Family structure and eating behavior disorders

Manuel Mateos-Agut[1]
Isabel García-Alonso[2]
Jesús J. De la Gándara-Martín[1]
María I. Vegas-Miguel[3]
Carlota Sebastián-Vega[3]
Beatriz Sanz-Cid[1]
Ana Martínez-Villares[1]
Esther Martín-Martínez[1]

[1]Servicio de Psiquiatría, Hospital Universitario de Burgos
[2]Universidad de Burgos
[3]Licenciada en Psicología

Introduction. The modern way of life, characterized by the cult of individualism, discredited authority, and a proliferation of points of view about reality, has modified family structure. This social structure imbues families and the way that its members become ill, in such a way that eating behavior disorders (EDs) have become a typically postmodern way of becoming ill.

Methodology. The aim is to understand the systemic structure and vulnerability of families by comparing 108 families with members who have ED to 108 families without pathology. A questionnaire administered by an interview with trained personnel was used.

Results. Families with ED have a different structure from the families in the control group. They have more psychiatric history and poor coping skills. The family hierarchy is not clearly defined and the leadership is diffuse, with strict and unpredictable rules, more intergenerational coalitions, and fewer alliances. The relationship between the parents is distant or confrontational, and their attitudes towards their children are complacent and selfish, with ambivalent and unaffectionate bonds. In the case of mothers, this is manifested by separation anxiety and dyadic dependence. Their expectations concerning their offspring are either very demanding and unrealistic, or indifferent, and there is less control of their behavior, in addition to poor organization of the family meals.

Conclusions. The structural differences between the two groups of families seem to be important for the occurrence and maintenance of EDs, although they may not be the only cause. The results suggest strategies for clinical intervention in EDs.

Keywords: Bulimia Nervosa, Anorexia Nervosa, Family System, Postmodernism, Narcissism

Correspondence:
Manuel Mateos Agut
Hospital de Día. Servicio de Psiquiatría
Hospital Universitario de Burgos
Avda. Islas Baleares S/N (Hospital Divino Valles)
09006 Burgos (Spain)
E-mail: manuelmateosa@sacyl.es

Actas Esp Psiquiatr 2014;42(6):267-80

La estructura familiar y los trastornos de la conducta alimentaria

Introducción. El estilo de vida moderno que se caracteriza por el culto al individualismo, el descrédito de la autoridad y la existencia de múltiples realidades, ha modificado la estructura de las familias. Esta estructura social impregna a las familias y la forma de enfermar de sus miembros, de forma que los TCA se convierten en una forma de enfermar típicamente posmoderna.

Metodología. El objetivo es conocer la estructura sistémica y la vulnerabilidad de las familias, comparando 108 familias con TCA, con 108 sin patología. Se utilizó un cuestionario administrado mediante entrevista por personal entrenado.

Resultados. Las familias TCA tienen una estructura distinta de las del grupo de control. Tienen más antecedentes psiquiátricos y escasas habilidades de afrontamiento. Sus jerarquías están poco definidas y el liderazgo es difuso, con normas imprevisibles y rígidas, existiendo más coaliciones intergeneracionales y menos alianzas. La relación entre los padres es distante o de enfrentamiento, y hacia sus hijos tienen actitudes complacientes y egoístas, con vínculos ambivalentes y poco afectuosos, que en el caso de las madres se manifiesta con ansiedad de separación y dependencia diádica. Las expectativas que tienen para su prole son o bien exigentes y poco realistas o bien despreocupadas, y menor control de su conducta, además de una peor organización de las comidas familiares.

Conclusiones. Las diferencias estructurales que aparecen entre los dos grupos de familias parecen tener importancia en la aparición y mantenimiento de los TCAs, aunque posiblemente no sean su única causa. Los resultados indican estrategias para la intervención clínica en TCAs.

