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## Self construction, cognitive conflicts and polarization in bulimia nervosa

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**ABSTRACT.** This study explores the cognitive structures, understood as construct systems, of patients suffering from bulimia nervosa (BN). Previous studies investigated the construct systems of disordered eaters suggesting that they had a higher distance between their construction of the self and the «ideal self», and also more rigidity. In addition to these aspects, this study explored the presence of implicative dilemmas (ID). Thirty two women who met criteria for BN and were treated in a specialized center were compared to a non clinical group composed by 32 women matched by age. All participants were assessed using Repertory Grid Technique (RGT). In BN patients it was more common (71.9%) to find IDs than in controls (18.8%). They also showed higher polarization and higher self-ideal discrepancies (even more for those with a long history of BN). The measures provided by the RGT can be useful for the assessment of self-construction and cognitive conflicts in BN patients and to appreciate their role in this disorder. In addition, this technique could be helpful for clinicians to explore the patient's constructs system, and specially to identify IDs that could be maintaining the symptoms or hindering change in order to focus on them to facilitate improvement.

**KEYWORDS.** Bulimia nervosa. Repertory Grid. Self-construction. Cognitive conflicts. Polarization. *Ex post facto* study.

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**RESUMEN.** Este estudio explora las estructuras cognitivas, entendidas como sistemas de constructos, de pacientes afectadas de bulimia nerviosa (BN). Investigaciones previas sobre los sistemas de constructos personales con sintomatología alimentaria sugieren que éstas muestran una mayor distancia entre la construcción de su sí mismo y su yo ideal, y mayor rigidez. Además, este estudio explora la presencia de dilemas implicativos (DI). Se comparó un grupo de treinta y dos mujeres con diagnóstico de BN, con un grupo no clínico de 32 mujeres aparejadas por edad. Todas las participantes fueron evaluadas utilizando la técnica de rejilla (RGT). La presencia de DIs fue más frecuente en el grupo clínico (71,9%) que en el grupo control (18,8%), y se encontró, además, mayor polarización y mayor discrepancia yo-ideal (especialmente cuanto más larga era la historia de BN). Las medidas obtenidas con la RGT pueden ser útiles para la evaluación de la construcción del sí mismo y los conflictos cognitivos en pacientes con BN, y para apreciar su papel en este trastorno. Además, esta técnica puede ser útil en la clínica para explorar el sistema de constructos de los pacientes, especialmente para identificar los DIs que puedan estar manteniendo los síntomas u obstaculizando el cambio.

**PALABRAS CLAVE.** Bulimia nervosa. Técnica de rejilla. Construcción del sí mismo. Conflictos cognitivos. Polarización. Estudio *ex post facto*.

Bulimia nervosa (BN) is an eating disorder (ED) characterized by recurrent binge eating episodes, followed by inappropriate compensatory behaviours. It is found in people whose self-evaluation is excessively influenced by body image and weight. The prevalence of BN reported in DSM-IV-TR (American Psychiatric Association, 2000) oscillates between 1-3% among women. On the other hand, it is considered that for every 10 women suffering from BN, one man is affected by it. In Spain, BN prevalence is estimated to range between 0.37-1.24% (4.1%-5.26% for EDs in general) (Toro, 2003). Clinical features of BN include: high levels of depression and anxiety, personality disorders, deficit in social relationships, alcohol and substance abuse and suicide attempts (Fahy and Russell, 1993). There is an apparent consensus on the multi-factorial aetiology of BN, considering that it could be the result of the interaction between neurobiological, psychological, familiar and sociocultural factors (Le Grange, 2004).

Christopher Fairburn, in 1981, proposed a cognitive-behavioural model for BN, which is widely used by psychotherapists and treatment facilities specializing in these kind of disorders. It is based on Beck's cognitive model for depression proposed in 1979, and Mahoney's model for obesity treatment elaborated in 1976 (Le Grange, 2004). This approach is based on the idea that ED patients commit a number of cognitive errors while processing information about weight, body image and food. Those affected by these pathologies would develop disrupted schemata containing overvalued information about weight (Cooper and Fairburn, 1992; Mizes and Christiano, 1995), especially when applying these schemata to themselves. Until now, negative cognitions about the self in ED patients have been studied using standardized questionnaires or semi-structured interviews. These assessment modalities derive from theoretical constructs, and do not take account of the patient's perspective. Less attention has been paid to the patients' subjective construction of the self and of the problem.

