

## Study of the Impact of a Gastroplasty on the Self-Image Through the Rorschach

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Obesity is a status viewed extremely negatively both by obese persons and by society in general. Yet, despite the fact that obesity is frequently perceived as the obese person's own fault, it is extremely difficult to bring about any permanent and substantial reduction in weight by eating and exercising measures alone (Harris & Green, 1982).

Past studies (Belachew, Désiron, & Messens, 1992; Brink, 1992; Stunkard & Wadden, 1992; DiPietro, Anda, Williamson, & Stunkard, 1993) have shown that obesity generates health and psychological problems. Among them, body-image and self-image disorders in severely obese persons are frequently reported. Few obese people are satisfied with their size or their appearance, and formerly obese patients have been shown to rate their problem as less acceptable than almost any other medical condition. Body image, a multidimensional construct incorporating how a individual sees, experiences, thinks, and feels about his or her body size and shape, has been a focus of eating-disorder research, in particular obesity research. Body-image disparagement is a disorder characterized by feelings that one's body is grotesque and loathsome, and that others view it only with hostility and contempt (Stunkard, 1991). This feeling is closely connected with extreme self-consciousness and impaired social functioning. The disorder is normally confined to those who have been obese since childhood.

Body-image disparagement is a chronic disorder, strongly resistant to change, affected little by actual weight reduction or even by the usual psychotherapeutic intervention (Stunkard, 1991). For Bruch (1984), "a body image disorder is fundamentally implicated in obesity: the obese person is characterized by a feeling of not owning one's own body, either in its affects, thoughts, and actions. One does not have the feeling of living one's own life." For Silbernstein et al. (1988), the origin of this

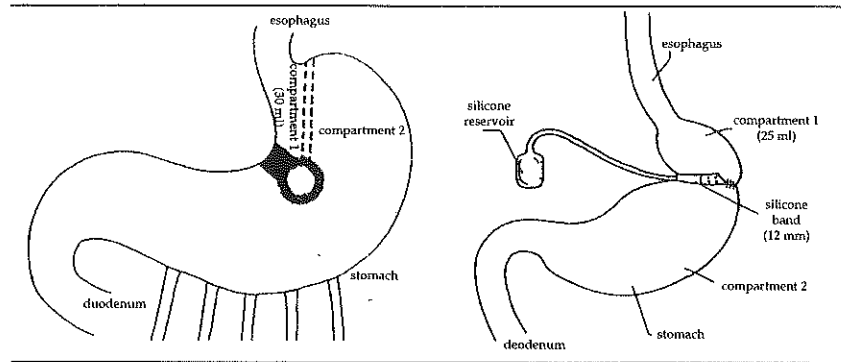


Figure 1. The VBG and the LASGB (Belachew et al., 1993).

dissatisfaction of the body image results from a difference between perceived self and ideal self, and the impossibility to adhere to some internal ideal causes self-criticism and damages self-esteem.

Glucksman and Hirsch (1969) mention that certain persons who have been obese for a long time do not judge themselves as thinner when they lose weight. They worry about their changes in their corpulence, as though they're carrying their past body image as a ghost with them.

Because of the stigma and health risks associated with obesity, many acutely obese persons who have been unable to reach or maintain normal weight by dietary and behavioral changes alone have turned to surgery as a treatment for overweight. Nowadays, the two most widely used procedures of bariatric surgery are the vertical banded gastroplasty (VBG) and the laparoscopic adjustable silicone gastric banding (LASGB) (Figure 1).

One of the major changes gastric reduction surgery is intended to cause is a substantial reduction in food intake, as the reduced size of the stomach precludes the possibility of eating more than a limited amount without vomiting. Gastroplasty induces an important and fast weight-loss that radically changes the body shape.

The present research investigates the changes of the self-image of 30 acutely obese persons following gastroplasty. The hypothesis we made was that the changes of the self-image would be perceptible after only 3 and 10 months.

