their suffering, because they are 'victims' of a restrictive moral system of physical appearance beliefs, which needs to be

made more tolerant. For the time being, 'circumstantial solving' (i.e. 'symptomatic treatment', or operating upon an adolescent, while the cause for suffering is not solved: the intolerance for appearances which are considered out of the boundaries set by society) seems an adequate way to help adolescents to free the path for further development into adulthood; external solving of a problem does not necessarily exclude internal control and solving of underlying problems. Adolescents are cognitively well equipped to ask for, and reconsider plastic surgery. In practise, most adolescents ask for understandable, non-luxurious corrections of appearance. Assessing each adolescent individually is the only sensible thing to do. Both parents and surgeons can play an assisting role in the decision process, when it comes to information, and weighing 'pros' and 'cons'. There will always be the 'Catch 22' of choosing freely for corrective plastic surgery to escape the burdens of restrictive appearance (or beauty) standards. A more tolerant attitude towards those standards may stretch their tight boundaries. Society seems the right institution to inform and educate people about tolerance for appearance in all its varieties. Only in the very long term, we may know what a new bodily attitude will implicate for modern society.

Limitations of the study

The full representativeness of our sample of adolescents undergoing plastic surgery is hard to gauge. Being a clinical instead of a random sample it may necessarily suffer from unknown bias (Berkson 1946). For example, a sample of 184 patients, gathered in the south, middle and northern parts of The Netherlands in non-privatised hospitals cannot be representative for all adolescents undergoing plastic surgery in The Netherlands. Quantitative data from private clinics are still difficult to obtain. Despite this, the study involved plastic surgical practices in 16 different hospitals spread across a large part of the Netherlands, and we obtained good response rates. Given the coverage of the sample it is unlikely that they are very different from the average adolescent applying for plastic surgery.

Another criticism might be that a heterogeneous group regarding the

many various diagnoses, excludes univocal conclusions about the population of adolescents undergoing plastic surgery at large. However, the present research group reflects the most common procedures as seen in adolescents in hospitals throughout the Netherlands and the United States. Moreover, two homogeneous subgroups allow specific conclusions. Girls undergoing breast reductions appear to profit most from plastic surgery. Further, patients undergoing corrective ear corrections profit considerably from the operation.

Another limitation might be the socio-economic representativeness of the group of youngsters in itself. In this study, the patient group did not differ significantly from a general population sample from the south of The Netherlands regarding socio-economic features. Older girls, however, were slightly over-represented in the patient sample. However, in all analyses age and gender were included as factors or covariates, enlightening any of their influences or controlling for them.

An important limitation might be that we did not study the group of patients who were not operated upon their request for surgery. In selecting patients for plastic surgery, a bias might occur in selecting the research group towards a more than average healthy group of youngsters. Over-all, the patient group appears to be psychologically healthy. However, the listing of patients excluded from surgery (n = 35) does not give us reason to assume selectivity of applicants based on reasons of psychological ill-health. Therefore, we conclude that adolescents applying for plastic surgery are psychologically healthy, as the non-operated patient group included only one patient with known psychological problems, which were not the reason not to operate, but the reaction on the impossibility to reconstruct a severe deformity. The finding of an over-all psychologically healthy surgical study population corroborates earlier findings in related research.

Finally, this pre-post study design was definitely limited in not being a randomized effect study, so that differences in satisfaction and burdens across time between the research groups should be interpreted with caution. Also, across a time period of 6 months, positive changes in bodily satisfaction and appraisal and psychosocial functioning also occur for

dissatisfied adolescents in the comparison group.

Several questions remained unanswered in this study. First, will adolescents remain as satisfied and will they remain functioning as well psychologically when reaching adulthood? Second, will they ask for other plastic surgical interventions at an adult age (and will they do more so than people who not operated before adulthood)? Third, how many adolescents from the original comparison group, which consisted of relatively 'dissatisfied' youngsters, will decide for plastic surgery at an adult age? Future research on the same study sample is needed to determine the longer-term outcomes (e.g. after 5 years) of plastic surgery during adolescence, and especially its outcomes when the patients have passed the periods of rapid bodily and psychosocial change that are typical of adolescence. Repeating this study's model, applying Sarwer's 'core elements of body image (as mentioned in Chapter 5: 1) the physical reality of appearance, 2) perceptions of appearance, 3) the importance of appearance, and 4) the degree of satisfaction of appearance) may enlighten the question whether the adolescents' (more or less) autonomous choices proved to be beneficial to them.

The importance of it all . . .

The importance of being normal has implicitly been emphasized in the discussion on (ab)normality through the centuries. An abnormal appearance elicits fear, hostility, disgust, or ridicule. From history we know that those who fell outside the standards of normal features were often regarded as less human, or mentally retarded and they were isolated from society or displayed in public. However, being normal is not a sufficient condition for happiness. Beauty has always been the property worth striving for. Ideal beauty has always, in one way or another, been connected to positive personal characteristics. People make many different inferences about attractive and unattractive individuals. Moreover, people appear to live up to the expectations their appearance elicits. In chapter two, I described the concept of 'autonomous beauty'; beauty on it's own, without being connected to certain virtues or other personal properties. I favour the autonomous description of beauty, because it gives credit to the

importance of beauty, but it also puts beauty in perspective, without being ambiguous or ambivalent, and unclearly interwoven with other attributes.

Stafford (Chapter 2) suggests a shift away from our current fashion-magazine, youth-oriented aesthetic, and toward an aesthetic of imperfection. I would like to add to this that a more tolerant attitude towards beauty standards may 'stretch' their tight boundaries. However, the strength of the physical attractiveness stereotype should not be underestimated, as it has an obstinate tendency to get intertwined with facets of our daily functioning. Beauty does not depend on psychological attributes, moral virtues or other unrelated qualities, nor do these qualities and virtues depend on beauty.

'Stretching' beauty standards should, however, never become a goal on its own. People may suffer from looking different, and plastic surgery has proved to be helpful. Adolescents need careful individual screening before undergoing plastic surgery. For most youngsters described in this dissertation, plastic surgery proved to be a helpful intervention.

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Samenvatting

Dutch summary

Inleiding en historisch perspectief (hoofdstuk 1 en 2)

Sinds jaar en dag wordt schoonheid in verband gebracht met goede eigenschappen. Sociale studies hebben de hardnekkige invloed van het uiterlijk op relaties tussen personen en sociaal functioneren aangetoond. Medisch ingrijpen in het uiterlijk is altijd al een middel geweest om te kunnen voldoen aan de sociale verwachtingen die aan het uiterlijk kleven. Plastische chirurgie is een moderne manier van zulk medisch ingrijpen. Het is een jong specialisme met een lange geschiedenis, maar maakte pas een snelle ontwikkeling door in de twintigste eeuw (hoofdstuk 2). Dit proefschrift beschrijft zowel de geschiedenis als de sociale betekenis van plastische chirurgie, en de invloed van plastische chirurgie, door een groep jongeren te bestuderen die wordt geopereerd aan een breed scala aan afwijkingen aan hun uiterlijk. Bij plastische chirurgie gaat het om reconstructieve en correctieve ingrepen. Reconstructieve chirurgie wordt toegepast op aangeboren, of door ziekte of ongeval verworven, vaak ernstige, afwijkingen. Correctieve chirurgie wordt gebruikt voor de correctie van vaak subtiele afwijkingen, die het sociale leven van de patiënt beïnvloeden.

Uiterlijk-gerelateerde 'overgevoeligheid' is karakteristiek voor de puberteit en adolescentie (verder te noemen: 'adolescentie'). Toch kunnen uiterlijk-gerelateerde problemen de psychische en sociale ontwikkeling van jongeren ernstig verstoren. Sommige jongeren vragen om plastische chirurgie om deze problemen te overwinnen. Tot voor kort was er nauwelijks iets bekend over jongeren die plastische chirurgie ondergaan, noch over de invloed van met name correctieve chirurgie op het psychosociaal functioneren van de adolescent.