Within cognitive theories, we can also find Kelly's (1955/1991), Personal Construct Theory (PCT), based on a constructivist epistemology (Feixas and Villegas, 2000; Neimeyer and Mahoney, 1995), according to which reality can only be accessed by construing with interpretative dimensions. In PCT (see Botella and Feixas, 1998; Walker and Winter, 2007; for a review), Kelly suggested that the human being lives and understands experience as a scientist who builds (informal) hypothesis to interpret, organize and anticipate a wide range of experiences. The world and reality are construed by «personal constructs», or distinctions construed uniquely and personally from experience. By doing this, an interdependent, hierarchical and complex meaning network is built, by which the person can understand and anticipate experience. Personal constructs are usually represented as bipolar dimensions of meaning, such as «weak-strong». In this network, some lower level constructs could be directly related to others of greater significance for the individual. For example, «worried about weight - not worried about weight» could be associated with higher order constructs such as «responsible-irresponsible» which comprise the core of the system. These core constructs serve to provide a sense of continuity of the self; thus, they can be considered part of the person's identity. Changing these core constructs may imply greater distress because of challenging self-identity.

There are several techniques to reveal someone's personal constructs (*e.g.*, self-characterisation, laddering). One of them is the Repertory Grid Technique (RGT), a structured instrument used within PCT for exploring the dimensions and structures of the personal construct system (*e.g.*, Fransella, Bell, and Bannister, 2003). Its goal is to describe the way a person gives sense to his/her experience in his/her own terms. Therefore, it is not a conventional test, but a semi-structured interview addressed to find the constructs by which a person organizes the world. The data resulting from the RGT can be computed by the GRIDCOR program (Feixas and Cornejo, 2002).

The RGT has been applied to study a variety of areas and problems within psychology and also in other fields (*e.g.*, artificial intelligence, landscape perception, market research). Numerous studies have been conducted in the area of clinical (*e.g.*, depression, schizophrenia, agoraphobia, self-injury) and health psychology (irritable bowel syndrome, chronic pain, cancer). Eating disorders have also been studied by PCT researchers using the RGT (*e.g.*, Button, 1993; Fransella and Crisp, 1970, 1979; Neimeyer and Khouzam, 1985).

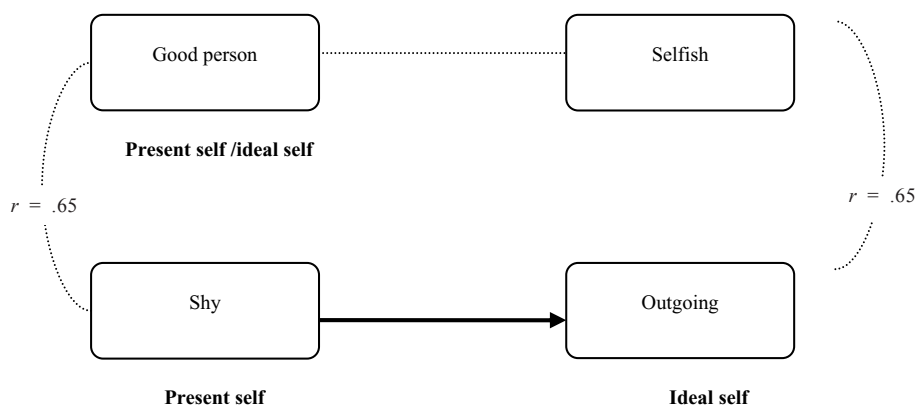
Button (1985, 1993, 2005) studied EDs using the RGT and found that patients' grids contained fewer constructs compared to controls. This indicates that the construct system of ED patients might be quite restricted, *i.e.* less multi-dimensional. According to this author, a limited construct system leads those patients to have difficulties in construing others and in social interaction; therefore, they experience considerable invalidation in their relationships, usually accompanied by very low self-esteem. In contrast to these failures to predict people, they focus on control of eating maybe because this is an area in life in which their predictions are likely to be validated. Therefore, ED patients could be resisting therapeutic change because they do not have other dimensions available to anticipate themselves in relation to others, besides those related to weight and eating. Then, changing the symptoms could be possible when

other constructs become central and those about weight and body image have a more peripheral position within the construct system, with less relevance for self-definition (Fransella and Crisp, 1979). In fact, according to Button (1985, 1993), ED patients with a wider self construction, that is not restrained to weight, had better outcome in treatment.

Other authors have studied the negative cognitions about the self related to ED symptoms, from the subject's point of view with the RGT. They found greater «present self»- «ideal self» discrepancies in patients with anorexia (Fransella and Crisp, 1979) and in women presenting subclinical restrictive behaviours (Neimeyer and Khouzam, 1985), when compared to women without ED problems. Our research group, in the context of the Multi-Center Dilemma Project (Feixas and Saúl, 2004; Feixas, Saúl, and Ávila, 2009), is investigating the view of psychological adjustment (Fernandes *et al.*, 2005) and somatic symptoms (Benasayag, Feixas, Mearin, Saúl, and Laso, 2004; Feixas, Cipriano, and Varlotta, 2007) as an expression of cognitive conflicts. For this purpose, we developed a way to identify various forms of these conflicts using the RGT, and created a treatment manual (Feixas and Saúl, 2005; Seura, Feixas, and Fernandes, 2007) for resolving them.

