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Breast

An Aesthetic Factor Priority List of the Female Breast in Scandinavian Subjects

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Background: There is little consensus about the relative determinative value of each individual factor in female breast aesthetics. When performing breast surgery with an aesthetic goal, certain factors will be more important than others. The purpose of this study was to make an aesthetic factor rank list to determine the relative contributions to overall breast aesthetics.

Method: Volunteers were scanned using the 3-dimensional Vectra system. Ten Scandinavian plastic surgeons rated 37 subjects, using a validated scoring system with 49 scoring items. The correlation between specific aesthetic factors and overall breast aesthetic scores of the subjects were calculated using Pearson's r, Spearman's ρ, and Kendall's τ.

Results: A very strong correlation was found between overall breast aesthetic score and lower pole shape (0.876, $P < 0.0001$). This was also true for upper pole shape (0.826, $P < 0.0001$) and breast height (0.821, $P < 0.0001$). A strong correlation was found between overall breast aesthetic score and nipple position (0.733, $P < 0.0001$), breast size (0.644, $P < 0.0001$), and breast width (0.632, $P < 0.0001$). Factors that were only moderately correlated with aesthetic score were intermammary distance (0.496, $P = 0.002$), nipple size and projection (0.588, $P < 0.0001$), areolar diameter (0.484, $P < 0.0001$), and areolar shape (0.403, $P < 0.0001$). Perceived symmetry was a weak factor (0.363, $P = 0.027$).

Conclusions: Aesthetic factors of the female breast can be ranked in a priority list. Shape of the lower pole and upper pole and breast height are primary factors of female breast aesthetics. These should be prioritized in any aesthetic breast surgery. Vertical dimensional factors seem to be more determinative than horizontal factors.
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INTRODUCTION

There is no strong, evidence-based consensus about the relative determinative value of each individual aesthetic factor for the overall aesthetics of the female breast. Many previous studies have focused on isolated measures of the breast or isolated aesthetic units, instead of analyzing the overall interaction between these factors.[1–3] An important step toward a structured approach in breast aesthetics is the concept of aesthetic subunits of the breast, introduced by Spear in 2003.[4] Tepper et al[5] later established the term Mammometrics in 2010, creating a structured approach to breast aesthetics using 3-dimensional (3D) scanning and geometric planes. To our knowledge, ranking of the importance of each individual aesthetic factor has not been reported.

The purpose of this study was to describe the ranking of the most determinative aesthetic factors for breast aesthetics, to provide a priority list for the plastic surgeon for use in surgery and in communication with patients.

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METHOD

Ethical and data board approval was obtained after review by the Norwegian Southeastern Regional Committee for Medical and Health Research Ethics and Norwegian Centre for Research Data. Female subjects between age 18 and 35 were recruited. Subjects with congenital, iatrogenic, or traumatic deformity of their breasts or chest wall were excluded. Previous cosmetic surgery patients were not excluded. Thirty-two Scandinavian nursing students between the ages of 19 and 29 years volunteered. They were scanned using the 3D Vectra system. A standardized interview was held with each subject. To increase the number of subjects, an additional 5 virtual subjects were created using 3D Vectra software by digitally augmenting 5 scans of subjects chosen from the 32 volunteer subjects. These 5 subjects were specifically chosen based upon criteria of a small breast volume that allowed a virtual augmentation, accomplishing a natural result. Raters were blinded to "virtual" versus "real" classification and also for all demographic subject information.

Ten plastic surgeons used 49 scoring items to rate each of the 37 subjects. All breasts were rated for overall bilateral aesthetic score and also individual overall score for each breast. All raters had trained and practiced their entire careers within Scandinavia (Sweden, Finland, Norway, Denmark, and Iceland). The rating surgeons were selected to represent well-trained surgeons with different levels of experience and with different degrees of cosmetic and reconstructive background. The 49 rating items evaluate all aesthetic factors of the female breast to avoid selection bias.

