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Anorexia nervosa and family relationships: Perceived family functioning, coping strategies, beliefs, and attachment to parents and peers[1]

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ABSTRACT. This *ex post facto* study explored the differences in perceived family characteristics between a group of 34 female patients with anorexia nervosa and 34 females without eating pathology. All participants filled out the following self-report scales: FACES II, F-COPES, IPPA and the Family Beliefs Questionnaire. The results showed that, in contrast with participants without pathology, patients perceived their families as less cohesive and less capable of redefining stressful events in order to make them more manageable. However, they perceived their families as being more able to acquire and accept help, and presented more family beliefs related to a sense of an individual responsibility/ self-blaming. In addition, patients seemed to trust less their mothers and peers and to communicate less with their peers, and to show more detachment to mothers, fathers, and peers. Of all studied variables, detachment from friends and mother, as well as perceived higher family capacity to seek out community resources and accept help were the most important variables to the discrimination between groups.

KEYWORDS. Anorexia nervosa. Family functioning. Family coping. Family beliefs. Attachment relationships. *Ex post facto* study.

RESUMEN. Este estudio *ex post facto* ha explorado las diferencias entre la percepción de características familiares de 34 mujeres jóvenes con anorexia nerviosa y 34 mujeres

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jóvenes sin patología alimentaria. Todas las participantes completaron los siguientes instrumentos de auto-respuesta: FACES II, F-COPES, IPPA y el Cuestionario de Creencias Familiares. Los resultados demostraron que, en comparación con el grupo de mujeres sin patología alimentaria, las pacientes consideran a sus familias menos unidas y menos capaces de redefinir de una forma más aceptable las experiencias y situaciones de estrés. Sin embargo, consideran a sus familias más capaces de buscar y aceptar ayuda, y presentan más creencias familiares relacionadas con la responsabilidad individual/auto-censura. En comparación con el grupo sin patología alimentaria, las pacientes parecen confiar menos en sus madres y amigos, parecen comunicarse menos con los amigos, y tienden a demostrar una mayor alienación en relación a la madre, al padre y a los amigos. De todas las variables en estudio, la alienación en relación a los amigos y a la madre, así como la mayor capacidad para buscar y aceptar ayuda fueron las variables más importantes para discriminar los grupos.

PALABRAS CLAVE. Anorexia nervosa. Funcionamiento familiar. *Coping* familiar. Creencias familiares. Apego. Estudio *ex post facto*.

Several models of family functioning have described family patterns within the context of Anorexia Nervosa (AN). For instance, Minuchin, Rosman and Baker (1978) characterized the transactional patterns of «psychosomatic families» that include enmeshment, overprotection, rigidity and lack of conflict resolution. Selvini-Palazzoli (1974), who first recognized communicational problems as a central feature of «anorectic families», reflected later upon the family relationships based on a «family game», and more recently about the integration of individual and transgenerational perspectives of family members (Selvini-Palazzoli, Cirillo, Sellinni, and Sorrentino, 1990, 1999; Selvini-Palazzoli and Viaro, 1988). White (1983) focused on the transmission of «rigid and implicit transgenerational beliefs» in these families, and later on, he presented a cybernetic explanation for anorexia nervosa (White, 1989), examining the influence of the social context in the vulnerability of certain women to develop this disorder.

Most of the studies sustain the presence of dysfunctional transactional family patterns in AN, even though the variability of the results makes it hard to uncover a general description of those patterns. Some of these studies suggest that perceived overprotection and low warmth (Calam, Waller, Slade, and Newton, 1990), perceived lack of family hierarchy (Szabo, Goldin, and Le Grange, 1999), destructive communication between mother and daughter (Lattimore, Wagner, and Gowers, 2000), and boundary problems (Rowa, Kerig, and Geller, 2001) are related to AN. In a recent case-control study of risk factors for AN, Pike *et al*. (2008) found that, among other variables, family discord and high parental demands emerged as severe risk correlates for AN, as compared to other psychiatric disorders.