In a generic way, dilemmas arise when a particular goal for change for a subject is associated in his or her network of personal constructs to a construct for which change is not desirable. Therefore, acquiring the desirable characteristics would imply giving up those that the person would like to keep. Specifically, by implicative dilemma (ID) we understand a strong association between a construct in which the person wishes to change (discrepant construct) and another construct in which the change is not desirable (congruent construct) and would even imply a threat for the system (Feixas *et al.*, 2009) (see Figure 1).

**FIGURE 1.** Example of an implicative dilemma.



If the person changes his/her position in the problematic, discrepant construct moving from the pole («shy») to the desired pole («outgoing») this change would imply,

according to his/her point of view, a similar change in the congruent construct; thus, to avoid an undesired change (becoming «selfish») the person might also hinder the movement towards desired change. In PCT, this particular association between a congruent and a discrepant construct is called ID because it poses dilemma for the person (*e.g.*, a choice between being «shy» or «selfish») because of the implication (or association) between these two constructs (*e.g.*, «outgoing» correlates with «selfish»). It is not presumed that this particular kind of dilemmas captured using the RGT are the only internal dilemmas humans face in the process of living. We are aware that other varieties of dilemmas are present the course of human being's life, not appearing at all in the RGT.

The general objective of this *ex post facto* study (Montero and León, 2007; Ramos-Alvarez, Moreno-Fernandez, Valdez-Conroy, and Catena, 2008) is to explore the cognitive structure (understood as a personal construct system) of a group of women with a diagnosis of BN as compared to a non-clinical sample. The target of the assessment includes identifying patterns of self construction, cognitive conflicts (implicative dilemmas) and cognitive rigidity (polarization) using the RGT. In the clinical group, we also take into account some other relevant clinical information.

## Method

### *Participants*

The clinical group was composed of 32 women (mean age = 24.22; *SD* = 5.66) who were treated at the *Instituto de Trastornos Alimentarios*, in Barcelona, an specialised facility for the treatment of ED. They fulfilled diagnostic criteria for BN according to DSM-IV-TR when admitted for treatment either in hospitalization (*n* = 20) or day care (*n* = 12). The mean time since the onset of the eating disorder was 9.34 years. The control group was formed by 32 women matched up by age with the clinical group (*M* = 24.56; *SD* = 5.82). This group was extracted from a larger sample of 331 women, evaluated by psychology students trained in RGT administration and analysis. Selection was made in order to obtain the better matching of the clinical sample.

### *Instrument and measures*

Repertory Grid Technique (RGT). Originally proposed by Kelly (1955/1991), it has evolved in a variety of formats adapted to the needs of the particular usage (Feixas and Cornejo, 2002; Fransella *et al.*, 2003). The format used in the study consists of a structured interview exploring the participant's interpersonal world. Initially, the interviewer elicited elements for description, which included the self, the ideal self, and significant others identified by the participant (parents, siblings, partners, friends, and a persona non grata). These persons were considered in dyads to elicit constructs describing similarities and differences between them. For each similarity or difference described, an opposite or «construct pole» was also elicited. Elicitation continued until the person was unable to generate additional constructs. Following elicitation of constructs, the interviewer asked the participant to rate each person elicited as an element on the grid on each of his or her constructs. These ratings used a 7-point Likert scale ranging from very much like construct pole A to very much like the contrasting construct pole B. This

provided a matrix of ratings for each participant, with columns representing important people in his or her interpersonal world and rows representing his or her construct dimensions.

The reliability of the RGT has been estimated with test-retest studies providing stability scores of 71-77% for the elements, and 47.7-69% for the elicited constructs. With respect to the measures derived from the RGT, studies provide test-retest correlations ranging from .61 to .95. Other studies support the construct validity of the RGT, because it is considered to be directly derived from PCT. All these issues are reviewed in more detail in Feixas and Cornejo (1996).