The task was to rate breast aesthetics based on each individual surgeon's professional opinion. Thirty-two items were rated on an escalating Likert scale from 1 to 5, with 5 being the most aesthetically pleasing and 1 being the least. The remaining questions were used to further specify the cause of lower scores. Demographic data of raters were also collected. Data regarding the type of rater's clinical practice were collected as percent of clinical activity in Private Practice, percent of activity in a University Practice, percent of clinical activity in Cosmetic Breast Surgery, and percent of clinical activity in Reconstructive Surgery.

Statistics

Validation of the model and rating system was performed. Interrater and test–retest reliability were evaluated using intraclass correlation coefficient (ICC). Cronbach's alpha was used to assess consistency of raters' evaluations.

Descriptive statistics were used to summarize the overall breast aesthetic score as well as specific aesthetic factors. Means were reported with SDs. Frequencies and percentages were used to present categorical factors such as subject characteristics and raters' demographic variables. The correlation between specific aesthetic factors and overall breast aesthetics scores of the volunteer subjects were calculated using Pearson's r, Spearman's ρ, and Kendall's τ on the average scores among 10 raters on each side breast. Correlation was classified according to Evans guide.[6] Overall breast aesthetic scores were compared among different rater groups. A linear mixed model was used to estimate the effect of raters' demographic variable. To estimate the effect of patients' factors on overall breast aesthetic scores, we applied 2 sample t test and analysis of variance to compare the scores in different groups of patients. Tukey's method has been used to adjust multiple comparisons in post hoc analysis. All tests were 2-sided, and P value <0.05 is considered statistically significant. All data processing, summarization, and analyses were performed using SAS 9.4.

RESULTS

Average age of the volunteer subjects (n = 32) was (22.1 ± 2.5) years, with a range from 19 to 29. BMI was 22.8 (±3.1) on average (see Tables 1, 2).

Population Characteristics and Overall Score

On average, "real" subjects were rated lower on overall aesthetic score than "virtual" subjects ($P = 0.014$). The highest ranked subject on overall aesthetics was virtual with a mean overall aesthetic score of 4.50 (Figs. 1–5). The other virtual subjects were ranked number 4, 10, 11, and 14. Previous cosmetic surgery in the "real" subject population was not associated with an increased overall aesthetic score. No preoperative images or scans were available for the cosmetically operated patients.

BMI, smoking, snuff tobacco, number of physical exercise sessions per week, alcohol consumption, and age were not significantly correlated with the overall scores.

Table 1. Subject Cohort Characteristics

Variable	N (Observations)	Summary Statistic
Age, mean ± SD	32	22.1 ± 2.5
Age, median (min, max)	32	22 (19, 29)
BMI, kg/m^2, mean ± SD	30	22.8 ± 3.1
Height, cm, mean ± SD	32	166.2 ± 6.32
Weight, kg, mean ± SD	30	63.0 ± 9.0
Physical activity/sessions per week, mean ± SD	32	2.4 ± 1.3
*Smoke cigarettes per day, n (%)	32	3 (9.4)
*Snuff tobacco, n (%)	32	14 (43.8)
*Alcohol units/week, median (min, max)	31	1 (0, 5.5)
Childbirths and breastfeeding history		
No. childbirths		
0	28 (87.5%)	
1	4 (12.5%)	
No. subjects having breastfed	3 (9.4%)	
Surgical history		
Breast operations total	7 (21.9%)	
Augmentation	5 (15.7%)	
Reduction	1 (3.1%)	
Augmentation + mastopexy	1 (3.1%)	
Operations of chestwall	0 (0%)	

Table 2. Bra Cup Size of the Cohort

Bra Cup Size	n = 31	%	Comment
A	2	6	
B	8	25	Most common cup size
C	5	16	
D	6	19	Second most common cup size
DD	1	3	
DDD+	6	16	
No answer given	1	3	

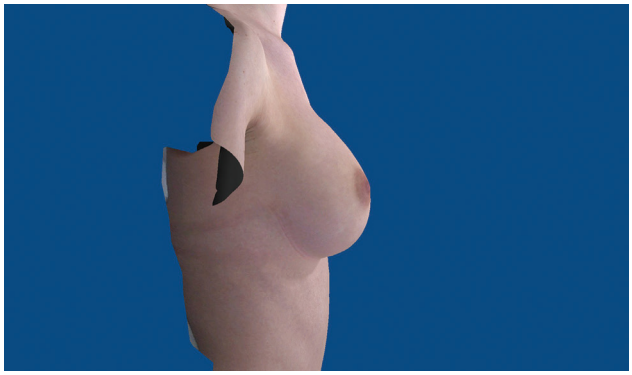

Fig. 1. Virtually augmented subject with the highest score—lateral right view.