Het belang van deze studie ligt in de toepassing van de resultaten op de vraag of men zogenaamde niet-medische afwijkingen moet opereren in een onrustige ontwikkelingsfase, dat wil zeggen, tijdens de adolescentie. Deze vraag wordt besproken vanuit een psychosociaal, historisch, en medisch-ethisch gezichtspunt, om een advies voor plastisch chirurgen te kunnen formuleren, wanneer zij te maken krijgen met adolescenten die vragen om plastische chirurgie.

Onderzoek naar jongeren die plastische chirurgie ondergaan (hoofdstuk 3-6)

Van 184 plastisch chirurgische patiënten in de leeftijd van 12 tot en met 22 jaar (71,2% meisjes), 172 van hun ouders, en 37 chirurgen uit 16 ziekenhuizen in Nederland, en een steekproef van 684 leeftijdgenoten uit de algemene bevolking werden gegevens verzameld waarbij gebruik werd gemaakt van vragenlijsten en telefonische interviews. De groep van 184 patiënten die reconstructieve en correctieve operaties ondergingen, en een vergelijkingsgroep van 83 jongeren, geselecteerd uit de algemene bevolkingsgroep, werden op twee tijdstippen onderzocht, met een interval van zes maanden; de plastisch chirurgische patiënten voor en na de operatie.

De onderzoeksvragen van deze studie beoogden het in kaart brengen van a) de waarneming van het uiterlijk door de jongeren zelf, en het realiteitsgehalte van deze waarneming; b) de urgentie van hun verzoek om chirurgie te ondergaan; c) de psychosociale effecten van de operatie, en tenslotte d) de relatie tussen preoperative lichaamsattitudes en persoons- en psychologische kenmerken, en de postoperatieve veranderingen in psychosociaal functioneren.

Preoperatieve inschatting en ervaren last van het uiterlijk (hoofdstuk 3)

De studie toont aan dat plastisch chirurgen mogen aannemen dat jongeren die vragen om plastische chirurgie, hun uiterlijk realistisch inschatten. Ze over-, noch onderschatten de te opereren afwijking in vergelijking met hun ouders en de chirurg. Ze hebben duidelijk last van uiterlijk-gerelateerde problemen. Dit wordt niet alleen door de adolescenten zelf, maar ook door hun ouders en de chirurg gerapporteerd. Meisjes hebben meer last van hun uiterlijk dan jongens. Plastisch chirurgen blijken speciale aandacht voor het psychosociaal functioneren van de jongeren te hebben. Toch komen de aandachtspunten van jongeren en chirurg op deze gebieden niet altijd overeen. Ouders blijken een waardevolle bron van informatie als het gaat om het in kaart brengen van het psychisch en sociaal functioneren van de jongere.

De noodzaak om chirurgie te ondergaan: Lichaamsbeeld, psychosociaal functioneren en persoonlijkheid (hoofdstuk 4)

In het algemeen kan de chirurg er van uitgaan dat jongeren die geaccepteerd worden voor plastische chirurgie, psychologisch gezien gezond zijn. Deze jongeren zijn alleen ontevreden over het te opereren lichaamsdeel; de onvrede betreft niet het hele lichaam. Zou dit wel het geval zijn, dan is het de vraag of een operatie de onvrede zou oplossen. Er is sprake van meetbare uiterlijk-gerelateerde problemen, met name in de correctieve groep. Deze problemen komen alleen boven water wanneer specifieke, semi-gestructureerde vragen worden gesteld die direct het uiterlijk betreffen, terwijl gestructureerde vragenlijsten, die het algemeen psychosociaal functioneren meten, een psychisch gezonde groep jongeren laten zien.

Psychologische en persoonlijkheids-karakteristieken zijn bij jongeren die plastische chirurgie ondergaan duidelijk gerelateerd aan lichaamstevredenheid, maar dit verschilt niet van wat bij jongeren in de algemene bevolking wordt gevonden. Gegeven het feit dat lichaamsontevredenheid en negatieve lichaamsattitudes eerder gekoppeld zijn aan introverte, dan aan extraverte persoonlijkheidstypen, is het noodzakelijk dat de plastisch chirurg veel aandacht besteedt aan introverte patiënten om goed inzicht in hun lichaamsbeleving te krijgen.

Na de operatie: De psychosociale effecten van plastische chirurgie (hoofdstuk 5)

Plastische chirurgie heeft een duidelijk effect op de lichaamstevredenheid van jongeren. De toename van lichaamstevredenheid in de tijd is significant groter in de patiëntengroep dan in de vergelijkingsgroep. Dit suggereert een gunstig effect van de operatie, en niet een natuurlijke toename van lichaamstevredenheid met de leeftijd. Sommige jongeren hebben meer baat bij een operatie dan andere: Jongeren die correctieve operaties ondergaan profiteren daar meer van de jongeren die reconstructieve operaties ondergaan. Een schijnbaar gebrek aan verbetering na de operatie in de reconstructieve groepen kan ten eerste goed worden verklaard door de geringe verandering in de betreffende

afwijking, omdat de belangrijkste operaties vaak al op jongere leeftijd plaats vonden, en ten tweede, door de grote lichaamstevredenheid en zelfwaardering van deze jongeren, die zij zich al lang vóór de operatie verworven hadden, en die na de laatste operatie gehandhaafd blijft. Hoewel de resultaten een toenemende lichaamstevredenheid suggereren bij toenemende leeftijd, kan deze toename grotendeels verklaard worden door de wat hogere leeftijd van meisjes die een borstverkleining ondergingen. Borstverkleining gaat samen met een relatief grote toename van lichaamstevredenheid.

Onderscheidende factoren: Wie knapt het meeste op? (hoofdstuk 6)

Om het effect van persoons- en psychologische kenmerken op veranderingen in uitkomstvariabelen na de operatie te meten, is een statistische methode voor meting van individuele verandering gebruikt. De maat voor individuele verandering wordt gerelateerd aan persoons- en psychologische kenmerken. De meest in zichzelf gekeerde en passieve patiënten met het laagste zelfbeeld die correctieve chirurgie ondergaan, verbeteren het meest met betrekking tot lichaamstevredenheid, lichaamsattitudes, en psychosociaal functioneren na de operatie. Hoewel jongeren die het meest lijden onder hun uiterlijk ook het meest opknappen na de operatie, moet niet uit het oog verloren worden dat de periode van adolescentie ondermeer wordt gekenmerkt door lichaamsontevredenheid en uiterlijk-gerelateerde problemen. Dat wil zeggen, uiterlijk-gerelateerd lijden moet niet onderschat worden, maar niet iedere uiting van onvrede of last is een indicatie voor operatie. Individuele beoordeling van de patiënt is daarom noodzakelijk.

Ethische aspecten (hoofdstuk 7)

In dit hoofdstuk worden twee onderwerpen behandeld. Ten eerste wordt de plaats van correctieve plastische chirurgie binnen de geneeskunde beschouwd. Ten tweede wordt de autonomie van de adolescent besproken. Correctieve chirurgie wordt binnen een strikte visie op de rol van de geneeskunde als *niet* medisch noodzakelijk beschouwd. De ernst of de oorzaak van een afwijking aan het uiterlijk zijn echter onjuiste criteria om

het lijden onder het uiterlijk in te schatten. De onderverdeling in medisch (somatisch/ functioneel) noodzakelijke en medisch (sociaal/ psychisch) wenselijke operaties als basis voor het bepalen van de noodzaak van plastisch chirurgische ingrepen is onjuist. Op basis van deze onderverdeling, zouden de meeste reconstructieve *en* correctieve ingrepen *niet* noodzakelijk zijn. Individueel lijden is een duidelijk en meetbaar criterium, waarop een onderscheid gemaakt kan worden tussen wanneer een ingreep noodzakelijk is of niet.

Jongeren zijn goed in staat een rationele keuze te maken voor een plastisch chirurgische ingreep. Ze zijn echter gevoelig voor de invloed van leeftijdgenoten en, meer in het algemeen, de maatschappij. Sommige veranderingen die jongeren aan hun uiterlijk aanbrengen zijn (nog) niet gebaseerd op een consistent plan, maar hebben sterk het karakter van een 'experiment'. Plastische chirurgie is in dat geval een irreversibel 'experiment'!