From all the indexes and measures used for the analysis of RGT data, the following were included in the study:

- Self-Ideal Differentiation. It is calculated using the product-moment correlation between the scores given to the elements «present self» and the «ideal self». High correlations are usually associated to a high self-esteem. Results from an independent study (Dada, 2008) indicate that this measure is highly correlated to Rosenberg's Self-Esteem Scale.
- Self-others differentiation or perceived self-isolation. This index is calculated using the product-moment correlation between the scores of the «present self» and the mean scores of the other elements (excluding the «ideal self») included in the grid. It shows the degree of similarity of self to others as perceived by the respondent. High correlations indicate identification with others while low scores indicate a view of self as different from significant others.
- Ideal-Others differentiation or Perceived Adequacy of Others. This is estimated by the correlation between the «ideal self» and the mean scores of the other elements (excluding the «present self»). A high positive correlation might suggest a positive (or even an idealized) construction of the significant others included in the grid, and a negative or low correlation may indicate that the subject is dissatisfied with them.
- Presence of Implicative Dilemmas (ID). Feixas and Saül (2004) defined the presence of an ID in a grid whenever the correlation between the scores given to a discrepant construct and those given to a congruent construct is .35 or higher. This estimative cutting point has been used in other studies with this measure (*e.g.*, Feixas *et al.*, 2007; Feixas *et al.*, 2009). For this purpose, only the cases in which the pole the subject wishes to change in the discrepant construct is associated with the undesired pole of the congruent construct are considered dilemmatic. This is a dichotomous variable scoring «1» for those participants for whom at least one ID is found, and «0» for those for whom none is found. In their study, Feixas *et al.* (2009) found dilemmas in a 52.10% of a general clinical sample, while only in a 33.90%, a significant difference.
- Polarization. This is the percentage of extreme scores (1 and 7) given by the respondent. The theoretical probability of extreme scores for a 7-point Likert scale is 28.57%. For a given subject, if her percentage is high, it could be an indicator for cognitive rigidity (Feixas and Cornejo, 1996). According to these authors, this index might be related to dichotomous thinking, as it indicates a

tendency to perceive and evaluate oneself and others using a high proportion of extreme scores. However, this consideration deserves further research to be validated.

In the clinical sample, data was recorded from their clinical files concerning the time (number of years) since the onset of the eating disorder, the number of previous treatments, and the time spent in the current treatment facility (number of days from the beginning)

### *Procedure*

For the clinical sample, we explored all registries of female patients who were attending the eating disorder treatment facility and presented bulimic symptoms. Then, we proceeded to select patients whose clinical data fulfilled necessary requirements for our research (female, older than 18, and a diagnosis of BN). Once this phase was completed, we interviewed each participant separately to confirm the diagnosis. With the patients that fully met the criteria we proceeded with the assessment.

The RGT was administered individually without restrictions for time nor for the number of constructs participants were able to produce. Each participant could decide the way she preferred to score the grid: by herself or assisted by the administrator. The clinical group elicited an average of 30.72 constructs ( $SD = 6.74$ ), whereas for the non-clinical group it was of 22.91 constructs ( $SD = 7.52$ ). In relation with the number of elements, for the clinical sample the average was 17.56 ( $SD = 2.37$ ), whereas for the nonclinical group it was 4.56 ( $SD = 2.49$ ). All non-clinical group participants were assessed by psychology students previously trained in the RGT technique.

The mathematical analyses of the grid data to compute the measures included in the study were performed using the GRIDCOR v. 4.0 software (Feixas and Cornejo, 2002).

## **Results**

A one-way between-groups multivariate analysis of variance was performed to investigate the differences between patients with BN and controls in RGT self-construing and polarized thinking. Four dependent variables were introduced: «present self»-»ideal self» mean correlations, «ideal self»-»others» mean correlations, «present self»-»others» mean correlations (all of them after using Fisher's Z transformations), and polarization. Preliminary assumption testing was conducted to check normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted. There was a statistically significant difference between groups on the combined variables:  $F_{(4, 59)} = 5.24$ ;  $p = .001$ ; Wilks' Lambda = .73; partial eta squared = .27. When the results for the independent variables were considered separately, only the differences in «present self»-»ideal self» mean correlations reached statistical significance, using a Bonferroni adjusted alpha level of .013 ( $F_{(1, 62)} = 19.94$ ;  $p < .001$ ; partial eta squared = .243). An inspection of the mean scores indicated that the correlation between present and ideal self was higher in controls ( $M = .62$ ;  $SD = .45$ ) compared with the clinical sample ( $M = .15$ ;  $SD = .37$ ). The clinical group presented lower «ideal self-others» mean correlations ( $M = .28$ ;  $SD = .34$ ) and higher polarization in the

overall scale score ( $M = 27.93$ ;  $SD = 13.98$ ) compared to controls ( $M = .42$ ;  $SD = .30$ , and  $M = 25.55$ ;  $SD = 14.21$ , respectively) even though those differences did not reach statistical significance.