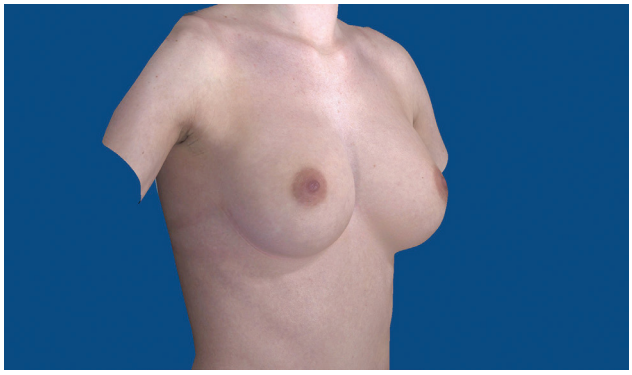

Fig. 2. Virtually augmented subject with the highest score—oblique right view.

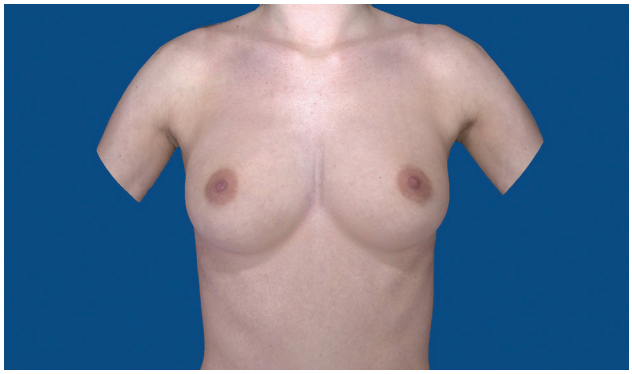

Fig. 3. Virtually augmented subject with the highest score—frontal view.

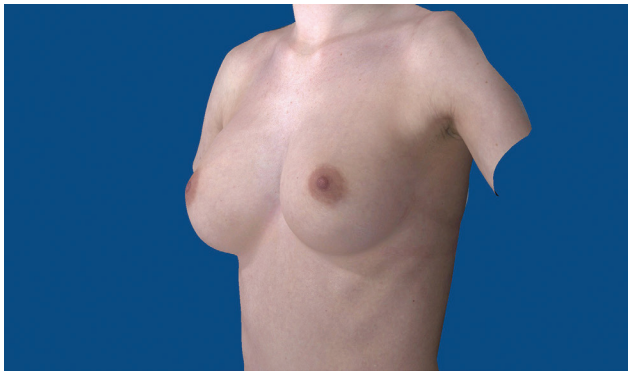

Fig. 4. Virtually augmented subject with the highest score—oblique left view.

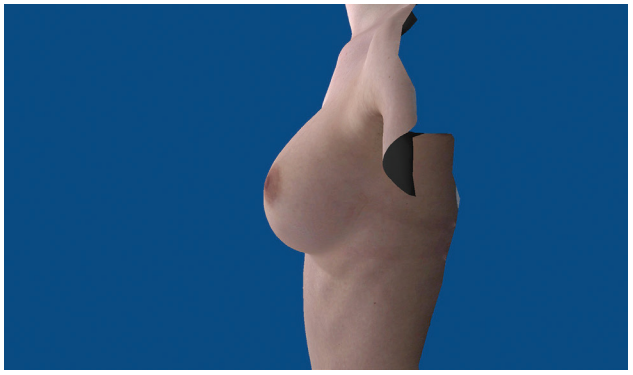

Fig. 5. Virtually augmented subject with the highest score—lateral left view.