## Subjects and Methods

### Acutely Obese Patients

Thirty patients from three different abdominal surgery departments were recruited between December 1996 and February 1997 upon hospitalization for a gastroplasty. Our population comprised 21 females and 9 males, aged from 20 to 54 years old (with an average of 33½ years); they weighed, before their operation, from 94 to 144 kilograms (average of 115.7 kilograms). Twenty-two of them chose a LASBG, eight a VBG.

The profiles of the acutely obese subjects are summarized in Table 1. The patients desiring a gastroplasty are predominantly middle-aged women with a low level of education. Their obesity appeared to have begun during puberty or before. The operation was overall perceived as

Table 1. Profile of 30 patients desiring a gastroplasty.

Age, mean (SD)	33.5 (9.6)		
Weight, mean (SD)	Before operation	After 3 months	After 10 months
	115.8 (17.9)	99.3 (16.5)	89.3 (15.2)
	N		%
<i>Gender</i>			
Female	21		70%
Male	9		30%
<i>Educational level</i>			
Secondary inf.	9		30%
Secondary sup.	15		50%
Sup. short	5		17%
Sup. long	1		3%
<i>History of obesity</i>			
Birth	3		10%
Childhood	9		30%
Adolescence	15		50%
Reaction	3		10%
<i>Success of the operation as perceived by the patient</i>			
Failed	1		3%
Medium success	4		14%
Complete success	25		83%
<i>Accompaniment</i>			
Yes	10		33%
No	20		67%

## Gastroplasty and Self-Image

a total success. Only a third of our population desired accompaniment of any type (dietetic, psychiatric, psychological, gymnastic, or a club of gastroplastied people).

### Assessment

After obtaining formal consent and collecting anamnestic information, we administered the Rorschach to all patients the day before the operation. The same procedure was repeated after a term of 3 and 10 months. The logic of using a Rorschach retest model as an indirect measure of change is based on findings that Rorschach of nonpatient adults remain highly stable over both short- and long-term intervals (Exner, Armbruster, & Viglione, 1978).

The 90 protocols were analyzed with Exner's Comprehensive System, whereby we focused on the basic variables and the self-perception cluster.

As Sanglade (1983) says, the Rorschach is a privileged test among all projective techniques because it is a method where body schema, body image, and self-representation are all included. The Rorschach responses allow self-image to be situated in the environment, to determine the level of object relation the image refers to, and to determine the stage reached by the subjects in their search for themselves through the different steps that leads to self-identification.

As the inkblots are structured and organized around a vertical axis that suggests the body axis, it solicits the body schema. The ambiguity of the inkblots or part of the inkblots' formal delimitation solicits the body image, which is reflected in the formal quality of the responses and also in their formal properties.

### Statistical Analysis\*

Parametric data were analyzed by using an ANOVA for repeated measures; categorical data were analyzed by using the chi-square method.

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\* The statistical analysis has been done by J. Wauthy.

## Results

### Basic Variables of Exner's Comprehensive System

The distribution of Erlebnistypus (EB) through our population of obese people is extremely different from Exner's data (1993) of a sample of 700 nonpatient adults (extratensive: 44%; introversive: 36%; ambitent: 20%).

In our population, the ambitents are highly represented and become more numerous over time; introversives represent a quarter of our population, which does not vary over time. The remarkable point is the low percentage of extratensives before the operation, which drops after 10 months.

Before the gastroplasty, two subjects have a SCZI positive because of perceptual-cognitive disarray traduced by a  $X+\% < .50$  and a  $X-\% > .29$ . We should note that neither of these two subjects presented clinical symptoms of schizophrenia.

During the 10 months of subsequent weight loss, the number of subjects with a DEPI positive goes from 10% to 23% of our population. Those subjects show similarities for the following positive variables:  $ColShdbl > 0$ ,  $3r + (2)/R < .31$ ,  $Afr < .46$ ,  $SumC' > 2$  and  $COP < 2$ .

The number of subjects who have a CDI  $> 4$  is quite high before the operation and stays stable over time.

Table 2. Basic variables of the Comprehensive System.