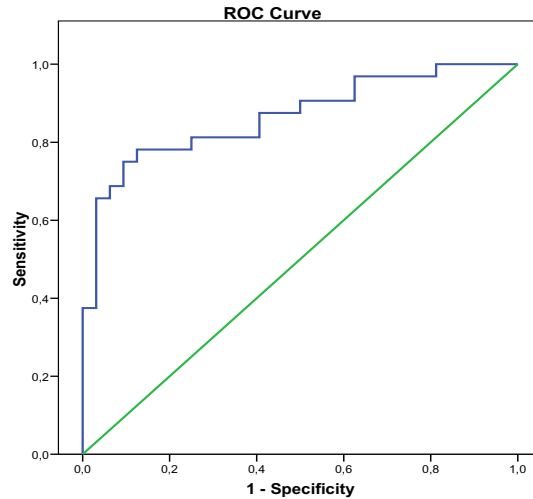
IDs were found in 71.9% of BN participants' grids while only in 18.8% of controls. Yates Correction for Continuity was used to compensate for the overestimate of Chi-squared value for a 2x2 (Presence/absence of implicative dilemmas x Clinic/Control group) table. Analysis showed statistically significant differences  $\chi^2_{(1)} = 16.14$ ;  $p < .001$ .

A logistic regression with forward variable selection was performed, introducing «present self-ideal self», «ideal self-others», «present self-others» above mentioned measures, polarization and presence of ID, and all possible interactions between these variables as predictors of group membership (clinical or non-clinical group). At step one of the regression, the variable which entered the model was the presence of implicative dilemmas  $\chi^2_{(1)} = 19.25$ ;  $p < .001$ . This variable alone classified correctly 76.6% of participants (81.3% from non clinical group and 71.9% from clinical group). The complete model resulting from this regression at step 3 (see Table 1), contained three variables: «present self-ideal self» Z-scores, presence of IDs and polarization. The full model was statistically significant:  $\chi^2_{(3)} = 30.66$ ;  $p < .001$ , indicating that the model was able to distinguish between BN patients and controls. The whole model showed Pseudo R squared indexes of 38.1% (Cox and Snell R squared) and 50.8% (Nagelkerke R squared) for group membership. The strongest predictor of clinical group membership was the presence of implicative dilemmas, recording an odds ratio of 10.21.

**TABLE 1.** Logistic regression predicting likelihood of clinical group membership.

		<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Odds Ratio</i>	<i>95.0% C.I. for Odds Ratio</i>	
								<i>Lower</i>	<i>Upper</i>
Step 1	Presence of implicative dilemma	2.405	.600	16.074	1	.000	11.074	3.418	35.878
	Constant	-1.061	.387	7.524	1	.006	.346		
Step 2	“Present self-ideal self”	-2.053	.876	5.487	1	.019	.128	.023	.715
	Presence of implicative dilemma	1.777	.647	7.534	1	.006	5.910	1.662	21.016
	Constant	-.014	.559	.001	1	.979	.986		
Step 3	“Present self-ideal self”	-2.340	.966	5.861	1	.015	.096	.014	.641
	Presence of implicative dilemma	2.324	.753	9.515	1	.002	10.212	2.333	44.698
	Polarization	.055	.027	4.058	1	.044	1.056	1.001	1.114
	Constant	-1.694	1.019	2.763	1	.096	.184		

Receiver operating characteristic (ROC) curves were constructed to test the accuracy of the regression model for correctly predicting group membership (see Figure 2). Area under the curve (AUC) equalled .87 ( $SE = .46$ ;  $p < .001$ ) with 95% confidence interval (CI) = .78 -.96;  $p < .001$ . The AUC indicates that regression model is accurate, and prediction is significantly different from random assignment. Fixing the cutoff point at .60 and thus maximizing the false positive to false negative ratio, the model showed 75% sensitivity and 90.6% specificity.

**FIGURE 2.** Receiver operating curve to test regression model accuracy.

Considering only the clinical group, Pearson correlations between self-construing variables, polarization, time with BN (years), number of previous treatments, and time from the beginning of current treatment (days) were calculated. Significant negative correlation was found between time of BN and «present self»-»others» mean correlations ( $r = -.49$ ;  $p = .004$ ). Also, a positive correlation between time from the beginning of current treatment and «ideal self-others» ( $r = .40$ ;  $p = .028$ ) was found. Finally, BN patients with and without IDs did not differ in time with BN, number of previous treatments nor time from the beginning of current treatment.