Rating System Validity

The test–retest reliability for aesthetic scoring was assessed for 4 of the raters, whose 2 assessments were 2 or more weeks apart. Overall breast scores had a moderately high test–retest reliability (ICC = 0.665). As expected, the interrater reliability ICC was weak (0.331), when comparing the raw data for all 10 raters, indicating that there was low agreement on the exact score. However, our data demonstrated a very strong consistency of rater's scores (Cronbach's α = 0.855), indicating that the raters had a very strong agreement on the aesthetics of breasts.

Raters

Raters' demographic data and their practice types are summarized in Tables 3, 4. Rating is significantly affected by nationality. Finnish surgeons' scores are significantly higher than the rest (3.70 versus 3.47; P = 0.009) and Danish surgeons' scores are significantly lower than the rest (3.32 versus 3.56; P = 0.007).

Age of the raters did not significantly affect scores. Gender, however, did affect overall aesthetic scores. On average, female raters gave higher overall breast scores than male raters (P = 0.015). The average overall breast score from female and male raters were 3.65 and 3.46, respectively.

Increased percentage of surgeon practice spent performing cosmetic breast surgery was negatively correlated with overall breast scores. On average, every 20-percentage point increase in time spent doing cosmetic breast surgery was associated with an estimated 0.13-point decrease in mean overall breast score [estimate = –0.13; 95% confidence interval (CI): (–0.19, –0.07); P < 0.0001] (eg, if someone spends 40% of their day doing cosmetic breast surgery versus someone doing 20% of their day, there is a 0.13 decrease in mean overall breast score). Significantly lower breast scores were more likely given by raters who spent more time in a private practice setting [estimate = –0.05; 95% CI, (–0.09, –0.01); P = 0.008] or in a cosmetic surgery practice

Table 3. Raters Nationality and Mean Overall Breast Scores

Nationality	No. Surgeons	Mean Overall Breast Score	95% Confidence Interval
Finland	2	3.70	3.55, 3.86
Norway	3	3.56	3.43, 3.69
Iceland	1	3.54	3.32, 3.76
Sweden	2	3.45	3.29, 3.60
Denmark	2	3.32	3.17, 3.48

Table 4. Effect of Rater's Characteristics on Mean Overall Breast Score

Rater Characteristic	Mean Aesthetic Score	95% CI	*P*
Age of rater (difference in 5-y increments)	−0.03	−0.08, 0.01	0.1857
Gender: male versus female	0.19	0.04, 0.34	0.0152
Time spent in private practice (difference per 20-percentage unit increments)	−0.05	−0.09, −0.01	0.0084
Time spent in cosmetic surgery (difference per 20-percentage unit increments)	−0.06	−0.11, −0.02	0.0056
Time spent in university practice (difference per 20-percentage unit increments)	0.04	0.003, 0.07	0.0301
Time spent with cosmetic breast surgery (difference per 20-percentage unit increments)	−0.13	−0.19, −0.07	<0.0001
Time spent with reconstructive breast surgery (difference per 20-percentage unit increments)	0.04	−0.01, 0.10	0.1175

Table 5. Definition of Type of Practice

Type of Practice	Definition
Private practice	Practice in a private clinic. Reimbursement based either on self-pay by patients or by treatment of governmental patients under private care by governmental contract such as for breast reduction etc.
Cosmetic practice	Practice based on self-pay by patients. Cosmetic surgery only, including areas other than the breast.
University practice	Plastic surgery practice at a University Hospital.
Cosmetic breast surgery	Cosmetic surgery of the breast performed on self-pay patients.
Reconstructive breast surgery	Reconstructive surgery of congenital anomalies, traumatic defects, cancer-related defects of the breast.

[estimate = −0.06; 95% CI, (−0.11, −0.02); P = 0.006]. On the other hand, raters spending more time at University practices gave significantly higher ratings [estimate = 0.04; 95% CI, (0.003, 0.07); P = 0.030]. Time spent doing reconstructive surgery did not statistically significantly influence overall breast aesthetic score but showed a trend toward higher scoring (P = 0.12). For definitions of practice types, see Table 5.

Aesthetic Factors and Overall Breast Score

Strength of association between aesthetic factors and overall score was categorized as *very strong, strong, moderately strong,* or *weak.*[6]

Very strong aesthetic factors associated with overall breast score are lower pole shape (0.876; P < 0.0001), upper pole shape (0.826; P < 0.0001), and breast height (0.821; P < 0.0001).