One feature that seems to be consensual in the AN literature is the relationship between this disorder and difficulties in early mother-daughter interactions and failure to develop autonomy from parental figures (Bruch, 1979). In fact, there is a wide array

of literature that addresses the connection between attachment disruption and eating disorders (reviewed in O'Kearney, 1996; Soares and Dias, 2007; and Ward, Ramsey, and Treasure, 2000) examining the failure of the person with anorexia in developing autonomy from parental figures and in consolidating a separate identity from these figures. Overall, studies suggest a relationship between insecure attachment and eating disorders, although an explicit association between attachment style and eating disorder subgroup remains unclear (Ward, Ramsey, and Treasure, 2000). Candelori and Ciocca (1998) sustained that AN restricting subtype tends to be related to a dismissing style of attachment, whereas AN binge-eating/purging subtype and Bulimia tend to be connected to a preoccupied style. In contrast, Ward, Ramsay, Turnbull, Benedettini, and Treasure (2000) found no differences in attachment patterns between diagnostic subgroups of eating disorders in adult women, suggesting that «attachment insecurities may cut across eating diagnosis» (p.375). In a similar way, Troisi, Massaroni, and Cuzzolaro (2005) reported that, compared to controls, women with eating disorders had more severe symptoms of separation anxiety during childhood and reflected insecure styles of adult attachment. Yet, the diagnostic subgroup was not associated with a specific style of insecure attachment (both women with anorexia and bulimia scored higher on scales reflecting anxious attachment, but not on the scales reflecting avoidant attachment). Recently, Tereno, Soares, Martins, Celani, and Sampaio (2008) found that both women with anorexia and bulimia were more anxious and avoidant than control groups and that, in AN females, higher attachment security was associated with lower maternal overprotection and higher avoidance was related to higher maternal and paternal overprotection.

A family approach to AN, that contemplates stress experiences and family crisis, attempts to contribute to the understanding of how families cope with non-normative stressful life events, besides normative transitions. Family stress theory and its current extension, family resiliency theory, underline the important role that family properties, behaviors and capabilities play in buffering the effect of stressful life events and in promoting family's recovery in the face of family crisis (McCubbin and McCubbin, 2001). It has also been suggested that family beliefs have influence on the way families deal with adversity (Walsh, 1998). Wright, Watson and Bell (1996) distinguish between «facilitative beliefs» that increase the likelihood of reaching solutions, and «constraining beliefs» that perpetuate problems and limit alternative solutions.

The purpose of this *ex post facto* study (Montero and León, 2007; Ramos-Álvarez, Moreno-Fernández, Valdés-Conroy, and Catena, 2008) is to examine specific family characteristics of AN, based on patients' perceptions. Five research questions were addressed: a) does perceived family functioning (cohesion and adaptability) in AN patients differ from healthy controls (comparison group)?; b) does perceived use of family coping strategies in AN patients differ from the comparison group?; c) does perceived specific family beliefs in AN patients differ from the comparison group?; d) does perceived attachment relationships (to mother, to father and to friends) in AN patients differ from the comparison group?; e) which of the studied variables are able to discriminate between the groups?

Method

Participants and procedure

A total of 68 female participants were recruited for this study. A clinical group included 34 patients with diagnosis of AN, according to DSM IV (American Psychiatric Association, 1995) criteria, who sought treatment in four different public hospitals in Portugal. Diagnosis was made by the psychiatrists. Out of 34 patients, 28 were classified into the restricting subtype and 6 into the binge-eating/purging subtype. The mean age of the participants ranged from 13 to 23 years (*M* = 17.26, *SD* = 2.71). The comparison group included 34 participants, recruited from state schools, with ages also ranging from 13 to 23 years (*M* = 17.18, *SD* = 2.77). Likelihood of eating pathology in this group was minimized by setting a cut-off below 42 on the Eating Disorders Inventory (EDI 2, Garner, 1991). Issues regarding anonymity, confidentiality and informed consent were assured. Clinical and comparison groups were matched by age, social class and educational level. In both groups, the majority of the participants lived with their nuclear family.

Instruments

Participants filled out the Portuguese versions of the following self-report scales.