	Before operation		After 3 months		After 10 months	
	N	%	N	%	N	%
Style						
Introversive	8	27%	8	27%	8	27%
Extratensive	5	17%	3	10%	0	0%
Ambitent	17	56%	19	63%	22	73%
SCON $> 8$	0	0%	0	0%	0	0%
SCZI $> 4$	2	7%	0	0%	0	0%
DEPI $> 5$	3	10%	5	17%	7	23%
CDI $> 4$	20	66%	18	60%	18	60%
HVI positive	0	0%	0	0%	0	0%
OBS positive	0	0%	0	0%	0	0%

## Self-Perception Cluster

Tables 3, 4, and 5 show the evolution of the self-perception items at the three different moments of the test compared to Exner's norms (1993) on a sample of 700 nonpatients adults.

More than two-thirds of our subjects have an egocentricity index under .33, and this proportion stays stable over time as the subjects lose weight.

The sum of reflection responses ( $Fr + rF$ ) shows that our population gives more reflection responses than Exner's norms. As the gastroplasty takes effect, the sum of reflection responses increase.

The form dimension (FD) is always under the mean of the norms. After 10 months, 80% of the subjects have no FD.

Only one subject gives a vista response (V) after 10 months.

The Human ratio ( $H:(H) + Hd + (Hd)$ ) tends to grow over time, finally approaching the mean of nonpatients.

The  $An + Xy$  variable is largely above Exner's norms, but decreases as the subjects lose weight.

More than two-thirds of our population gives no MOR responses, and our population's means are always under that of nonpatients.

As our population was heterogeneous, we wanted to know if sex, educational level, history of obesity, kind of operation, success of the operation, and accompaniment had an effect on those self-perception items.

Table 3. Egocentricity Index.

$3r + (2)/R$	< 0.33	{0.33; 0.44}	> 0.44
Before operation	67%	23%	10%
After 3 months	77%	3%	20%
After 10 months	67%	30%	13%
Norms 1	6%	60%	24%

Table 4. Sum of reflection responses.

$Fr + rF$	0	> = 1
Before operation	73%	27%
After 3 months	70%	30%
After 10 months	63%	37%
Norms	93%	7%

Table 5. Self-perception variables.

	Mean	S.D.	Min.	Max.	Med.	Mode
<i>FD</i>						
Before operation	0.67	[0.61]	0	2	1	1
After 3 months	0.73	[0.74]	0	2	1	0
After 10 months	0.30	[0.7]	0	3	0	0
Norms	1.16	[0.87]	0	5	1	1
<i>V</i>						
Before operation	0	[0]	0	0	0	0
After 3 months	0	[0]	0	0	0	0
After 10 months	0.03	[0.18]	0	1	0	0
Norms	0.26	[0.58]	0	3	0	0
<i>H: (H) + Hd + (Hd)</i>						
Before operation	0.97	1.1	0	4	0.5	—
After 3 months	1.17	1.1	0	4	1.17	1
After 10 months	1.19	0.87	0	3	1.2	2
Norms	3.2	/	/	/	/	/
<i>An + Xy</i>						
Before operation	1.77	[2.01]	0	7	1	0
After 3 months	1.33	[1.42]	0	4	1	0
After 10 months	1.2	[1.13]	0	4	1	1
Norms	0.39	[0.62]	0	3	0	0
<i>MOR</i>						
Before operation	0.40	[0.67]	0	2	0	0
After 3 months	0.13	[0.34]	0	1	0	0
After 10 months	0.27	[0.45]	0	1	0	0
Norms	0.70	[0.82]	0	4	1	0

Three kinds of significant effects were found:

1. an effect of the history of obesity, independent of the moment of testing, on the egocentricity index, which actually depends on an effect of the history of obesity, independent of the moment, on the sum of reflection responses (Table 6),
2. an interaction between the moment of testing and the kind of gastroplasty on the number of FD (Table 7),
3. and an interaction between the moment of testing and the accompaniment on the An + Xy (Table 7).

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Table 6. Effect of the history of obesity on the egocentricity index and sum of reflect responses.