Plastische chirurgie is een goed middel om individueel lijden op te lossen, maar bewustzijn van de maatschappelijke druk op standaarden voor het uiterlijk is op zijn plaats. Het 'uitrekken' van schoonheidsstandaarden (het bevorderen van tolerantie ten opzichte van variaties in het uiterlijk) moet echter nooit een doel op zich worden. Vanuit psychosociaal oogpunt blijken adolescenten goede kandidaten voor plastische chirurgie te zijn, die baat hebben bij plastische chirurgie. Dit houdt niet noodzakelijkerwijs in dat er een medische noodzaak is voor plastische chirurgie, tenzij rekening wordt gehouden met individueel lijden. Hoewel adolescenten goed in staat zijn doordachte keuzes te maken, zal hun keuze individueel moeten worden gewogen om hun motivatie voor de operatie in te schatten.

Discussie en conclusies (hoofdstuk 8)

In het laatste hoofdstuk worden methodische aspecten van de studie besproken: De representativiteit van de onderzochte groep adolescenten die plastische chirurgie onderging, de samenstelling van de groep met betrekking tot de verschillende diagnoses, de sociaal-economische representativiteit van de groep jongeren zelf, de exclusie van de groep patiënten die -ondanks hun verzoek- niet geopereerd werden, en het feit dat

de pre-post studie geen gerandomiseerde effect studie was, wat noopt tot een terughoudende interpretatie van de gevonden resultaten van de chirurgische interventie. De huidige onderzoeksgroep geeft een goed beeld van jongeren die in Nederland aan hun uiterlijk geopereerd worden. Nadere beschouwing van de jongeren die niet geopereerd werden, leidt tot de conclusie dat er geen uitval is op grond van psychische problematiek. De bevinding dat jongeren die plastische chirurgie ondergaan in het algemeen psychisch gezond zijn, bevestigt vroeger, vergelijkbaar onderzoek. Toekomstig onderzoek is nodig om de uitkomsten op langere termijn te bepalen, in het bijzonder wanneer patiënten de fasen van snelle lichamelijke en psychosociale veranderingen hebben doorgemaakt. Alleen lange termijn onderzoek kan uitwijzen of jongeren die zijn geopereerd, op latere leeftijd nogmaals zouden kiezen voor plastische chirurgie. Een vraag die in dit onderzoek ook onbeantwoord blijft, is hoeveel ontevreden jongeren in de vergelijkingsgroep op volwassen leeftijd alsnog kiest voor plastische chirurgie.

Herhaling van dit studiemodel, waarbij wordt uitgegaan van de basiselementen van 'body image' (zoals genoemd in hoofdstuk 5: Het 'werkelijke' uiterlijk, het ervaren uiterlijk, het belang van het uiterlijk, en de mate van tevredenheid van het uiterlijk) kan de vraag of de (min of meer) autonome keuze van de jongeren in deze onderzoeksgroep hen goed heeft gedaan, verder verhelderen.

Het belang van 'gewoon zijn' werd in hoofdstuk 2 beschreven. 'Gewoon zijn' is echter niet noodzakelijkerwijs een voldoende voorwaarde voor welzijn. Schoonheid werd en wordt nog steeds in verband gebracht met goedheid. Het wordt tijd 'schoonheid' te ontkoppelen van haar morele waardering. De kracht van het 'mooi is goed' stereotype moet echter niet worden onderschat. Het bevorderen van tolerantie ten opzichte van het uiterlijk moet geen doel op zich worden. Het opheffen van individueel lijden heeft de voorkeur boven het nastreven van een ruimer lichaamsideaal. Hoewel dit heersende schoonheidsidealen zou bevestigen en handhaven, blijkt uit de resultaten van dit onderzoek dat plastische chirurgie voor jongeren die lijden onder hun uiterlijk, een zeer behulpzame ingreep is.

Curriculum vitae

Kunigonde Johanna Simis (Amstelveen, 1966) started her study of medicine at the Erasmus University of Rotterdam in 1985, and completed her study cum laude in 1993. She studied philosophy from 1987 until 1990, also in Rotterdam. From 1993 until 1995 she worked as a medical officer for the Dutch social insurances in Dordrecht (GAK). On February 1995 she started the research project 'Corrective and reconstructive surgery on adolescents, a psychosocial and medical ethical study' at the department of Child and Adolescent Psychiatry (Sophia Children's Hospital), together with the departments of Medical Ethics (Faculty of Medicine) and Plastic and Reconstructive Surgery (University Hospital Rotterdam). All departments are connected to the Erasmus University of Rotterdam. The project was completed in 2000. From October until December 2000 she worked in 'De Hofstee' in Rotterdam, a psychogeriatric nursing home. In January 2001 she started as a trainee in Psychiatry in the Delta Psychiatric Hospital in Poortugaal, The Netherlands.

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Ik heb met veel plezier samengewerkt met de vakgroep Medische Ethiek aan de Erasmus Universiteit te Rotterdam. Bedankt voor jullie 'peptalks', zo af en toe!

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I am happy to have met, and to have collaborated with all participants during the 'Beauty and the Doctor' project (which lasted from the very first conference in 1995, in Copenhagen, to the last 'beautiful' conference in Venice, 2000).

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Thank you, my Zlato. You have been there for me whenever I needed you. We'll leave this milestone behind for travelling light!

Appendix

Questionnaires

CHECKLIST JONGEREN EN PLASTISCHE CHIRURGIE
Checklist chirurg

TOELICHTING: *Deze checklist bevat een screen die bepaalt of de patiënt binnen het onderzoek valt, of de persoonsgegevens m.b.v. het ponsplaatje mogen worden vrijgegeven en of de achterzijde van de checklist (de vragenlijst) dient te worden ingevuld. De vragenlijst gaat over uw advies en overwegingen rond een eventuele operatie.*

algemene gegevens

Het onderzoek 'Jongeren en plastische chirurgie' gaat uit van het Academisch Ziekenhuis Rotterdam. Het onderzoekt hoe jonge mensen van 12 t/m 22 jaar denken en voelen over hun uiterlijk en wat hun beweegredenen zijn voor een eventuele operatie. Ook wordt onderzocht wat de effecten van een eventuele operatie zijn op dit gebied. Er doen patiënten en chirurgen uit verschillende ziekenhuizen aan dit onderzoek mee.

Kontaktpersoon voor het onderzoek is:
Kuni J. Simis, arts
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3015 GJ Rotterdam
(010) 463 63 63/ doorkiesnummer:

research secretariaat 6191
receptie afdeling 6671

Ruimte voor ponsplaatje of sticker:

Datum consult: .....
Ingevuld door: .....
Ziekenhuis: .....

Leeftijd patiënt: ..... jaar
Geslacht: ☐ man ☐ vrouw
Diagnose/ afwijking: .....

Screen
inclusie

1	Operatie aan het uiterlijk?	☐ ja	☐ nee

Indien deze vraag met 'nee' is beantwoord, hoeft u de rest van de vragenlijst niet in te vullen.

exclusie

2	Grove zintuigelijke/ motorische handicap?	☐ ja	☐ nee
3	Verstandelijke handicap?	☐ ja	☐ nee

Indien één van deze vragen met 'ja' is beantwoord, hoeft u de rest van de vragenlijst niet in te vullen.

privacy

4	Heeft de patiënt bezwaar tegen het vrijgeven van zijn/ haar persoonsgegevens?	☐ ja	☐ nee

Let op: Ook indien deze vraag met 'ja' beantwoord is, s.v.p. wel de overige vragen op de achterzijde beantwoorden.

Z.O.Z.

CHECKLIST JONGEREN EN PLASTISCHE CHIRURGIE
Checklist chirurg

1 Wat is het beleid bij deze patiënt?

- ☐ wel opereren
- ☐ niet opereren
- ☐ afwachten/ uitstellen, omdat (vul in) .....
- ☐ andere therapie, namelijk (vul in).....
- ☐ patiënt ziet zelf af van operatie, omdat (vul in) .....