- Family Adaptability and Cohesion Scale (FACES II; Olson *et al.,* 1985), a 30-item questionnaire designed to measure family cohesion and adaptability as defined in Olson's Circumplex Model. *Family Cohesion* assesses the extent to which family members are separated from or connected to their family and *Adaptability* refers to the degree of family flexibility and ability to change. Results were interpreted using FACES II linear scoring. In the current study, Cronbach's alphas for cohesion and adaptability were acceptable (.89 and .88 respectively).
- Family Crisis Oriented Personal Evaluation Scale (F-COPES; McCubbin, Olson, and Larsen, 1981), a 29-item questionnaire designed to identify effective problem-solving and behavioral strategies used by families in difficult or problematic situations. It comprises five subscales: Acquiring *social support, Reframing, Seeking spiritual support, Mobilizing family to acquire and accept help*, and *Passive appraisal*. In the current study, Cronbach's alphas were satisfactory for *Reframing* (.77), *Spiritual support* (.84), *Social support* (.79), *Mobilizing family to Acquire and accept help* (.65) and for the total scale (.84), but not for *Passive appraisal* (.30), therefore, we recommend prudence in the consideration of this subscale's results.
- Inventory of Parent and Peer Attachment (IPPA; Armsden and Greenberg, 1987; Neves, Soares, and Silva, 1999), a questionnaire aimed at providing separate assessments of the adolescent's perceptions of his/her attachment relation with the mother, the father and intimate friends. Each attachment figure's scale is composed of 25 items. In the current study, Cronbach's alphas were acceptable for mother scale (.96), father scale (.96) and peers' scale (.95). The IPPA provides a global score in terms of security *versus* insecurity of attachment for each of the three types of relationships and it allows the assessment of three dimensions

- *Trust, Communication* and *Alienation* - linked to the attachment relation with each one of the referred figures.
– Family Beliefs Questionnaire (QCF; Cunha, 2003), a questionnaire designed to identify specific family beliefs in families with an anorectic patient. The construction of this instrument was based on White's (1983) first works and it intended to explore the rigid system of implicit beliefs of the family with a member with AN, which are transmitted from one generation to the next and have an extreme constraining effect on all family members. Such beliefs included «loyalty to other family members and to family tradition» and the consideration of any behavior not for the sake of others as an act of selfishness or betrayal; «specific role prescription for women», that includes sensitivity, devotion and self-sacrifice and is specially applied to certain daughters, who are more likely to become anorectic; and the existence of a reality dominated by «insightfulness» in which family members believe they can know the true motivations and intentions behind the behavior of all other members (White,1983). The questionnaire comprises 20 items, of which 11 items represent *Family loyalty/unity*, 4 items a sense of *Individual responsibility* and *Self-blaming*, and 5 items the prescription of *Specific roles* applied to women. Construction and validation studies of this instrument were described in a previous unpublished exploratory study (Cunha, 2003). In the current study, Cronbach's alphas for total scale*, Family loyalty/ unity, Individual responsibility and Self-blaming,* and *Specific role for women* were satisfactory (.84, .74, .65, and .69 respectively).

Results

Perceived family functioning, family coping and specific family beliefs

Differences between perceived family functioning, family coping and specific family beliefs in participants with AN and the comparison group were assessed using independent sample *t* tests. Table 1 presents means comparisons between the two groups. AN patients perceived their families as less cohesive (lower *Cohesion*) and less capable of redefining stressful events in order to make them more manageable (lower *Reframing*), than comparison participants. Furthermore, they perceived their families as more able to seek community resources and to accept help from others (higher *Mobilizing family to Acquire and accept help*) and they revealed the presence of more family beliefs related to a sense of an individual responsibility/self-blaming (higher *Individual responsibility* and *Self-blaming*.

TABLE 1. Differences between groups for family variables.