Strong aesthetic factors are lateral (0.791; P < 0.0001) and medial pole (0.744; P < 0.0001) of the breast. Nipple position (0.733; P < 0.0001), breast size (0.644; P < 0.0001), and breast width (0.632; P < 0.0001) also fall within this category.

Moderate strength factors include nipple size and projection (0.588; P < 0.0001), intermammary distance (0.496; P = 0.002), nipple–areolar complex (NAC) shape, NAC diameter (0.484; P < 0.0001), and NAC color (0.549; P < 0.0001).

Perceived symmetry was a *weak* factor (0.363; P = 0.027) in predicting breast overall aesthetic score, and the top 5 highest scoring breasts also had no significant symmetry score difference when compared with the other subjects. For definitions of aesthetic factors, see Table 6. For ranking of aesthetic factors, see Table 7. For symmetry plot graph, see Figure 6.

Nipple position in a vertical direction is also strongly correlated with aesthetic overall breast score (0.608; P < 0.0001), whereas nipple position in a horizontal direction is not (0.098; P = 0.405). For ranking of aesthetic factors, see Table 8.

3D Evaluation as a Tool

Raters indicated 3D evaluation (3.9 ± 0.57) to be superior to 2-dimensional (2D) evaluation (3.0 ± 0.82) with a strong statistical trend (P = 0.067) when rating breast aesthetics. Clinical evaluation still remains the gold standard and was preferred to both 2D and 3D image–based rating (4.9 ± 0.32) (P > 0.001) (see Table 9).

DISCUSSION

In this study, we have designed and validated a rating system based on a 3D image analysis. The validated system was then used to aesthetically evaluate 37 subjects according to 49 scoring items. The results indicate that the lower pole was the most determinative factor in overall breast aesthetics. Upper pole shape was the second most determinative factor and breast height the third. Results also show that all aesthetic factors were not of equal determinative value, and the order of importance can be ranked. Our data shed new light on previous findings in the literature and helps the surgeon to organize these findings using the aesthetic priority list.

Table 6. Definitions of Aesthetic Factors as Inspired by Tepper et al[5] and of Cleavage as Defined by Oxford Dictionary[7]

Aesthetic Factor	Definition
Lower pole shape	Shape of the lower breast pole in a standing position. Defined by the area between IMF or the lowest visible part of the breast and a horizontal plane traversing the NAC.
Breast height	Breast height (with the patient in a standing position) as perceived relative to the torso by the lowest visible border of the breast (sometimes but not always corresponding with the IMF) to the highest visible border of breast tissue. Not the same as footprint.
Upper pole shape	Shape of the upper breast pole, defined by the area between a horizontal plane traversing the NAC and the upper most portion of visible breast mound, with the patient in a standing position.
Breast size	Size of the breast as defined by perceived volume.
Breast width	The maximal widest distance from the medial extent of the breast to the most lateral extent, with the patient in a standing position.
Lateral pole shape	Shape of the lateral breast pole, defined by the area between a vertical plane traversing the NAC and the lateral visible border of the breast, with the patient in a standing position.
Medial pole shape	Shape of the medial breast pole, defined by a vertical plane traversing the NAC and extending to the medial extent of the breast, with the patient in a standing position.
Nipple size and projection	The forward projection of the nipple from its base at the areola and its volume above the base level.
Intermammary distance	The distance between the medial borders of the breast, with the patient in a standing position.
Areolar shape	Shape of area within the outline of the pigmented areola, with the patient in a standing position.
NAC diameter	The largest measurable diameter of the areola relative to the breast and torso, with the patient in a standing position.
NAC color	Color (tone and hue, and intensity) of the pigmented areola.
Symmetry	Bilateral similarity of the breasts in all other factors relative to the midline, with the patient in a standing position.
Overall aesthetics	Overall aesthetic impression of aesthetics as a whole for both breasts, with the patient in a standing position.
Overall aesthetics left breast	Overall aesthetic impression of aesthetics as a whole for the left breast, with the patient in a standing position, not considering the contralateral breast.
Overall Aesthetics Right Breast	Overall aesthetic impression of aesthetics as a whole for the right breast, with the patient in a standing position, not considering the contralateral breast.
Cleavage	"The hollow between a woman's breasts when supported, especially as exposed by a low-cut garment". Per Oxford dictionary.[7]

IMF, inferior mammary fold.