### Discussion

According to our findings, the presence of IDs, lower self-esteem and higher polarization seem to distinguish BN patients from non-clinical participants. Low self-esteem is one of the characteristics more commonly associated with ED (Jacobi, Paul, de Zwaan, Nutzinger, and Dahme, 2004; Slade, 1982). In fact, several studies indicate that self-esteem also differentiates people who suffer ED, not only from normal controls, but also from people who diet to lose weight (Gismero, 2001; Williams *et al.*, 1993). We think the perception of self as evaluated from the point of view of the person's own (idiosyncratic) constructs could have a different function in self-regulation than traditional measures of self-esteem which are derived from theoretical constructs as expressed in questionnaire items. Specifically, Watson and Watts (2001) indicated that the sense of personal value is based on the similarity between the perception of «present self» and «Ideal self» in terms of the attributes that are important for the person. The RGT allows the assessment of self-esteem in the participants' own terms. In this study, BN patients presented lower

self-esteem, in terms of «present self-ideal self» correlations compared to controls. In other words, these patients saw themselves differently from what they think is desirable for themselves in their own terms. Other studies also found that this discrepancy between «present self» and the «ideal self» was greater in patients with anorexia (Fransella and Crisp, 1979) and in women with subclinical restrained eaters (Neimeyer and Khouzam, 1985) compared to women without eating problems. Anyhow, self-esteem measured both by traditional questionnaires and using the RGT has proven to be a clinical trait of many other disorders; therefore, we cannot claim it to be a specific characteristic of ED.

Besides self-esteem, the RGT gives two more measures of self-construction, related to the construction of others: perceived social isolation and adequacy of others. In our study, no significant differences were found between clinical group and controls on these measures, but BN patients seem to consider others less adequate than controls.

Unpleasant social relationships have been widely associated with EDs, emphasizing the role of parents and peers (Quiles, Terol, and Quiles, 2003). According to Tiller *et al.* (1997), BN patients presented disturbances in perceived adequacy of social relationships; Grissett and Norvell (1992) results suggests that bulimics perceived less social support from friends and family, and were less socially competent. Cunha, Relvas, and Soares (2009) found that a group of young women with anorexia nervosa showed more alienation and detachment from mothers, fathers and peer when compared to controls. Recently, Zaitsoff, Fehnon, and Grilo (2009) found that body image disturbances were related to social-emotional isolation in a sample of adolescent ED patients.

Within the clinical sample of this study, patients with longer BN stories presented higher perceived social isolation, construing themselves as very different from others. Time of treatment in the current facility was related to perceived adequacy of others; this indicates that while these patients were treated, they tended to construe others in a more positive way. Yet, more research is needed to test whether perceived adequacy of others improved with the treatment received.

IDs are understood as cognitive conflicts that could be maintaining psychological symptoms and blocking the progress in the treatment, because changing could imply renouncing desirable characteristics of self as defined by core constructs. In our study we found IDs in almost ¾ of the BN patients interviewed, while less than ¼ of women from the control sample showed these kind of cognitive conflicts. Further more, the presence of implicative dilemmas alone allows for correct classification of 76.7% of BN patients and controls. Therefore, IDs seem to be relevant for BN, even though these cognitive conflicts have been found in patients with other diagnoses (Benasayag *et al.*, 2004; Feixas *et al.*, 2009) which suggest that they are not specific to this disorder.

Cognitive rigidity has been associated with eating disorders. Specifically for BN, early cognitive theories hypothesized that dichotomous thinking mediated between dietary restraint and binge eating (Fairburn, 1997). However, the role of dichotomous thinking in relation to eating disorders has been overlooked (Cooper, 2005). RGT polarization is understood as a cognitive rigidity indicator associated with all-or-nothing thinking. In this study, polarization did not discriminate by it self between BN patients and controls, but it seems to be relevant in association with IDs and low self-esteem.

More research is needed to verify some of the findings of the study given the limitations of the study in terms of sample size and, consequently, in the control of other variables. Since standards from a normative sample were not available, age was chosen as criterion for selecting the non-clinical sample in order to match it with the clinical sample. Even though this procedure is consistent, using only the data from this relatively small control group as criterion could entail some bias. Therefore, results should be viewed as preliminary.

Further studies might try to elucidate whether there is a configuration of the construct system which is specific to ED, and also searching for more specific BN characteristics. Moreover, the presence of comorbid disorders should be controlled in studies with bigger samples since the overlap with other disorders has been confirmed (Borda Más, Torres Pérez, and Río Sánchez, 2008; Río Sánchez, Torres Pérez, and Borda Más, 2002).

In sum, the RGT has been demonstrated to be a useful tool for the assessment of self-construction and cognitive conflicts in this sample of BN patients. As suggested in previous studies, the careful exploration that can be made with this technique of the patient's construction of self and others and the estimation of the importance of weight related constructs are relevant aspects for the assessment and treatment of EDs. Particularly, this technique could be helpful for clinicians to explore the patient's cognitive system, and specially to identify IDs that could be maintaining the symptoms or hindering therapeutic change. This use of the RGT for case formulation could have some therapeutic advantages given the fact that a treatment manual has been created (Fernandes, Senra, and Feixas, 2009; Senra *et al.*, 2007) based on therapy procedures derived from PCT (Feixas and Saúl, 2005) oriented to the resolution of these personal dilemmas. Further studies might evaluate whether including the work with cognitive conflicts in the therapy process for those patients having IDs increases the efficacy of the treatment.