Since:	Birth	Childhood	Adolescence	Reaction	$p <$
$3r + (2)/R$	0.19	0.16	0.31	0.52	0.001
$Fr + rF$	0	0.19	0.49	1.44	0.05

Table 7. Interaction between moment and kind of operation on FD and interaction between moment and accompaniment on An + Xy.

	N	Before operation	After 3 months	After 10 months	$p <$
<i>FD</i>					
Kind of operation					
LASGB	22	.77	.59	.44	0.01
VBG	8	.37	1.16	0	
<i>An + Xy</i>					
Accompaniment					
Yes	10	1	1.4	1.6	0.01
No	20	2.15	1.3	1	

## Discussion

### The Basic Variables

Our observation of a population of obese persons who desire gastroplasty reveals a certain type of Erlebnistypus (EB): The majority of our population is characterized by an introversive EB ( $N = 8$ , 27%) or ambitent ( $N = 17$ , 56%), whereas only 1 subject (3%) is extratensive, and 4 subjects have an undetermined style characterized by the left side of EB (sum of M) of 0. This very small proportion of extratensives may seem strange when, normally, we experience representations of obese persons as jovial, effusive, easy-going people, that is to say: extraversive persons. It seems that affective life is restricted in contrast to the portrayals of obese persons. But our sample of subjects does not consist of obese persons as such, but rather of 30 obese subjects *who desire to lose weight with the help of a surgical operation*. On the other hand, the majority of our patients are classified as ambitents; this has to be view in light of Exner's results



showing ambivalent style is found particularly in psychopathological groups.

But the question is why the four persons of undetermined style become ambivalents upon losing weight. If we look closer at the sides of the EB, we observe that these style modifications are more the result of an increase of the M number than a decrease of the WsumC. We may pose the hypothesis that in those patients the release of the ideational activity that accompanies the improvement of the symptom (obesity) indicates either that obesity engenders a kind of mental impoverishment, so that if obesity decreases, its effects (the impoverishment) decrease too. Or we posit that the psychosomatic functioning (operative thought) generating the ideational impoverishment and the obesity lessens to the extent that its somatic effects disappear. This then lends itself to a remobilization of mental life. This last hypothesis is in contradiction with the psychoanalytic concept of the symptom, but it is based on clinical observations.

The seven subjects who had an increased DEPI have in common difficulties handling their emotions: They neutralize their emotions, or they avoid emotional stimuli. They also have a low self-value. We hypothesize that because their self-value is quite negative, they prefer not to handle emotions in interpersonal relations being afraid of not negotiating them well. In this way, they progressively become isolated. We can also inverse the reflection and make another hypothesis: Because they have a negative self-image, they give up on themselves or look for obesity. In other words, the obesity has a defensive value: When their weight falls, their defences collapse. That would explain the increase in positive DEPI.

Two-third of our population have poor social relations, which don't get better as they lose weight. We can understand that, before their operation, their obesity never facilitated social contacts. After 10 months, those subjects still have a negative self-interest and a deformed view of themselves. We may hypothesize that, as Glucksman and Hirsch (1969) suggested, they could still be carrying their past body image as a ghost, so that they still see themselves quite negatively when they compare themselves to others. Again, we can inverse the reflection and make the hypothesis that the social isolation might create the obesity. In other words, the social difficulties could give birth to an oral regression in which oral behavior is compensatory.

### The Self-Perception Cluster

Before the gastroplasty, the subjects' self-interest was quite negative; the majority of our population had an egocentricity index under 0.33. After the operation, the quality of the self-centration was slightly improved but stayed negative in general.

Subjects who were obese since birth or childhood have more difficulties handling this new body image: Their interest in their body was more negative than that of other patients, and they take more time to obtain a better centration for their body.

Those who seem less touched by this negative self-image are persons who developed a reactional obesity after the death of a family member. We forward the hypothesis, to be taken with care, that the other person while still living and interacting with the subject was sending back his or her image or reflection. At death, this image disappears. The subject becomes then a "vampire," a character without any reflection who has to "swallow" to survive. In order to fill in the other's absence and the image that person was sending back, the subject tends to add more density to life: In everyday life, he or she "eats for two," and in mental life there develops the narcissistic tendency traduced by a important number of reflection responses.