2 Hoe schat u het uiterlijk van de patiënt in?

- ☐ aantrekkelijker dan gemiddeld
- ☐ heeft geen afwijking(en)
- ☐ heeft lichte afwijking(en)
- ☐ heeft matige afwijking(en)
- ☐ heeft duidelijke afwijking(en)
- ☐ heeft ernstige afwijking(en)

3 Hoe zichtbaar is de afwijking?

- ☐ je ziet 't meteen
- ☐ het is vrij goed te zien
- ☐ het is een beetje te zien
- ☐ eigenlijk zie je 't nauwelijks
- ☐ het is niet te zien

4 Hebben de volgende zaken meegewogen in uw beslissing om al dan niet te opereren?

1	Ernst van de afwijking	☐ ja	☐ nee
2	Chirurgisch technische haalbaarheid	☐ ja	☐ nee
3	Te verwachten esthetisch resultaat	☐ ja	☐ nee
4	Lichamelijke volgroeidheid/ rijpheid	☐ ja	☐ nee
5	Vermoede psychische stoornissen	☐ ja	☐ nee
6	Irreële verwachtingen van de operatie	☐ ja	☐ nee
7	Mate van psychisch lijden	☐ ja	☐ nee
8	Mate van lichamelijk lijden	☐ ja	☐ nee
9	Mate van sociale belemmering op het gebied van:		
	school of werk	☐ ja	☐ nee
	activiteiten in de vrije tijd	☐ ja	☐ nee
	solliciteren	☐ ja	☐ nee
	vrienden maken	☐ ja	☐ nee
	verkering krijgen/ relaties aangaan	☐ ja	☐ nee
10	Ik had nog andere overwegingen, namelijk (vul in)		

.....
.....
.....

Voorzie de status van sticker en/of afschrift. Houd de checklist apart voor de onderzoekster.

INTERVIEW
JONGEREN
PREOPERATIEF

INTERVIEW JONGEREN PREOPERATIEF

Een paar aandachtspunten...

In dit interview wordt een aantal verschillende kaders/lettertypes gebruikt:

Vette, cursieve letters in een kader duiden op een toelichting of instructie voor de interviewer en moeten dus niet worden voorgelezen.

"Een enkele keer volgt daarna nog een tekst tussen aanhalingstekens, die door de interviewer wordt voorgelezen."

"Vette tekst tussen aanhalingstekens in een kader duidt de inleiding tot een vraag/ vragenreeks aan en dient door de interviewer te worden voorgelezen."

(een enkele keer volgt daarna nog een cursieve toelichting/ instructie voor de interviewer)

Onderstreepte woorden dienen door de interviewer met nadruk te worden voorgelezen.

In het interview is een aantal andere vragenlijsten verwerkt:

1 De Body Dismorphic Disorder Questionnaire (screen). De verschillende vragen zijn in een kader gezet. Het is mogelijk dat niet de hele BDD-Q hoeft worden afgenomen (zie instructies aldaar).

2 De coping-items, gebaseerd op de UCL: Vraag uit hoe iemand omgaat met de beschreven situatie en deel (eventueel achteraf) in in één van de categorieën. Geef eerst aan welke reacties voorkomen en vervolgens of dit ***zelden of nooit***, ***soms***, ***vaak*** of ***zeer vaak*** het geval is.

3 Ervaren sociale steun items: Vraag uit hoe ouders reageren op de beschreven situatie en deel (eventueel achteraf) in in één van de categorieën.

Vul vóór het interview de bekende persoonsgegevens in op het voorblad van het interview.

INTERVIEW JONGEREN PREOPERATIEF

Neem van te voren de persoonsgegevens door.

Datum: .....

Naam: .....

Geboortedatum: .....
Geslacht: ☐ ♀
☐ ♂

"Een tijdje geleden ontving ik je toestemming voor het onderzoek 'Jongeren en Plastische Chirurgie'. Ik heb je toen een aantal vragenlijsten toegestuurd. Vandaag bel ik je voor het telefonische interview. Heb je nog vragen of waren er nog onduidelijkheden over de vragenlijsten?"

"Wil je nog van telefoontoestel veranderen, of zit je goed?"

(eventuele vragen/ opmerkingen naar aanleiding van vragenlijsten/ inhoud onderzoek bespreken)

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

"Voor dit interview ga ik je een aantal vragen stellen over hoe jij denkt over je uiterlijk, hoe je daarmee omgaat en wat je van een operatie verwacht. Van je antwoorden maak ik aantekeningen."

"Alles wat je vertelt, wordt vertrouwelijk behandeld. Er wordt dus geen informatie doorgegeven aan de specialist of aan je ouders."

(begin interview)

(OPERATIEVE) VERANDERING VAN HET UITERLIJK

1 Ben je tevreden met je uiterlijk?
- ☐ helemaal niet
- ☐ beetje
- ☐ duidelijk

1 a Kun je in je eigen woorden vertellen wat je precies wilt laten opereren?

. . . . . .

. . . . . .

1 b Wat vind je er niet goed aan?
Probeer het zo precies mogelijk te omschrijven.

. . . . . .

. . . . . .

1 c Vind je er wel iets goed aan (en zo ja, wat)?

. . . . . .

. . . . . .

1 d Hoe kan iemand aan je merken dat je er ontevreden over bent, bijvoorbeeld door wat je zegt of doet?

. . . . . .

. . . . . .

1 e Waarom wil je het op dit moment laten opereren? (***Uitvragen:*** **"Wat was de aanleiding?" "Waarom niet 3 jaar geleden?" "Waarom kan het niet later?")**

. . . . . .

. . . . . .

2 Wat was het advies van de chirurg?
- ☐ wel opereren
- ☐ niet opereren
- ☐ afwachten/ uitstellen
- ☐ andere therapie, namelijk: . . . . . .

Als de operatie niet doorgaat:

3 Waarom gaat de operatie niet door?
- ☐ de chirurg raadt het af, maar ik had het liever wel gewild (en wil dat nog steeds)
- ☐ de chirurg raadt het af, en ik vind dat hij daar wel gelijk in heeft (en heb daar ook vrede mee)
- ☐ ik zie er zelf vanaf, omdat ik deze operatie niet kan bekostigen
- ☐ ik zie er zelf vanaf om andere redenen, namelijk:

. . . . . .

Als patiënt eerder plastische chirurgie heeft ondergaan:

4 Op een gegeven moment was er sprake van een operatie. Wie wilde de ***eerste*** operatie aan je uiterlijk die je ooit hebt gehad?

- ☐ ik alleen
- ☐ ik en mijn ouder(s)
- ☐ mijn ouder(s)
- ☐ een ander (bijvoorbeeld de plastisch chirurg), namelijk:

. . . . . .

4a Op een gegeven moment was er sprake van deze operatie. Wie had als eerste het idee voor ***deze*** operatie?

- ☐ ik alleen
- ☐ ik en mijn ouder(s)
- ☐ mijn ouder(s)
- ☐ een ander (bijvoorbeeld de plastisch chirurg), namelijk:

. . . . . .

5 Wie heeft er uiteindelijk ook echt gekozen voor deze operatie?

***Eventueel doorvragen:* "En je ouders dan?", "Wie nog meer?"**

- ☐ ik alleen
- ☐ ik en ouder(s) samen
- ☐ ik, door ouders aangespoord
- ☐ een ander, namelijk:

. . . . . .

6 Kun je wat meer vertellen over hoe dat besluit genomen is? Bijvoorbeeld:

. . . . . .

. . . . . .

6 a Hoe ben je op het idee gekomen van plastische chirurgie?

Er is meer dan één antwoord mogelijk

- ☐ al eerder plastische chirurgie gehad
- ☐ van TV of uit bladen
- ☐ via ouders (***licht toe*: Vader of moeder)**
- ☐ via familie (***licht toe*: Wie)**
- ☐ via vrienden (***licht toe*: Wie)**
- ☐ via huisarts (***licht toe*: Hoe)**
- ☐ anders, namelijk: . . . . . .