### References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4a. ed., text revision). Washington, DC: American Psychiatric Association.
- Benasayag, R., Feixas, G., Mearin, F., Saúl, L.A., and Laso, E. (2004). Conflictos cognitivos en el Síndrome del Intestino Irritable (SII): un estudio exploratorio. *International Journal of Clinical and Health Psychology*, 4, 105-119.
- Borda Más, M., Torres Pérez, I., and Río Sánchez, C. (2008). Dysthymia in anorexia nervosa and bulimia nervosa. *International Journal of Clinical and Health Psychology*, 8, 65-75.
- Botella, L. and Feixas, G. (1998). *La teoría de los constructos personales: Aplicaciones a la práctica psicológica*. Barcelona: Laertes.
- Button, E. (1985). Eating disorders: A quest for control? In E. Button (Ed.), *Personal construct theory and mental health* (pp. 153-168). London: Croom Helm.
- Button, E.J. (1993). *Eating disorders. Personal construct therapy and change*. Sussex, UK: Wiley.
- Button, E.J. (2005). Eating disorders. In D. Winter and L. Viney (Ed.), *Personal construct psychotherapy. Advances in theory, practice and research* (pp. 198-207). London: Whurr.

- Cooper, M. (2005). Cognitive theory in anorexia nervosa and bulimia nervosa: Progress, development and future directions. *Clinical Psychology Review*, 25, 511-531.
- Cooper, M. and Fairburn, C.G. (1992). Thoughts about eating, weight and shape in anorexia nervosa and bulimia nervosa. *Behaviour Research and Therapy*, 30, 501-511.
- Cunha, A., Relvas, A., and Soares, I. (2009). Anorexia nervosa and family relationships: Perceived family functioning, coping strategies, beliefs, and attachment to parents and peers. *International Journal of Clinical and Health Psychology*, 9, 229-240.
- Dada, G. (2008). *Autovaloración, factores cognitivos y de personalidad en la predicción de sintomatología alimentaria en mujeres universitarias*. Unpublished manuscript, University of Barcelona, Barcelona, Spain.
- Fahy, T.A. and Russell, G.F.M. (1993). Outcome and prognostic variables in bulimia nervosa. *International Journal of Eating Disorders*, 14, 135-146.
- Fairburn, C. (1997). Eating disorders. In D. Clark and C. Fairburn (Eds.), *Science and practice of cognitive behaviour therapy* (pp. 209-243). Oxford, UK: Oxford University.
- Feixas, G., Cipriano, D., and Varlotta, N. (2007). Somatización y conflictos cognitivos: estudio exploratorio con una muestra clínica. *Revista Argentina de Clínica Psicológica*, 16, 194-203.
- Feixas, G. and Cornejo, J.M. (1996). *Manual de la técnica de rejilla*. Barcelona: Paidós.
- Feixas, G. and Cornejo, J.M. (2002). *RECORD v. 4.0: Análisis de correspondencias de constructos personales*. Barcelona: Psimedia.
- Feixas, G. and Saúl, L.A. (2004). The Multi-Center Dilemma Project: An investigation on the role of cognitive conflicts in health. *The Spanish Journal of Psychology*, 7, 69-78.
- Feixas, G. and Saúl, L.A. (2005). Resolution of dilemmas by personal construct psychotherapy. In D. Winter and L. Viney (Eds.), *Personal construct psychotherapy: Advances in theory, practice and research* (pp. 136-147). London: Whurr.
- Feixas, G., Saúl, L.A., and Ávila, A. (2009). Viewing cognitive conflicts as dilemmas: Implications for mental health. *Journal of Constructivist Psychology*, 22, 141-169.
- Feixas, G. and Villegas, M. (2000). *Constructivismo y psicoterapia*. Bilbao: Desclée de Brouwer.
- Fernandes, E., Maia, Â., Meireles, C., Rios, S., Silva, D., and Feixas, G. (2005). Dilemas implicativos e ajustamento psicológico: Um estudo com alunos recém-chegados à Universidade do Minho. *International Journal of Clinical and Health Psychology*, 5, 285-304.
- Fernandes, E., Senra, J., and Feixas, G. (2009) *Psicoterapia constructivista: Un modelo centrado em dilemas*. Braga, Portugal: Psiquilibros.
- Fransella, F., Bell, R., and Bannister, D. (2003). *A Manual for Repertory Grid Technique*. London: John Wiley & Sons.
- Fransella, F. and Crisp, A.H. (1970). Conceptual organisation and weight change. *Psychotherapy and Psychosomatics*, 18, 176-185.
- Fransella, F. and Crisp, A.H. (1979). Comparison of weight concepts in groups of neurotic, normal and anorexic Females. *British Journal of Psychiatry*, 134, 79-86.
- Gismero, E. (2001). Evaluación del self-concept, la satisfacción con el propio cuerpo y las habilidades sociales en la anorexia y la bulimia nerviosas. *Clínica y Salud*, 12, 289-304.
- Grissett, N. and Norvell, N. (1992). Perceived social support, social skills, and quality of relationships in bulimic women. *Journal of Consulting and Clinical Psychology*, 60, 293-299.
- Jacobi, C., Paul, T., de Zwaan, M., Nutzinger, D., and Dahme, B. (2004). Specificity of self-concept disturbances in eating disorders. *International Journal of Eating Disorders*, 35, 204-210.