The kind of operation also plays an important role for self-representation: The presence of a long scar left by the VBG permits the subjects to focus on their own body. This scar becomes the center of interest in the body and motivates introspective behavior: It is a point that centralizes reflections and thoughts about bodily modifications.

The distinction can also be made between patients who wish to be accompanied after the operation and patients who don't. For the latter ones, the operation is a "formality" that should be done quickly. They are preoccupied with their body before the operation and when it is done, that they don't care anymore. If weight loss is satisfactory, they don't see the opportunity to care about their body. For those who wish to be accompanied, the body is not the major center of interest before the operation, but becomes so afterwards: The different types of accompaniment help them realize that the metamorphosis of the body is an important modification they have to care about.

## Conclusions

The results obtained seem to indicate that the interest of obese patients in their own body is quite negative. The weight loss induced by gastroplasty causes self-representation to develop positively in general. Nevertheless, some parameters play a modulating role in the recovery of a better self-image:

1. (a) Overall, one's history of obesity plays a major role: The more obesity goes back in life, the more self-interest is affected negatively. (b) The particular case of the patients who have developed a reactional obesity after the death of a family member is interesting because it points to a process that increases the subjects' narcissistic density. It is as though the obese person is trying to take the place of two persons: himself and his reflection.
2. The kind of operation also plays an important role: Whether the operation is visible or invisible is essential. The scar left by VBG represents a point of attention which permits patients to focus on their own body. This helps them to adjust to the weight loss and any bodily modifications.
3. Patients who are accompanied after the operation seem to recover a better interest in themselves. In fact, accompaniment has the goal of helping the patients in their acceptance and assimilation of bodily changes. With the help of a specialist, their self-representation improves.

We conclude that the surgical treatment of obesity engenders psychological modifications and particularly changes at the level of self-image. Contrary to Stunkard (1991), it would seem that the interest in one's own body becomes greater when the patients start to lose weight.

The bodily modifications engendered by a gastroplasty tend to be followed by psychological changes if accompaniment is not neglected. Consequently, in order to adapt this psychological procedure in the future, we suggest studying other psychological changes (affects, mediation, etc.) with patients who are having a gastroplasty.

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## Résumé

Depuis plus de cinquante ans, différentes études ont révélé que les personnes souffrant d'obésité morbide possédaient une image du corps et une image de soi dépréciée.

L'objectif de notre recherche est d'observer l'évolution de cette image de soi chez des personnes perdant rapidement du poids suite à une gastroplastie en analysant les sept différentes variables qui constituent le cluster perception de soi du Système Intégré d'Exner.

Pour ce faire, nous avons administré le Rorschach à trois reprises auprès de patients sollicitant une gastroplastie: le premier testing a eu lieu lors de leur hospitalisation, la veille de leur opération; les deuxièmes et troisièmes testings ont eu lieu après une période de trois et dix mois, le plus souvent au domicile du patient ou lors d'une visite de contrôle chez le chirurgien. Notre population se compose de 30 patients âgés de 20 à 54 ans (avec une moyenne de 33 ans et 6 mois) et dont le poids variait de 94 à 144 kilogrammes (avec une moyenne de 115,7 kilogrammes) avant leur opération.

L'échantillon observé présente un nombre élevé et grandissant d'ambiéquaux (passant de 56% à 73%) et un faible pourcentage d'extratensifs (1%) disparaissant en 10 mois. De plus 4 sujets au style indéterminé ( $M = 0$ ) se révèlent être des ambiéquaux en perdant du poids comme si leur activité idéationnelle se trouvait "débloquée" un fois que l'obésité tend à disparaître.

Le pourcentage de personnes présentant un DEPI positif passe de 10% à 23% en dix mois. L'hypothèse est que l'obésité possédait une valeur défensive qui disparaît parallèlement à la perte de poids expliquant cette augmentation de sujets au DEPI positif.