6 b Waren er mensen die een operatie afraadden, zoals je ouders, familie, vrienden of de huisarts?

Er is meer dan één antwoord mogelijk

- ☐ nee, geen
- ☐ ouders
- ☐ familie
- ☐ vrienden
- ☐ huisarts
- ☐ anderen, namelijk: .....

6 c Waren er mensen die een operatie ondersteunden, zoals je ouders, familie, vrienden of de huisarts?

Er is meer dan één antwoord mogelijk

- ☐ nee, geen
- ☐ ouders
- ☐ familie
- ☐ vrienden
- ☐ huisarts
- ☐ anderen, namelijk: .....

6 d Waren er mensen die een operatie zelfs aanmoedigden, zoals je ouders, familie, vrienden of de huisarts?

Er is meer dan één antwoord mogelijk

- ☐ nee, geen
- ☐ ouders
- ☐ familie
- ☐ vrienden
- ☐ huisarts
- ☐ anderen, namelijk: .....

7 Komt dat, waaraan je je wilt laten opereren, ook in de familie voor?

☐ ja ☐ nee

Zo nee → *Ga door naar vraag 9 a*

Zo ja → *Uitvragen:*
7 a Bij wie dan?
Er is meer dan één antwoord mogelijk
- ☐ vader
- ☐ moeder
- ☐ broer
- ☐ zus
- ☐ ander, namelijk: .....

8 Ik vraag dat, omdat het soms kan helpen om makkelijker met je eigen uiterlijk om te gaan. Maar soms wil je juist daarom dat er wat aan gedaan wordt. Hoe zit dat bij jou?

.....

9 Speelt dit ook een rol in je keuze om je te laten opereren? ☐ ja ☐ nee
Zo ja → *Uitvragen:*
9 a Wil je minder, of juist meer op één van je familieleden lijken?

.....

10 Wil je op iemand anders lijken? (En zo ja: Op wie?)

.....

11 Heeft dat waarover je ontevreden bent misschien ook te maken met kulturele kenmerken? Dat zijn kenmerken zoals je huidskleur, haarkleur, vorm van je ogen of neus, maar bijvoorbeeld ook een bepaald ideaalbeeld in de maatschappij ***(evt. toelichten: de ideale man of vrouw, die mensen soms als voorbeeld nemen).*** ☐ ja ☐ nee
Zo ja → *Uitvragen:*
11 a Kun je vertellen op welke manier dat ermee te maken heeft?

.....

12 Wil je geopereerd worden om er mooier uit te zien? ☐ ja ☐ nee
Zo ja → *Uitvragen:*
12 a Kun je daar wat meer over vertellen?

.....

13 Wil je geopereerd worden om minder op te vallen? ☐ ja ☐ nee
Zo ja → *Uitvragen:*
13 a Kun je daar wat meer over vertellen?

.....

14 Zijn er nog andere dingen belangrijk geweest bij het besluit tot deze operatie?

.....

A	CHIRURGISCH VERLEDEN; OPERATIES AAN HET UITERLIJK				☐ ja	☐ nee
	a Waaraan?	b Wanneer?	c Hoe lang opgenomen?	d Vervelende zaken meegemaakt? (Zo ja, welke?)	e Hoe ervaren? ('Naar', 'gewoon', 'leuk')?	f Tevreden met resultaat? (Zo nee, waarom niet?)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

B	CHIRURGISCH VERLEDEN; OPERATIES NIET AAN HET UITERLIJK (blinde darm, liesbreuk, enz.) ☐ ja ☐ nee					
	a Waaraan?	b Wanneer?	c Hoe lang opgenomen?	d Vervelende zaken meegemaakt? (Zo ja, welke?)	e Hoe ervaren? ('Naar', 'gewoon', 'leuk')?	f Tevreden met resultaat? (Zo nee, waarom niet?)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

OMGAAN MET HET UITERLIJK

1 In het dagelijks leven zijn jongeren op een bepaalde manier gekleed, hebben een bepaalde haardracht en gebruiken mischien make-up. Wie kiest in het algemeen jouw kleding, haardracht en eventuele make-up uit?
- ☐ ik alleen
- ☐ ik en mijn ouder(s)
- ☐ mijn ouder(s)
- ☐ een ander, namelijk

2 Heb je het gevoel dat je vrij bent om zelf te bepalen hoe je er uit ziet?
- ☐ ja, helemaal
- ☐ ja, meestal wel
- ☐ soms, niet altijd
- ☐ nee, meestal niet
- ☐ nee, helemaal niet

2a **Als *anders* is geantwoord dan met *"ja, helemaal"*:** Wie of wat heeft daar dan ook invloed op (bijvoorbeeld ouders, vrienden, televisie)?

3 Probeer je die lichaamsdelen die jij lelijk vindt, zo onopvallend mogelijk te laten lijken? ☐ ja ☐ nee

Zo ja → Wat doe je er precies aan? (Bijvoorbeeld bepaalde kleding, haardracht of make-up gebruiken)

. . . . . .

4

"Laat jij je door de media (televisie, films, tijdschriften) ook weleens inspireren om bepaalde dingen aan je uiterlijk te doen? Dus: Koop je weleens bepaalde produkten of doe je bepaalde dingen om een aantrekkelijker uiterlijk te krijgen, omdat je dat hebt gezien of gelezen?" ☐ ja ☐ nee

Zo ja → ***Uitvragen:***

4 a Geef daar eens een voorbeeld van:

. . . . . .

5 Hoeveel tijd besteed je dagelijks aan de verzorging van je uiterlijk, inclusief douchen, tanden poetsen, haren kammen, kleding voor die dag uitkiezen, enzovoort?
- ☐ Minder dan 1 uur per dag
- ☐ 1-3 uur per dag
- ☐ Meer dan 3 uur per dag

6 Als je je uiterlijk vergelijkt met dat van anderen, vind jij je uiterlijk dan. . . .

De antwoordmogelijkheden achtereenvolgens voorlezen:

- ☐ aantrekkelijker dan dat van anderen,
- ☐ niet afwijkend,
- ☐ licht afwijkend,
- ☐ matig afwijkend,
- ☐ duidelijk afwijkend,
- ☐ ernstig afwijkend?

7 Hoe zichtbaar is je afwijking?

- ☐ je ziet 't meteen
- ☐ het is vrij goed te zien
- ☐ het is een beetje te zien
- ☐ eigenlijk zie je 't nauwelijks
- ☐ het is niet te zien

De volgende vraag is voor de *correctieve* groep:

8 Hoe oud was je, toen je voor het eerst ontevreden over je uiterlijk was?

. . . . . .

De volgende vraag is voor de *reconstructieve* groep:

8 Hoe oud was je, toen je voor het eerst merkte dat je er anders uitzag dan andere kinderen?

. . . . . .

9 Hoe oud was je, toen je voor het eerst ook een operatie aan je uiterlijk wilde?

. . . . . .

10 Heb je weleens moeite met leren of je concentreren op dingen op school of op je werk, omdat je steeds denkt aan je uiterlijk?

- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

11 Sla je weleens een schooldag of werkdag over vanwege je uiterlijk (bijvoorbeeld omdat je je er rot over voelt, of omdat je vindt dat je er die dag niet uitziet)?

- ☐ nooit
- ☐ soms
- ☐ vaak

BDD-Q

"Ik ga je nu een aantal vragen stellen over problemen die je misschien met je uiterlijk hebt. Mensen kunnen namelijk meer of minder zorgen over hun uiterlijk hebben."

1 Pieker je weleens over hoe bepaalde lichaamsdelen, die jij lelijk vindt, eruit zien? ☐ ja ☐ nee

Zo ja
→ Nemen deze gedachten je helemaal in beslag? Dat wil zeggen, pieker je er heel veel over en is het moeilijk om er ook eens ***niet*** aan te denken? ☐ ja ☐ nee

Zo ja → Waarover pieker je dan?

. . . . . .
. . . . . .
. . . . . .