Variable	*Clinical group (AN)* *(n = 34)*	*Comparison group* *(n = 34)*	*t*	*P*
	M (SD)	*M (SD)*		
FACES II				
Cohesion	55.29 (12.91)	61 (9.35)	-2.09	.041*
Adaptability	50 (10.73)	53.41(9.23)	-1.41	.165
F-COPES				
Total scale	91.29 (16.14)	92.44 (12.49)	-.33	.744
Reframing	28.62 (5.56)	31.41 (4.47)	-2.28	.026*
Passive appraisal	12.21 (2.60)	11.18 (2.72)	1.59	.116
Seek. spiritual support	9.76 (4.58)	10.41 (3.89)	-.63	.532
Seek. social support	28.26 (7.25)	30.65 (4.91)	-1.59	.118
Mob. acquire and accept help	12.47 (3.15)	8.85 (3.40)	4.56	.000**
QCF				
Total scale	60.65 (12.61)	55.62 (9.93)	1.83	.072
Family loyalty/unity	33.82 (6.74)	31.88 (6.22)	1.23	.221
Individual resp./self-blaming	12.26 (3.58)	10 (2.74)	2.93	.005*
Specific role to women	14.56 (4.30)	13.74 (3.70)	.85	.400

Perceived attachment relationships with mother, father and friends

Independent sample *t* tests were used in order to compare mean scores of the two groups on the measure of quality of attachment to mother, father and peers (Table 2). AN patients scored significantly lower on mother and peers' attachment total scale. They also seem to trust less their mothers and peers and communicate less with their peers, but they appear to show more alienation or detachment to mothers, fathers and peers, than the other participants. We have chosen not to study the security/insecurity categorization of attachment with this instrument.

TABLE 2. Differences between groups for attachment variables.

Variable	*Clinical group (anorexia)*	*Comparison group*	*t*	*p*
Mother's attachment	(*n* = 34)	(*n* = 34)		
	M (SD)	*M (SD)*		
IPPA Total	90.79 (21.86)	100.47 (16.64)	-2.05	.044*
Trust	37.82 (8.97)	41.82 (7.07)	-2.04	.045*
Communication	31.26 (8.69)	32.91 (7.74)	-.83	.412
Alienation	14.29 (5.65)	10.26 (3.47)	-3.54	.001**
Father's attachment	(*n* = 32)	(*n* = 33)		
	M (SD)	*M (SD)*		
IPPA Total	81.72 (20.01)	90.12 (22.94)	1.57	.121
Trust	34.56 (7.93)	38.30 (8.79)	-1.80	.077
Communication	26.81 (9.06)	28.48 (9.53)	-.73	.471
Alienation	15.66 (4.69)	12.67 (5.88)	2.26	.027**

TABLE 2. Differences between groups for attachment variables (cont.).

Variable	*Clinical group (anorexia)*	*Comparison group*	*t*	*p*
Peers' attachment	(*n* = 33) *M (SD)*	(*n* = 34) *M (SD)*		
IPPA Total	90.98 (19.47)	106.88 (10.47)	-4.17	.000**
Trust	37.48 (9.84)	43.88 (5.50)	-3.27	.002**
Communication	29.67 (7.19)	34.09 (4.42)	-3.02	.004**
Alienation	18.27 (4.30)	13.09 (2.17)	6.20	.000**

A discriminant analysis was performed in order to identify the combination of variables, among those that provided significant differences between the groups (*Family cohesion, Reframing, Mobilizing family to acquire and accept help, Individual responsibility and Self-laming, Trust and alienation to mother, Alienation to father and trust, Communication and alienation to peers*), that was able to discriminate the groups. We performed two different analysis, the first taking into account all of these variables, and the second considering only family variables, excluding Alienation to peers. The first discriminant function analysis (Study 1), using the stepwise method, (*Wilks lambda* = .447, $\chi^2_{(4)} = 48.35$, $p < .00$) revealed four variables that discriminated patients with AN from the comparison group. Standardized discriminant function coefficients for these variables are presented in Table 3. Thus, the primary variable distinguishing the group with AN from the comparison group was feelings of anger and detachment from friends (*Alienation to peers*), followed by the capacity to seek out community resources and accept help from others (*Mobilizing family to acquire* and *accept help*), and by anger toward and detachment from mothers (*Alienation to Mother)* and to a lesser extent, feelings about the individual responsibility/ self-blaming to other family members (*Individual responsibility* and *Self-blaming*). Using this function, we correctly classified 82.10% of the total sample (75.80% of the women with AN and 88.20% of the comparison women).