Palabras Clave: Bulimia Nerviosa, Anorexia Nerviosa, Sistémica familiar, Posmodernidad, Narcisismo

INTRODUCTION

The relationship between family and mental illness and the influence of the family on emotional development and learning have not been studied in depth. This neglect contrasts with the enormous effort that society invests in education to train people for community life and to encourage their development, overlooking the fact that the family is the foundation for any learning process. The ability of human groups to influence the thinking, emotions, and behavior of their members and thus generate pathology has been widely documented in the scientific literature.[1-7] Various authors who have studied the relation between family and mental disorders have found their origin in:

- interactions among members,[8-11]
- the affective exchange and way of bonding,[12,13] and
- the symbols that they produce.[14]

These matters are regulated by the structure sustaining families,[15] which is the minimum organization that enables the family to fulfill its protective and socializing function.[16] It consists of hierarchically interrelated subsystems, frontiers or limits governing how they participate by hierarchies, alliances, and coalitions.[17]

When this organization ceases to be functional because alterations occur in any of its components, it impedes the adaptation and growth of the individual members, which is manifested by the illness of one or more of members, involving the whole family, which in turn sustains this illness.[18,19]

The family, as a subsystem of the social system it partakes of, is influenced by changes in that social system. Since the 1960s, Western society has undergone a transformation that has been called postmodernism and has brought many ways of conceiving reality and a previously unknown degree of individual freedom, but also a weakening of authority and, consequently, of responsibility for individual acts. This implies that the concept of reality ceases to be singular and individuality prevails over the group.[20,21] The society that emerged in postmodernism looks outwards and emphasizes appearances and success over personal construction, as reflected in the current discredit of social referents (political parties, church, etc). This process has favored a change that has transformed the previous hysterical social structure into today's narcissistic structure,[22] which favors the appearance of new symptoms, such as the eating disorders that are paradigmatic (empty interior, cult of image and success ...).

Studies of families that have a member with ED* have found a wide variety of interaction patterns among their members.[23] Nonetheless, many share certain dysfunctions that have been identified as a cause or support for the disorder.[24,25] This dysfunction has its origin in a parental subsystem consisting of mothers who have feelings of powerlessness and insecurity and perfectionist fathers, which translates into a family group with a devaluing self-concept that leads to long-term ED.[26] In this context, the relationship of the mother with her preanorexic daughter is ambivalent and characterized by overprotection and rejection, thus establishing an insecure bond.[26-29.] For Minuchin,[30] this parenting style consists of the following characteristics: clumping, overprotection, rigidity, and avoidance of conflict, i.e., authoritarian and permissive styles with psychosomatic characteristics.[30,31] Meanwhile, Selvini-Palazzoli[33] found the origin of EDs in a parent who feels unable to enforce the family rules displaced by a mother-daughter coalition, who finds a way to resolve marital conflict by alliance with his wife in a shared concern about the daughter's illness. The result is complex relationships and little satisfaction with the level of family support.[34]

Another aspect that has been repeatedly emphasized is the parental attitude toward weight and food, since children behave in a way similar way to their parents from a very young age.[35] In addition to pressure from parents for their daughters to lose weight, disapproval, teasing about weight directed toward their daughters and peers, and the number of weekly family meals, which become increasingly rare, these are strong predictors of the occurrence of an ED.[35,36]

Finally, it should be noted that Di Pentima[37] believes that what determines the type of ED with its specific clinical manifestations (AN, BN, EDNOS) are the differences in family structure and dynamics, so that when the disorder manifests as AN, the family bonds are more appropriate than when it manifests as BN.

From the above it can be understood that the family structure and some parental attitudes may be relevant to how eating disorders develop, how they are manifested, and even how they are maintained, but the studies we have found are based primarily on small case series and uncontrasted clinical observations. Given the importance that these findings may have for addressing and preventing a disorder whose prevalence has increased 30-fold since the beginning of postmodernism,[38] affecting one in 20 adolescents,[39] we wanted to dig deeper into the understanding of these relationships by examining a large series of families with ED in comparison with another group of families without pathology

* Hereinafter, we will refer to the study group as SG, control group as CG, anorexia nervosa as AN, bulimia nervosa as BN, eating disorder not otherwise specified EDNOS, and eating behavior disorders as ED.

Table 1 Sample

	No. of Families	Provenance	Mean Age	Sex	No. of Siblings and Birth Order
SG	**108**	Two-parent families with 1 to 4 children, one aged 14 to 26 and living in the family nucleus of origin who was seen in our department for treatment with a diagnosis of ED (AN, BN, or EDNOS) according to DSM-IV-TR.	20.01	5♂ 103♀	No diff Sign
CG	**108**	Families, randomly drawn from elementary and high schools of the city and province of Burgos, with the same sociodemographic characteristics but no DSM-IV-TR diagnosis among the members of the nuclear family.	19.30	5♂ 103♀	

to determine how they differ from each other despite being situated in the same social context.