Enfin, 60% de la population présentent un CDI positif toujours après dix mois d'amaigrissement. L'hypothèse est que des difficultés sociales peuvent entraîner une obésité par un processus de régression orale. Lorsque l'obésité et les comportements de nourrissage disparaissent, les difficultés sociales restent présentes.

La centration sur soi est négative avant l'opération. La qualité de cet intérêt pour soi peut être améliorée selon certains facteurs: l'histoire de leur obésité, le type d'opération et le suivi postopératoire. (a) Plus l'obésité est ancienne, plus l'image de soi s'en trouve affectée; par ailleurs, les sujets ayant développé une obésité réactionnelle présente une composante narcissique importante. (b) La cicatrice que laisse

l'opération V.B.G. (vertical banded gastroplasty) est un pôle de concentration sur soi qui permet au sujet de se focaliser sur son corps. (c) L'accompagnement postopératoire facilite l'assimilation de la métamorphose corporelle et valorise l'image de soi.

Il semble que l'on puisse retenir l'hypothèse selon laquelle la gastroplastie entraîne des modifications de l'image du corps et de l'image de soi chez des personnes sévèrement obèses.

### Resumen

Desde hace más de cincuenta años, varios estudios señalaron que las personas que sufrían obesidad patológica poseían una imagen corporal y una imagen de sí mismas, devaluadas.

El objetivo de nuestra investigación es el de observar la evolución de la autoimagen en sujetos que pierden peso rápidamente, a consecuencia de una gastroplastía. Se analizan las siete variables de Rorschach que constituyen el agrupamiento de Autopercepción, según el Sistema Comprensivo de Exner.

Se administró el Rorschach en tres momentos, tras la solicitud de gastroplastía por parte de los pacientes: el primero, en el momento de su hospitalización, la víspera de la operación; el segundo y el tercero, tras un período de 3 y 10 meses, en el domicilio del paciente o durante una de las visitas de control al cirujano. La muestra se compuso de 30 sujetos, entre 20 y 54 años (con una media de 33 años y 6 meses) y cuyo peso antes de la operación se situaba entre 94 y 144 kilos (con una media de 115,7 kg).

El grupo presenta en sus protocolos de Rorschach un elevado número de ambiguas desde la primera administración, que fue aumentando en las siguientes (pasando del 56% al 73%) y un escaso porcentaje de extratensivos (1%) que desapareció a los 10 meses. Además, cuatro sujetos que presentaban un estilo indeterminado ( $M = 0$ ) se mostraban ambiguas al perder peso, como si su actividad ideacional se hubiera "desbloqueado," una vez que desaparecía la obesidad.

El porcentaje que ofrecía un DEPI positivo pasó del 10% al 23% en los 10 meses. La hipótesis para explicar este aumento sería la de que la obesidad poseía un valor defensivo, que desaparecía paralelamente a la pérdida de peso.

Finalmente, el 60% de la muestra presenta un CDI positivo tras 10 meses de adelgazamiento. La hipótesis es la de que sus dificultades sociales podrían haber inducido la obesidad por un proceso de regresión oral y, mientras la obesidad y los comportamientos de sobrealimentación desaparecen, las dificultades sociales se mantienen.

El autocentramiento es negativo antes de la operación. La calidad de este interés por sí mismos puede mejorar según ciertos factores: historia de la obesidad, tipo de operación y seguimiento postoperatorio. a) Cuanto más antigua es la obesidad, más afectada se encuentra la autoimagen; además, los sujetos que desarrollan una obesidad reactiva, presentan un componente narcisista importante. b) La cicatriz que deja la operación VBG (gastroplastia de banda vertical) es un polo de autocentramiento que permite al sujeto focalizarse sobre su cuerpo. c) El acompañamiento postoperatorio facilita la asimilación de la metamorfosis corporal y revaloriza la autoimagen.

Parece que se puede sostener la hipótesis, según la cual la gastroplastia entraña modificaciones de la imagen corporal y de la imagen de sí mismo, en personas con obesidad severa.

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