TABLE 3. Standardized discriminant function coefficients for Study 1 and Study 2.

Study 1	*Correlations*	*Study 2*	*Correlations*
Alienation (Peers)	.71	Mob. Acquire and Accept Help	.59
Mob. acquire and accept help	.48	Alienation (Mother)	.53
Alienation (mother)	.40	Reframing	-.35
Individual resp./self-blaming	.28		

The second discriminant function analysis (Study 2) (*Wilks lambda* = .579, $\chi^2_{(3)} = 33.56$, $p < .001$) showed three variables that differentiate the groups. Standardized discriminant function coefficients of these variables are presented in Table 3. Results indicated that Mobilizing family to acquire and accept help turned out to be the variable

which best differentiated the groups, followed by the *Alienation to Mother*. In a minor extent, the lower capacity of the family to redefine stressful events in order to make them more manageable (Reframing) discriminated the clinical group from the comparison one. Using this function we correctly classified 79.40% of the total sample (76.50% of the women with AN and 82.40% of the comparison participants).

Discussion

This study represents an effort to provide a systemic comprehension on AN, and it underlines the importance of a family perspective in understanding eating disorders. An overall view of our findings suggests some important differences between patients with AN and healthy controls.

Regarding family functioning, patients with AN perceived less emotional involvement among family members. This finding apparently contradicts Minuchin's clinical descriptions of an enmeshed family system, described by extreme intensive relationships and proximity among family members (Minuchin *et al.,* 1978). However, as Green and Werner (1996) suggested, FACES Cohesion questions do not seem to measure this lack of differentiation, but rather a positive form of closeness. It is also worth noting that the linear interpretation of FACES II indicates that higher levels of cohesion (and adaptability) are associated with more appropriate levels of functioning. Consistent with our finding are other studies that sustained perceived lower cohesion in patients with eating disorders (*e.g.,* Waller, Slade, and Calam, 1990a). Descriptions of rigidity and less adaptability in these families were not supported by our patients' perceptions.

We should note that these findings reflect the patients' subjective experience, which may not necessarily be consistent with other family members' perceptions. Low agreement between daughters and parents regarding family functioning has been suggested. Dancyger, Fornari, Scionti, Wisotsky and Sunday (2005) reported that mothers of patients with eating disorders rated family functioning as significantly healthier and less chaotic than their daughters did. They found no differences on family functioning between daughters and fathers, and only few significant differences between the maternal and paternal perceptions of the family. Furthermore, Dancyger *et al.* (2005) demonstrated that the level of depression of the patient (but not the specific eating disorder type) was related to the perception of high family dysfunction for patients, mothers and fathers. In a previous study, Waller, Slade, and Calam (1990b) had also found that anorectic and bulimic women's perceptions of family interaction differed from their parents'. The authors reported that the daughter's own ratings of family interaction seemed to be the best predictor of the existence of eating disorders, suggesting that patients themselves had the most realistic perceptions of their families' interactional styles. In a study that included all family members (mothers, fathers and siblings) living with an adolescent with AN, Cook-Darzens, Doyen, Falissard and Mouren (2005) also reported low convergence between family members' perceptions of family functioning, particularly concerning family adaptability. Moreover, compared to their parents, patients and their siblings perceived their families as significantly less connected.

The present study provides evidence about the importance of studying family coping in these families. Considering that this specific issue has not received enough attention in eating disorders research, we sought to understand if there were differences

in the way families cope with and adapt to a difficult situation like AN. The results presented here demonstrated that patients perceived their families as less capable of redefining stressful events in order to make them more manageable. In other words, they considered that family members are less prone to look for, within the family, the resources that would allow them to solve difficult situations. Therefore, it comes as no surprise that the perception of a higher search of community resources and acceptance of help from others, has emerged as another variable that distinguished the clinical from the comparison group. Olson (1989) stated that the role of more formal support networks has been shown to be essential in helping families in stressful periods, when the more informal supports are exhausted. In fact, a more formalized support, such as community agencies or professional persons, has been referred as a «safety net» resource. We should note, yet, that all these young women were in treatment, which could explain why they perceived a higher solicitation of formal (medical/psychological) help.