Table 7. Aesthetic Factor Ranking List—Factors Associated with Overall Aesthetic Score (n = 74)

Aesthetic Factor Rank List	Variable	Pearson's *r*	*P* (Pearson's)	Spearman's ρ	Kendall's τ
1	Lower pole	0.876	<0.0001	0.854	0.696
2	Upper pole	0.826	<0.0001	0.766	0.615
3	Height	0.821	<0.0001	0.800	0.635
4	Lateral pole	0.791	<0.0001	0.767	0.611
5	Medial pole	0.744	<0.0001	0.689	0.532
6	Chest wall	0.741	<0.0001	0.755	0.582
7	Nipple position/location	0.733	<0.0001	0.687	0.530
8	Breast volume	0.644	<0.0001	0.631	0.475
9	Breast width	0.632	<0.0001	0.638	0.492
10	Nipple projection and size	0.588	<0.0001	0.632	0.484
11	NAC color	0.549	<0.0001	0.575	0.428
12	Intermammary distance*	0.496	0.002		
13	NAC diameter	0.484	<0.0001	0.534	0.381
14	Nipple areola shape	0.403	<0.0001	0.360	0.246

*n = 37 observations.

Lower pole shape has previously received much interest in conjunction with ptosis research.[8] Upper pole fullness is also a concept frequently studied and discussed.[9–14] Our data support the focus and interest in both the lower and upper pole shape.

Breast height was somewhat surprisingly the third most determinative factor. When these results are taken together, they suggest that vertical factors are more important than the horizontal factors in aesthetics. This may be due to the fact that gravity and volume loss likely affect vertical dimensions more than horizontal dimensions. Horizontal factors may be less variable with time and thus less visually associated with an aging breast. Height has not historically been considered a substantial contributing factor to overall breast aesthetics. However, our findings are supported by Mallucci and Branford, Blondeel et al, and Hedén; Mallucci and Branford[11] describes the optimal distribution of breast tissue in the vertical dimension, Blondeel et al[15–18] describes the footprint of the breast, which is different from breast height, in that it relates to both vertical and horizontal breast measures. Hedén[19] highlights the importance of height, nipple position, and also lower pole shape in his description of preoperative planning when performing mastopexy in combination with augmentation.

Chen et al[20] analyzed static measures of the breast and also ratios based on the breast width in selected "high satisfaction breasts". In this study, NAC to inferior mammary fold and breast projection were found to be significantly associated with breast attractiveness, while base diameter was