Voorbeelden waarover je kunt piekeren, zijn: je huid (puistjes, littekens, bleekheid, roodheid); je haar (haarverlies of dun haar); de vorm of grootte van je neus, mond, kaken, lippen, buik, heupen, enzovoort; of afwijkingen aan andere lichaamsdelen.

Zo ja
→ Wat stoort je ***precies*** aan hoe deze lichaamsdelen er uit zien? (Beschrijf het zo gedetailleerd mogelijk)

. . . . . .
. . . . . .

Als deze vragen met 'nee' zijn beantwoord, ben je klaar met het BBD-Q gedeelte. Als één of meer keren met 'ja' is geantwoord, ga dan door met de volgende vragen.

2 Is je ***belangrijkste*** probleem met je uiterlijk dat je niet slank genoeg bent, of dat je bang bent om te dik te worden? ☐ ja ☐ nee

Als vraag 2 met 'ja' is beantwoord, ben je klaar met het BDD-Q gedeelte. Als met 'nee' is geantwoord, ga dan door met de volgende vragen.

3 Welk effekt hebben deze zorgen over je uiterlijk (***behalve*** een wens om slank te zijn) op je leven gehad?

a Heb je door je uiterlijk ***vaak*** last van spanningen en voel je je er rot door? ☐ ja ☐ nee

b Word je door je uiterlijk vaak ***duidelijk*** belemmerd in je sociale leven? (zoals kennissen en vrienden maken, lid zijn of worden van clubs, naar feesten gaan, uitgaan, enzovoort) ☐ ja ☐ nee

Zo ja → Op welke manier?

. . . . . .

. . . . . .

. . . . . .

c Word je door je uiterlijk vaak ***duidelijk*** belemmerd op school, op je werk, of bij andere taken die je hebt te vervullen, zoals het huishouden? ☐ ja ☐ nee

Zo ja → Op welke manier?

. . . . . .

. . . . . .

. . . . . .

d Zijn er dingen die je uit de weg gaat vanwege je uiterlijk? ☐ ja ☐ nee

Zo ja → Welke?

. . . . . .

. . . . . .

. . . . . .

e Wordt jouw dagelijks leven en de normale gang van zaken van het gezin of van vrienden beïnvloed door je uiterlijk? ☐ ja ☐ nee

Zo ja → Op welke manier?

. . . . . .

. . . . . .

. . . . . .

4 Noem nu, van meest tot minst ernstig, al die dingen aan je uiterlijk waardoor je ***vaak*** spanningen hebt en je je rot voelt en die je ***duidelijk*** belemmeren in je sociale leven, op school, op je werk of bij andere taken:

. . . . . .

. . . . . .

. . . . . .

5 Hoeveel tijd besteed je per dag gemiddeld aan het denken aan die dingen van je uiterlijk die jij lelijk vindt?
- ☐ Minder dan 1 uur per dag
- ☐ 1-3 uur per dag
- ☐ Meer dan 3 uur per dag

6 Heb je iemand weleens verteld dat je zo door je uiterlijk in beslag wordt genomen? ☐ ja ☐ nee

Zo nee → *Ga door naar vraag 7*
Zo ja → Zeiden ze dan dat het niet of nauwelijks zichtbaar was? ☐ ja ☐ nee
Zo nee → *Ga door naar vraag 7*
Zo ja → Zeiden ze dan dat je je drukker maakt om de afwijkingen aan je uiterlijk dan nodig is? ☐ ja ☐ nee
Zo nee → *Ga door naar vraag 7*
Zo ja→ Heb je het gevoel dat ze dan probeerden de afwijking minder erg te laten lijken, hoewel het voor jou toch duidelijk ernstig is? ☐ ja ☐ nee

7 Is het mogelijk dat je afwijking minder zichtbaar of lelijk is dan je denkt? ☐ ja ☐ nee

8 Hoe overtuigd ben je ervan, dat je afwijking net zo zichtbaar en lelijk is als jij denkt? Je kunt kiezen uit:
- ☐ Ik ben er ***100% van overtuigd*** dat de afwijking net zo zichtbaar en lelijk is als ik denk.
- ☐ De afwijking is ***waarschijnlijk*** net zo zichtbaar en lelijk als ik denk.
- ☐ De afwijking is ***mogelijk*** net zo zichtbaar en lelijk als ik denk.
- ☐ De afwijking is ***waarschijnlijk niet*** zo zichtbaar en lelijk als ik denk.
- ☐ De afwijking is ***zeker niet*** zo zichtbaar en lelijk als ik denk.

9 Hoe oud was je toen de zorgen om je uiterlijk voor jou een ***probleem*** werden -dat wil zeggen dat ze ***een hoop*** spanningen bij je veroorzaakten of je leven ***duidelijk*** belemmerden?

. . . . . jaar

PESTEN

1 Word je weleens gepest vanwege je uiterlijk? ☐ ja ☐ nee
Zo nee → *Ga door naar vraag 3*
Zo ja → Waar gebeurt dat meestal?
- ☐ Op school
- ☐ Op straat
- ☐ Bij het sporten (gym, zwemmen, op het strand)
- ☐ Thuis
- ☐ Ergens anders, namelijk:

1a In welke situaties gebeurt dat meestal?
1b Wie pesten je dan?
1c Hoe pesten ze dan?

2 Zijn er mensen die je helpen als je wordt gepest (bijvoorbeeld een leraar of je ouders)? ☐ ja ☐ nee
Zo nee → *Ga door naar vraag 3*
Zo ja → Wie helpen je dan?
2a Hoe helpen ze je dan?

3 Werd je vroeger weleens gepest vanwege je uiterlijk? ☐ ja ☐ nee
Zo nee → *Ga door naar vraag 6*
Zo ja → Waar gebeurde dat meestal?
- ☐ Op school
- ☐ Op straat
- ☐ Bij het sporten (gym, zwemmen, op het strand)
- ☐ Thuis
- ☐ Ergens anders, namelijk:

3a In welke situaties gebeurde dat meestal?
3b Wie pestten je dan?
3c Hoe pestten ze dan?

4 Waren er mensen die je hielpen als je werd gepest (leraren, ouders)? ☐ ja ☐ nee
Zo nee → *Ga door naar vraag 5*
Zo ja → Wie hielpen je dan?
4a Hoe hielpen ze dan?

Indien van toepassing:

5 Hoe oud was je toen het pesten ophield?

6 Hebben mensen weleens medelijden met je vanwege je uiterlijk?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

7 Pest je zelf weleens iemand vanwege zijn of haar uiterlijk?
- ☐ helemaal niet
- ☐ soms
- ☐ vaak

Beschrijf bij de volgende twee vragen het antwoord en scoor de antwoorden op de tegenover liggende bladzijde. Vraag door als onvoldoende antwoord wordt verkregen. Als de beschreven situaties zich niet voordoen, geef dit dan aan, zonder de vraag verder uit te werken.

1

"Mensen reageren vaak heel verschillend als ze met problemen te maken krijgen, of als er iets vervelends gebeurt. Wat mensen in een bepaald geval doen, hangt sterk af van het soort probleem, hoe ernstig het is en van wat er gebeurt. Toch reageren mensen *over het algemeen* wat vaker op de ene dan op de andere manier.

"Hoe reageer jij in het algemeen op vervelende situaties die te maken hebben met je uiterlijk (bijvoorbeeld wanneer je daarover een vervelende opmerking krijgt)?

***Doorvragen:* "Hoe vaak reageer je zo?"**

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

2

"Ouders kunnen op verschillende manieren omgaan met vervelende dingen die jou overkomen. Hoe reageren je ouders in het algemeen op vervelende situaties die te maken hebben met jouw uiterlijk (bijvoorbeeld wanneer je daarover een vervelende opmerking krijgt)?"