MATERIAL AND METHODS

Objectives

The primary objective of our research was to determine the relation between different family structures and eating behavior disorder with the aim of identifying which elements of the structure may favor the occurrence of ED in the family.

Methods

In order to define the family structure, a questionnaire was developed consisting of 17 specific questions with three possible answers each for use with different people. Families were classified according to the composite elements (hierarchy, leadership style, type of family support, alliances, and coalitions). Questions on sociodemographic and extrastructural aspects (Appendix) were also included. The interviewers were trained to ask the questions in a similar way.

Data were collected during a semi-structured interview about an hour and a half in duration, in which the person identified and at least one parent (usually the mother) were present. They were asked about the items of the questionnaire according to the established protocol. The information obtained was added to a database and encoded, interpreted, and analyzed using the SSPS statistical package, version 18.

Sample

The sample consisted of two groups (Table 1).

Table 2 Family history of mental disorders

Psychiatric History	N and % SG	N and % CG
Affect	36 (33.3)	32 (29.6)
Alcoholism	13 (12.0)	8 (7.4)
EDs	10 (9.3)	3 (2.8)
Personality disorders	11 (10.2)	3 (2.8)
Anxiety	10 (9.3)	0 (0.0)
Psychosis	5 (4.6)	7 (6.5)
Substance abuse	5 (4.6)	5 (4.6)
ADHD	4 (3.7)	0 (0.0)
Dementia	2 (1.9)	21 (19.4)
Developmental	1 (0.9)	3 (2.8)
disorders/intellectual	2 (1.9)	1 (0.9)
disability		
Problem gambling		

As for the type of ED in the study group, 45 subjects (41.6%) had purgative AN, 34 (31.5%) had restrictive AN, and 29 (26.9%) had BN.

RESULTS

Background

The following categories of somatic disease were established: cancer, myocardial infarction, degenerative disease, autoimmune disease, and chronic disease. It was assumed that such illnesses might have a major emotional impact or involve long-term care capable of hindering family development. The result was that no significant differences were found between groups with respect to somatic family history.

With regard to the family history of mental disorders, in terms of the frequency of mental disorders in both groups,

Table 3 Relationship between subsystem members

Relationship between subsystem members	Maternal Attitude			Paternal Attitude		
Variables	SG (N and %)	CG (N and%)	Significance	SG (N and %)	CG (N and %)	Significance
Dedication						
Exclusive	50 (46.3)	48 (44.4)	NS	2 (01.9)	1 (00.9)	NS
Balanced	52 (48.1)	55 (50.9)		70 (64.8)	59 (54.6)	
Scant	6 (05.6)	5 (04.6)		36 (33.3)	48 (44.4)	
Distance						
Complacent	64 (59.3)	40 (37.0)	Chi^2 24.55	31 (28.71)	13 (12.0)	Chi^2 18.73
Responsible	34 (31.5)	66 (61.1)	P 0.000	41 (38.0)	72 (66.7)	P 0.000
Selfish	10 (10)	2 (01.9)		36 (33.3)	23 (21.3)	
Bonding						
Overly strong	47 (43.5)	26 (24.1)	Chi^2 31.14	13 (12.0)	4 (03.7)	Chi^2 22.42
Secure	40 (37.0)	76 (70.4)	P 0.000	45 (41.7)	79 (73.1)	P 0.000
Weak	21 (19.4)	6 (5.6)		50 (46.3)	25 (23.1)	

affective, eating, and personality disorders, and *anxiety* and *ADHD,* in that order, were the most common mental disorders in the SG (Table 2).

The birth of the subject with ED during the mother's grieving period or a situation of significant stress is ruled out as a risk factor for ED as there are no statistically significant differences between groups.