Regarding family beliefs, patients with AN were more characterized by a belief that each family member, including themselves, is responsible and guilty for all other family members' problems. This belief encourages self-blaming when any behavior departs from the one in favor of the family. White (1983) has argued that these constraining beliefs restrict the range of alternative patterns of relatedness and the options from problem-solving accessible to family members. Based on White's (1983) works, we would expect to find differences between the groups in QCF total score (as well as in the *Family loyalty/unity* and *Specific role for women* subscales), but our prediction was not empirically supported. Nevertheless, we should keep in mind that we were facing a preliminary study with this instrument, thus subsequent studies should attempt to explore this issue deeper.

This study gave evidence for differences in attachment relationships between the groups. Young women with AN scored lower on global attachment measures to mother and friends. Patients seemed to trust less their mothers and expressed more anger and resenting feelings toward them, as well as toward their fathers. These results are consistent with another study that, using IPPA, has suggested lower quality of attachment to parents in eating disorders, compared to non-clinical groups (Orzolek-Kronner, 2002). Another interesting finding concerns the attachment relationships with peers. Ainsworth (1991) suggested that although not all, some close friendships may have an attachment component, and some constitute enduring affectional bonds with the partners feeling that they can depend on each other for understanding, reassurance, and help when needed. In fact, our patients significantly differed from the comparison group regarding these feelings. They seemed to trust less their friends, to think that they are not responsive to their emotional states and concerns, and to express more anger and resenting feelings toward them, which may support the evidence of difficulties in interpersonal relationships in these patients. Moreover, we found that *alienation to peers* emerged as the main variable able to discriminate our groups. Schutz and Paxton (2007) studied the relationship between friendship quality, body dissatisfaction, dieting and disordered eating in adolescent girls. Contrary to expectations, positive friendship relationships (friend communication, friend trust and peer acceptance) were not associated with lower levels of body dissatisfaction and disordered eating variables. However, negative friendship qualities (friend alienation, friend conflict) were associated with

body dissatisfaction and disordered eating variables, although these relationships were reduced when depressive symptoms were controlled.

In summary, findings from our study demonstrate important differences between a group of female patients with AN and a non-clinical group. Of all studied variables, detachment from friends and mother and perceived higher family capacity to seek out community resources and accept help were the most important variables to discriminate between AN patients and healthy controls. Within family variables, perceived higher family capacity to seek out community resources and detachment from mother appeared to be the most influential variables to discriminate between the groups.

We are aware that our study has several limitations. Our sample is small, not allowing comparisons between illness subtypes, degrees of severity or time phases. Our study might have benefited from the inclusion of a group of young women with other illnesses (psychiatric and/or non-psychiatric). This might have been important in order to understand the specificity of family patterns in AN. For instance, Erol, Yazici, and Toprak (2007) suggest that family functioning in eating disorder may not be specific to these disorders, especially when compared to patients with obsessive compulsive disorder. Issues relating psychiatric comorbidity in eating disorders (O'Brien and Vincent, 2003) should also be considered. Our study was restricted to patients in treatment, not allowing extrapolation for young women with AN not in the same condition. Although this study was aimed at studying self-perceptions, reliance on patients as sole reporters of family functioning might limit the findings. Self-report questionnaires were used, leaving open well-documented limitations related to this kind of method. Finally, as most of the research in this area, the cross-sectional nature of this study does not allow examining causal directions.

The present study supports the importance of a systemic approach to AN, providing some clues on specific areas that may have implications for family intervention strategies. It highlights the importance of examining expectations regarding relationships with parents, of looking at the meaning of relationships, of exploring the coping strategies that families use to manage demanding situations, and of challenging family systems beliefs that might have a constraining effect on family members. Furthermore, this study shows the importance of including peer relations in examining the interpersonal functioning of individuals with AN.

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