- Kelly, G. (1955/1991). *The psychology of personal constructs*. New York: Norton. Reprinted by Routledge.
- Le Grange, D. (2004). The cognitive model of bulimia nervosa. In D. Clark and M. Reinecke (Eds.), *Cognitive therapy across the lifespan. Evidence and practice* (pp. 293-314). London: Cambridge University Press.
- Mizes, J.S. and Christiano, B.A. (1995). Assessment of cognitive variables relevant to cognitive behavioural perspectives on anorexia nervosa and bulimia nervosa. *Behavioural Research Therapy*, 33, 95-105.
- Montero, I. and León, O. (2007). A guide for naming research studies in Psychology. *International Journal of Clinical and Health Psychology*, 2, 847-862.
- Neimeyer, G.R. and Khouzam, N. (1985). A repertory grid study of restrained eaters. *British Journal of Medical Psychology*, 58, 365-367.
- Neimeyer, R.A. and Mahoney, M.J. (Eds.) (1995). *Constructivism in psychotherapy*. Washington, DC: American Psychological Association.
- Quiles, Y., Terol, M., and Quiles, M. (2003). Evaluación y apoyo social en pacientes con trastorno de la conducta alimentaria: un estudio de revisión. *International Journal of Clinical and Health Psychology*, 3, 313-333.
- Ramos-Alvarez, M., Moreno-Fernández, M., Valdés-Conroy, B., and Catena, A. (2008). Criteria of the peer review process for publication of experimental and quasi experimental research in Psychology: A guide for creating research papers. *International Journal of Clinical and Health Psychology*, 8, 751-764.
- Río Sánchez, C., Torres Pérez, I., and Borda Más, M. (2002). Comorbilidad entre bulimia nerviosa purgativa y trastornos de la personalidad según el Inventario Clínico Multiaxial de Millon (MCMI-II). *International Journal of Clinical and Health Psychology*, 2, 425-438.
- Senra, J., Feixas, G., and Fernandes, E. (2007). Manual de intervención en dilemas implicativos. *Revista de Psicoterapia*, 63/64, 179-202.
- Slade, P. (1982). Towards a functional analysis of anorexia nervosa and bulimia nervosa. *British Journal of Clinical Psychology*, 21, 167-179.
- Tiller, J., Sloane, G., Schmidt, U., Troop, N., Power, M., and Treasure, J. (1997). Social support in patients with anorexia nervosa and bulimia nervosa. *International Journal of Eating Disorders*, 21, 31-38.
- Toro, J. (2003). Epidemiology of eating disorders and related questions in Spain. In G.M. Ruggiero (Ed.), *Eating disorders in the Mediterranean area: An exploration in transcultural psychology* (pp. 93-98). New York: Nova.
- Walker, B.M. and Winter, D.A. (2007). The elaboration of personal construct psychology. *Annual Review of Psychology*, 58, 453-477.
- Watson, N. and Watts, R. (2001). The predictive strength of personal constructs versus conventional constructs: Self-Image disparity and neuroticism. *Journal of Personality*, 69, 121-145.
- Williams, G. J., Power, K. G., Millar, H. R., Freeman, C. P., Yellowlees, A., Dowds, T., Walker, M., Campsie, L., Macpherson, F., and Jackson, M. (1993). Comparison of eating disorders and other dietary/weight groups on measures of perceived control, assertiveness, self-esteem, and self-directed hostility. *International Journal of Eating Disorders*, 14, 27-32.
- Zaitsoff, S.L., Fehnon, D.C., and Grilo, C.M. (2009). Social competence and social-emotional isolation in eating disorder psychopathology in female and male adolescent psychiatric inpatients. *International Journal of Clinical and Health Psychology*, 9, 2, 219-228.

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