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

COPING EN ERVAREN SOCIALE STEUN

Bij onplezierige gebeurtenissen of in vervelende situaties die te maken hebben met mijn uiterlijk,

□(A) blijf ik kalm, laat dat eens op me inwerken en zet de zaken op een rijtje. Doelgericht en met vertrouwen dat dat wel zal helpen ga ik vervolgens te werk om de situatie op te lossen. Bijvoorbeeld door die persoon uit te leggen wat die opmerking nou eigenlijk voor effekt heeft en te vragen of dat nou niet anders kan.
□ **zelden of nooit** □ **soms** □ **vaak** □ **zeer vaak**

□(P) zoek ik (na afloop) afleiding en houd ik me met andere dingen bezig om er niet aan te hoeven denken. Ik probeer me dan wat prettiger te voelen door wat lekkers te eten, te roken, te drinken of me wat te ontspannen.
□ **zelden of nooit** □ **soms** □ **vaak** □ **zeer vaak**

□(V) laat ik het maar op z'n beloop en de volgende keer ga ik de situatie (waarin die opmerking werd gemaakt, bijvoorbeeld op een feestje of in een winkel) uit de weg.
□ **zelden of nooit** □ **soms** □ **vaak** □ **zeer vaak**

□(S) zoek ik troost en begrip bij anderen, bijvoorbeeld bij familie of vrienden. Ik vertel m'n zorgen erover aan iemand, of ik vraag om hulp.
□ **zelden of nooit** □ **soms** □ **vaak** □ **zeer vaak**

□(PR) laat ik me daar helemaal door in beslag nemen. Ik zie het meteen somber in. Ik kan me dan piekerend in mezelf terugtrekken, of niet in staat zijn om iets aan de situatie te doen. Ik pieker dan ook over het verleden (bijvoorbeeld over toen ik nog klein was).
□ **zelden of nooit** □ **soms** □ **vaak** □ **zeer vaak**

□(E) reageer ik m'n spanningen of boosheid daarover af. Ik laat m'n ergernis blijken. Ik word kwaad op zo iemand.
□ **zelden of nooit** □ **soms** □ **vaak** □ **zeer vaak**

□(G) stel ik mezelf gerust met de gedachte dat het erger kan. Anderen hebben het ook weleens moeilijk en er gebeuren wel ergere dingen. Na regen komt zonneschijn. Ik spreek mezelf moed in.
□ **zelden of nooit** □ **soms** □ **vaak** □ **zeer vaak**

Bij onplezierige gebeurtenissen of in vervelende situaties die te maken hebben met mijn uiterlijk,

- ☐ Grijpen mijn ouders direkt in en nemen mij in bescherming. Ze maken bijvoorbeeld een opmerking terug of ze zeggen me dat ik me er niks van aan moet trekken.
- ☐ Laten mijn ouders me de situatie eerst zelf oplossen, maar als het nodig is, grijpen ze in. Bijvoorbeeld door in een discussie tussenbeide te komen, of voor mij naar een leraar te stappen.
- ☐ Geven mijn ouders raad over wat ik het beste kan doen in zo'n geval (bijvoorbeeld de volgende keer een opmerking terug geven of het met een leraar of chef bespreken).
- ☐ Kan ik wel bij mijn ouders terecht, maar moet ik toch proberen zelf een oplossing te vinden. Mijn ouders grijpen daarom niet voor me in.
- ☐ Is dat mijn probleem. Ik ben zelf verantwoordelijk voor de manier waarop ik daarmee omga. Mijn ouders bemoeien zich daar niet mee.
- ☐ Willen mijn ouders daar niets mee te maken hebben. Ze willen er niet mee worden lastig gevallen.

MEDISCH ETHISCHE VRAGEN

1 Vind je dat jongeren onder de 18 jaar zelf moeten kunnen kiezen of ze plastische chirurgie willen ondergaan?
☐ **ja, zeker** ☐ **ja** ☐ **weet niet** ☐ **nee, niet helemaal** ☐ **nee, zeker niet**

1a Waarom wel/ niet?
. . . . . .
. . . . . .
. . . . . .
. . . . . .

2 Denk je dat jongeren onder de 18 jaar kunnen overzien wat de gevolgen van zo'n operatie aan hun uiterlijk kunnen zijn?
☐ **ja, zeker** ☐ **ja** ☐ **weet niet** ☐ **nee, niet helemaal** ☐ **nee, zeker niet**

2a Waarom wel/ niet?
. . . . . .
. . . . . .
. . . . . .
. . . . . .

3 Vind je dat operaties aan het uiterlijk door het ziekenfonds vergoed zouden moeten worden?
☐ **ja, zeker** ☐ **ja** ☐ **weet niet** ☐ **nee, niet helemaal** ☐ **nee, zeker niet**

3a Waarom wel/ niet?
. . . . . .
. . . . . .
. . . . . .
. . . . . .

4 Als iemand een probleem heeft met zijn/ haar uiterlijk, denk je dat die daar dan het beste aan geopereerd kan worden, of het beste op een andere manier kan worden behandeld?
☐ **ja, zeker** ☐ **ja** ☐ **weet niet** ☐ **nee, niet helemaal** ☐ **nee, zeker niet**

4a Waarom wel/ niet (en indien van toepassing: *Hoe*)?
. . . . . .
. . . . . .
. . . . . .
. . . . . .

6 Ik lees nu een paar uitspraken voor die gaan over *plastische chirurgie* en over *uiterlijk in het algemeen.* Geef na elke uitspraak aan wat jij denkt of vindt.					
	Dat is *zeker* zo	Dat is *wel* zo	Dat weet ik niet	Dat is *niet helemaal* zo	Dat is *zeker niet* zo
Als m'n uiterlijk anders is dan dat van jongens/ meisjes van mijn leeftijd, lig ik al snel buiten de groep.	☐	☐	☐	☐	☐
De plastisch chirurg opereert zonder zichtbare littekens.	☐	☐	☐	☐	☐
De media (televisie, tijdschriften, enz.) hebben invloed op hoe tevreden ik ben over mijn uiterlijk.	☐	☐	☐	☐	☐
In principe kan de plastisch chirurg alles door een operatie mooier maken.	☐	☐	☐	☐	☐
Jongens/ meisjes van mijn leeftijd hebben geen invloed op hoe tevreden ik over mijn uiterlijk ben.	☐	☐	☐	☐	☐

SOCIALE ACCEPTATIE

"Ik ga nu een paar vragen stellen over wat anderen van jouw uiterlijk vinden"

VRIENDEN:

1 Heb je vrienden?
- ☐ ja (meerdere)
- ☐ ja (één vriend(in))
- ☐ nee

Zo nee → *Ga door naar vraag 2*

Zo ja

→ a Heb je het idee dat je vriend(en) je uiterlijk goed vinden/ accepteren zoals het is?
- ☐ helemaal niet
- ☐ een beetje
- ☐ duidelijk

Deze vraag alleen stellen als er meer dan één vriend is!

b Geldt dat voor al je vrienden? ☐ ja ☐ nee

Zo ja → *Indien bij vraag a geantwoord met 'helemaal niet' of 'een beetje': Ga door naar vraag e*
Indien bij vraag a geantwoord met 'duidelijk': Ga door naar vraag g

Zo nee

→ c Voor welke vrienden wel? Mensen hebben bijvoorbeeld vaak echt goede vrienden en wat meer oppervlakkige vrienden.

. . . . . .

d Voor welke vrienden niet?

. . . . . .

Indien bij vraag a met 'helemaal niet' of 'een beetje' is geantwoord, vraag e en f stellen. Let op: Deze vragen kunnen ook één persoon betreffen!

e Wat vinden ze dan niet goed?

. . . . . .

f En wat dan wel?

. . . . . .

g Hoe kun je dat merken, bijvoorbeeld aan wat ze zeggen of doen?

. . . . . .

. . . . . .

LERAREN/ CHEFS:

2 Heb je leraren of chefs?
- ☐ één leraar
- ☐ meerdere leraren
- ☐ één chef of baas
- ☐ meerdere chefs, bazen

a Heb je het idee dat je leraar/ leraren (chef/ chefs) je uiterlijk goed vinden/ accepteren zoals het is?
- ☐ helemaal niet
- ☐ een beetje
- ☐ duidelijk

Deze vraag alleen stellen als er meer dan één leraar of chef is!

b Geldt dat voor alle leraren/ chefs? ☐ ja ☐ nee

Zo ja → ***Indien bij vraag a geantwoord met 'helemaal niet' of 'een beetje': Ga door naar vraag e***

Indien bij vraag a geantwoord met 'duidelijk': Ga door naar vraag g

Zo nee

→ c Voor welke leraren/ chefs wel? Mensen hebben bijvoorbeeld één klasseleraar of een directe chef en een aantal andere leraren of chefs.