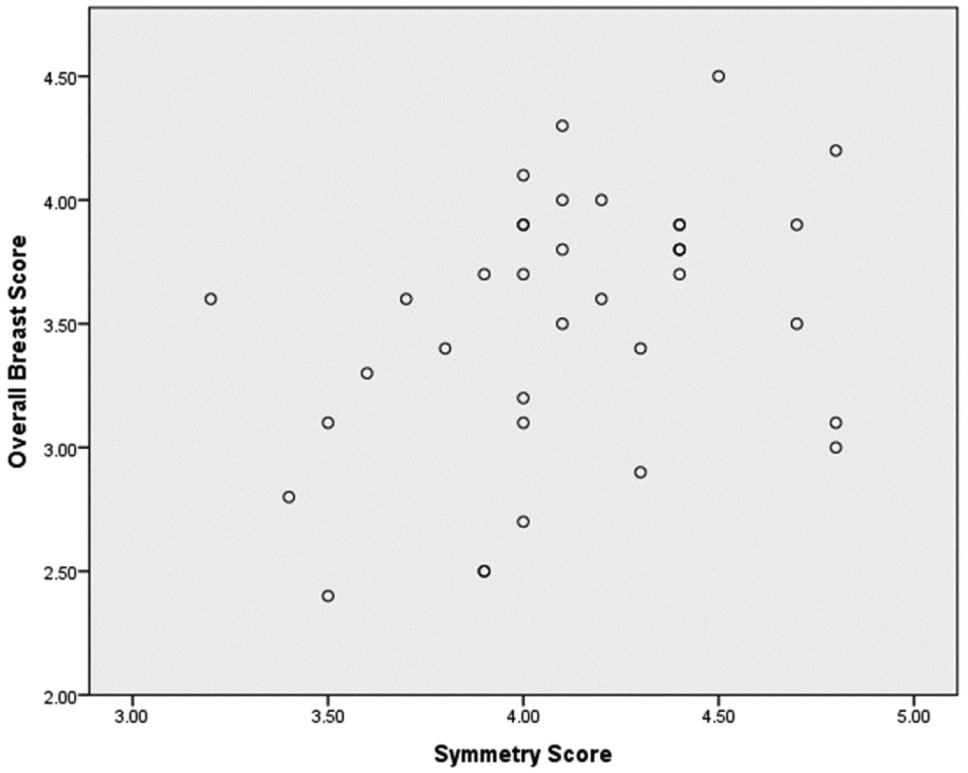

Fig. 6. Symmetry scores and overall aesthetic score plotted.

Table 8. Ranking of Vertical versus Horizontal Factors Associated with Overall Aesthetic Score (n = 74)

Aesthetic Ranking	Variable	Pearson's *r*	P (Pearson's)
Vertical variable			
1	Lower pole	0.876	<0.0001
2	Upper pole	0.826	<0.0001
3	Height	0.821	<0.0001
Horizontal variable			
4	Lateral pole	0.791	<0.0001
5	Medial pole	0.744	<0.0001
9	Breast width	0.632	<0.0001
12	Intermammary distance*	0.496	0.002

*n = 37 observations.

Table 9. Breast Evaluation of 3D or 2D Scans or Clinical Examination

	Mean (SD)	Median	Min, Max
Clinical examination	4.9 (0.32)	4	4, 5
3D pictures	3.9 (0.57)	4	3, 5
2D pictures	3.0 (0.82)	5	2, 4

Descriptive statistics for evaluation type 3D versus 2D versus clinical exam (N = 10).

not.[20] The base diameter is relatively easy to measure and has been shown by Riggio et al[21] to change less often from preoperative planning to intraoperative decision in implant breast reconstruction. On the other hand, base diameter is used frequently in clinical practice to assist in choice of implant. Our data, however, suggest that using breast width in preoperative planning may be less important in achieving an aesthetic result. In an implant reconstruction, it may be as important to consider measures relating to the vertical axis and the lower pole as to just consider the base width.

The intermammary distance, which is also a horizontal measure, was only a moderately determinative factor in our study and much less determinative than height in overall aesthetics.

Cleavage was not rated in our study. The terms intermammary distance and medial pole shape are more specific than cleavage, which has a collection of contributing elements, including breast size, medial border of the breast, and upper pole fullness. Cleavage is a term most often used to describe the appearance of breasts in a clothed subject.[7] The degree of exposure and distortion of breast shape by garments should not be relevant for aesthetic evaluations, which should be performed in an undressed and non-distorted situation.

The NAC is an optical focus of the breast and constitutes an obvious landmark for metric studies and has thus received considerable attention.[22,23] As a landmark, it also provides a focal point for measurements and preoperative marking. It is somewhat surprising that nipple position

was only the seventh most determinative aesthetic factor (see Table 7). Likely this is explained by the fact that nipple position alone does not represent a proxy for overall breast shape. The position of the NAC along the vertical axis seems to influence aesthetic scores more than its horizontal position. This again indicates that the vertical axis seems to be of greater aesthetic importance than the horizontal in a normal population.

Traditionally, the optimal NAC has been considered to be 2 inches in diameter and perfectly round.[22] Extensive work has been done to reconstruct nipples that retain projection over time.[24] It is interesting to note the relatively low determinative value for NAC projection, size, and shape in aesthetics in our study.

Perceived symmetry surprisingly had a low correlation with overall aesthetic score when both breasts were rated as a pair. In other words, highly symmetric but unaesthetic breasts score high on symmetry and low on aesthetics, whereas somewhat asymmetrical, but very aesthetic breasts score low on symmetry and high on aesthetics. The 3D scans in this study were from a healthy, young population. Symmetry likely matters more in situations where more drastic asymmetry is present, such as in some breast reconstruction scenarios.

The data collected concerning comfort with aesthetic rating using different imaging modes or clinical exam suggest that 3D imaging is helpful in evaluating breasts when clinical exam is not possible. Evaluating the breast is a complex process, and evaluation in a traditional 2D format limits the amount of information available. 3D scans permit a full, easily interpretable evaluation of the whole breast from a limitless variety of angles. This provides a more complete evaluation. O'Connell et al[25] has described the benefits of 3D imaging with a focus on metrics. Cardoso et al[26] showed that aesthetic evaluation of cancer patients treated with breast conserving therapy was not different when using 3D scans, compared to using a 3-picture (frontal and lateral) with 2D-view only. In that study, the rating was performed by breast surgeons and not by plastic surgeons with aesthetic training. The strong trend in our study suggests that plastic surgeons are more comfortable to rate a breast aesthetically using 3D scans than 2D scans.

It is possible that aesthetic factors easily seen and easily measured, such as nipple projection, receive a disproportionate amount of attention by surgeons in clinical practice, despite being of low aesthetic determination. Factors that are harder to define and measure, such as the lower pole,[8] but with high determinative value may not receive as much documented attention and study. It is also likely that aesthetic factors that are of low determinative value can receive extensive academic attention. In a study focusing on isolated aesthetic factors, these findings may be assigned a disproportionately strong weight.

Our findings could help surgeons focus operative and academic efforts on factors that are more determinative of overall aesthetic importance. A priority list can simplify, when competing interests are at play in a clinical scenario. It can also help in situations where circumstances do not allow for all aesthetic objectives to be met at once. Focusing on the lower pole shape as a first priority in a breast procedure is likely aesthetically beneficial.

Limitations

Breast aesthetic studies are challenging. Many studies are performed with non-standardized photos.[10,26,27] Selected "beautiful" populations or populations seeking cosmetic surgery may not be ideal to evaluate beauty.[12,20,22] Some type of selection bias of the cohort is however unavoidable in this type of study. Our recruited population of nursing-student-volunteers was young, with a low average BMI. This may be a selected a beautiful subpopulation. In a population that varied even more in age and BMI, it is possible that results would differ. A wide range of aesthetic scores were seen, which point to a wide enough aesthetic variation to be meaningful.

Only plastic surgeons were used as raters of the 3D scans—the intention was to allow for a more clinical approach and understanding to breast aesthetics than a layperson has. Differences of aesthetic scores between plastic surgeons and laypersons have been shown before[28,29] and caution should be used when implementing findings. Shared decision-making with the patient should be the goal in making surgical choices rather than just ideal measures.[9,30] Consideration of individual preferences is always important in plastic surgery.[31] Patient's wishes and breast aesthetics are 2 separate, sometimes overlapping, entities that may be discussed independently, and even compared for academic purposes. In our modern world where body modification with piercing, tattoos, scarring, dental sculpturing, and facial implants can aesthetically alter the human body in multiple novel ways,[32] and aesthetics becomes more segmented, the distinction between patient wishes and aesthetics is more important. Body modification may represent a personal statement, rather than an attempt to move toward a universally agreed upon set of aesthetics. Plastic surgeons should act as specialists in technical analysis while still capable of incorporating patient wishes that may run counter to any consensus and yet are reasonable and achievable.

Broer's findings indicate that there seems to be cultural and age differences regarding preferences for the actual shape and volume of the upper pole.[9] Our study limits itself to Scandinavian raters. Further studies are needed to assess whether the rank list of aesthetic factors varies in different countries and continents.

CONCLUSIONS

This study indicates that the most determinative factors in breast aesthetics are lower pole shape, upper pole shape, and breast height. Vertical factors also seem more important in breast aesthetics than horizontal factors. These results may guide prioritization during breast procedures where competing goals of aesthetic components exist. Aesthetic factors, such as nipple size, nipple projection, intermammary distance, areolar shape, and diameter, appear less determinative. Surgical efforts can be focused on the most determinative aesthetic factors if a priority list is implemented.

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