. . . . . .

d Voor welke leraren/ chefs niet?

. . . . . .

Indien bij vraag a met 'helemaal niet' of 'een beetje' is geantwoord, vraag e en f stellen. Let op: Deze vragen kunnen ook één persoon betreffen!

e Wat vinden ze dan niet goed?

. . . . . .

f En wat dan wel?

. . . . . .

g Hoe kun je dat merken, bijvoorbeeld aan wat ze zeggen of doen?

. . . . . .

. . . . . .

KLASGENOTEN/ COLLEGA'S:

3 Heb je klasgenoten of collega's?
- ☐ klasgenoten
- ☐ collega's
- ☐ één collega

a Heb je het idee dat je klasgenoten/ collega('s) je uiterlijk goed vinden/ accepteren zoals het is?
- ☐ helemaal niet
- ☐ een beetje
- ☐ duidelijk

Deze vraag alleen stellen als er meer dan één klasgenoot/ collega is!

b Geldt dat voor alle klasgenoten/ collega's? ☐ ja ☐ nee

Zo ja → ***Indien bij vraag a geantwoord met 'helemaal niet' of 'een beetje': Ga door naar vraag e***

Indien bij vraag a geantwoord met 'duidelijk': Ga door naar vraag g

Zo nee

→ c Voor welke klasgenoten/ collega's wel? Mensen hebben bijvoorbeeld één of een aantal klasgenoten of collega's met wie ze meer omgaan dan met de rest.

. . . . . .

d Voor welke klasgenoten/ collega's niet?

. . . . . .

Indien bij vraag a met 'helemaal niet' of 'een beetje' is geantwoord, vraag e en f stellen. Let op: Deze vragen kunnen ook één persoon betreffen!

e Wat vinden ze dan niet goed

. . . . . .

f En wat dan wel?

. . . . . .

g Hoe kun je dat merken, bijvoorbeeld aan wat ze zeggen of doen?

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BROERS/ ZUSSEN:

4 Heb je broers of zussen
- ☐ nee
- ☐ . . . . zus(sen), leeftijden:
- ☐ . . . . broer(s), leeftijden:

Zo nee → *Ga door naar vraag 5*

a Heb je het idee dat je broer(s)/ zus(sen) je uiterlijk goed vinden/ accepteren zoals het is?
- ☐ helemaal niet
- ☐ een beetje
- ☐ duidelijk

Deze vraag alleen stellen als er meer dan één broer of zus is!

b Geldt dat voor al je broer(s)/ zus(sen)? ☐ ja ☐ nee

Zo ja → *Indien bij vraag a geantwoord met 'helemaal niet' of 'een beetje': Ga door naar vraag e*

Indien bij vraag a geantwoord met 'duidelijk': Ga door naar vraag g

Zo nee

→ c Voor welke wel (bijvoorbeeld oudste broer of middelste zus)?

. . . . . .

d Voor welke niet?

. . . . . .

Indien bij vraag a met 'helemaal niet' of 'een beetje' is geantwoord, vraag e en f stellen. Let op: Deze vragen kunnen ook één persoon betreffen!

e Wat vinden ze dan niet goed?

. . . . . .

f En wat dan wel?

. . . . . .

g Hoe merk je dat, bijvoorbeeld aan wat ze zeggen of doen?

. . . . . .

. . . . . .

OUDERS/ VERZORGERS:

5 Heb je allebei je ouders?

Uitvragen:	**"Woon je bij allebei je ouders?"** **"Zo nee, zijn beide ouders in leven? Woon je zelfstandig?"** **"Zo nee, woon je bij pleegouders of verzorgers?"**

- ☐ ja
- ☐ nee, alleen vader/ moeder
- ☐ nee, één verzorger
- ☐ nee, meerdere verzorgers

a Heb je het idee dat je ouder(s)/ verzorger(s) je uiterlijk goed vinden/ accepteren zoals het is?

- ☐ helemaal niet
- ☐ een beetje
- ☐ duidelijk

Deze vraag alleen stellen als er meer dan één ouder of verzorger is!

b Geldt dat voor allebei? ☐ ja ☐ nee

Zo nee

→ Voor wie wel?

. . . . . .

Voor wie niet?

. . . . . .

Indien bij vraag a met 'helemaal niet' of 'een beetje' is geantwoord, vraag e en f stellen. Let op: Deze vragen kunnen ook één persoon betreffen!

c Wat vinden ze dan niet goed?

. . . . . .

d En wat dan wel?

. . . . . .

e Hoe kun je dat merken, bijvoorbeeld aan wat ze zeggen of doen?

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NADELIGE EFFEKTEN VAN HET UITERLIJK

"Heb je last van je uiterlijk op één van de volgende gebieden? Je kunt steeds kiezen uit 'helemaal niet', 'een beetje of soms' en 'duidelijk of vaak'."

1 met het maken van nieuwe vrienden en kennissen?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

2 bij het beoefenen van sporten die je zou willen?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

3 bij het lid worden van een club of vereniging?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

4 bij het doen van hobbies of liefhebberijen die je zou willen?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

5 met verkering krijgen of bij het aangaan van relaties?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

6 wat betreft je stemming?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

7 wat betreft je zelfvertrouwen?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

8 met je latere toekomst, bijvoorbeeld een goede baan krijgen, carrière maken, trouwen, enzovoort?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

9 Op andere gebieden? ☐ ja ☐ nee

Zo ja:

Op het gebied van	Op het gebied van	Op het gebied van	Op het gebied van
.....	.....	.....	.....
☐ helemaal niet	☐ helemaal niet	☐ helemaal niet	☐ helemaal niet
☐ beetje/ soms	☐ beetje/ soms	☐ beetje/ soms	☐ beetje/ soms
☐ duidelijk/ vaak	☐ duidelijk/ vaak	☐ duidelijk/ vaak	☐ duidelijk/ vaak

VERWACHTINGEN VAN EEN AANTREKKELIJKER UITERLIJK

"Verwacht je dat er door een operatie iets zal verbeteren op één van de volgende gebieden? Je kunt steeds kiezen uit 'helemaal niet', 'een beetje of soms' en 'duidelijk of vaak'."

1 met het maken van nieuwe vrienden en kennissen?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

2 bij het beoefenen van sporten die je zou willen?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

3 bij het lid worden van een club of vereniging?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

4 bij het doen van hobbies of liefhebberijen die je zou willen?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

5 met verkering krijgen of bij het aangaan van relaties?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

6 wat betreft je stemming?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

7 wat betreft je zelfvertrouwen?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

8 met je latere toekomst, bijvoorbeeld een goede baan krijgen, carrière maken, trouwen, enzovoort?
- ☐ helemaal niet
- ☐ beetje/ soms
- ☐ duidelijk/ vaak

9 Op andere gebieden? ☐ ja ☐ nee

Zo ja:

Op het gebied van	Op het gebied van	Op het gebied van	Op het gebied van
.....	.....	.....	.....
☐ helemaal niet	☐ helemaal niet	☐ helemaal niet	☐ helemaal niet
☐ beetje/ soms	☐ beetje/ soms	☐ beetje/ soms	☐ beetje/ soms
☐ duidelijk/ vaak	☐ duidelijk/ vaak	☐ duidelijk/ vaak	☐ duidelijk/ vaak

10 Heb je nog andere verwachtingen? ☐ ja ☐ nee
Zo ja → Welke zijn dat?

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11 Wat doe je als het resultaat tegenvalt?

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"Heb je tenslotte zelf nog vragen of opmerkingen, die gaan over dit interview of over je uiterlijk? Zijn er nog dingen die jij belangrijk vindt, maar die ik niet gevraagd heb?"

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