Family structure

Relationship between subsystem members

The family structure was studied by analyzing its different elements; the percentages and significance are shown in Table 3. In first place, and in order to understand the relationship between the members of the subsystems, we analyzed the *maternal attitude* using the following variables: dedication, distance, and bonding. No statistically significant differences between groups were found in terms of the *dedication* of the mothers to the care of their children. However, when analyzing the *distance* at which they situated themselves, we found that the mothers of children with EDs tended to have overly "complacent" attitudes, understood as a passive style in which the mother rejects and delegates personal needs and desires in order to satisfy those of others, and *"selfish"* attitudes, which encompass mothers who impose their own desires regardless of the needs of others, in contrast to a *"responsible"* attitude (taking into account the needs of her family as well as her own needs, while attending to the best interests of the family) of the mothers of the CG. There were also statistically significant differences in the form of *bonding:* the mothers of children with ED too often established "overly strong" (with separation anxiety and dyadic mother-daughter dependence based on insecure bonds) and "weak" type bonds (ambivalent and not very affectionate bonds), whereas in the CG there was overrepresentation of the "secure" bond.

Meanwhile, the fathers of both groups "balanced" work with the care of their children or had "scant" dedication to their care, so that, as in the case of mothers, no statistically significant differences were found in this aspect between the two groups of fathers. However, the *distance* at which they were situated with regard to their children differed; in the SG was dominated by "complacent" and "selfish" attitudes, whereas in the CG the "responsible" attitude was more common. As for the way of *bonding,* we also found statistically significant differences; the SG fathers had a "weak" bond and the CG fathers predominantly had a "secure" type bond. The "overly strong" type bond was both similar and infrequent in both groups.

Communication

When we studied family communication, we found significant differences in *emotional expression:* In the SG there were more cases than expected of "strong" and "very weak" emotional expression, whereas in the CG it was "weak." As regards the *Affective Relationship between the Parents,* the significant differences were focused on "confrontational" and "distant" relationships versus the "good" emotional relationship in the CG, as shown in Table 4.

Hierarchy

Table 5 shows that family leadership in both groups was exercised mainly by mothers, although there were significant differences. In the SG, "lack of leadership" was more frequent

Table 4 Family communication

Communication Variables	SG (N and %)	CG (N and %)	Test Significance
Emotional expression			
Strong	56 (51.9)	20 (18.5)	Chi² 39.23
Weak	41 (38.0)	86 (79.6)	P 0.000
Very weak	11 (10.2)	2 (01.9)	
Affective relationship between parents			
Distant	27 (25.0)	14 (13.0)	Chi² 23.03
Good	59 (54.6)	90 (90.7)	P 0.000
Confrontational	22 (20.4)	4 (06.5)	

Table 5 Hierarchy

Hierarchy Variables	SG (N and %)	CG (N and %)	Test Significance
Leadership			
Father	24 (22.2)	17 (15.7)	Chi² 14.83
Mother	47 (43.5)	61 (56.5)	P 0.002
Both parents	16 (14.8)	25 (23.1)	
Neither of the parents	21 (19.4)	5 (04.6)	
Leadership style			
Authoritarian	29 (26.9)	28 (25.9)	Chi² 18.53
Democratic	41 (38.0)	67 (62.0)	P 0.000
Anarchical	38 (35.2)	13 (12.0)	
Application of rules			
Rigid	24 (22.2)	8 (07.4)	Chi² 44.33
Flexible	48 (44.4)	94 (87.0)	P 0.000
Unpredictable	36 (33.3)	6 (05.6)	
Punishment rules			
Rigid	18 (16.7)	16 (14.8)	NS
Flexible	34(31.5)	47 (43.5)	
Unpredictable	11 (10.2)	13(12.0)	
Without consequences	45 (41.7)	32 (29.6)	

than in the CG, followed to a lesser extent by leadership by the "father". In the CG, most leadership was "shared" or exercised by the "mother".

At the time of *Creating Rules*, the two groups of families also differed: The "anarchic" style was better represented in the SG versus the "democratic" style in the CG. It is noteworthy that the "authoritarian" style was represented with similar frequency in both groups. In the families of the SG, there also were more cases than expected in which the *Application of the Rules* was "unpredictable" and "rigid", in contrast with the CG in which "flexible" application of rules predominated. Finally, in one thing that both groups of families did not differ was in *Punishment Rules*, although the "flexible" form was somewhat more frequent in the CG and the "without consequences" in the SG.

Limits

As can be seen in Table 6, in the SG we found more cases than expected of mothers who exercised "distant" *control*, in contrast with the CG, where the control was "close". However, the number of "controlling" mothers was similar in both groups. The fathers, however, exercised control similarly in the SG and CG.

There were also differences in *coping skills* between the two groups of families: In the SG the "lack of perception of problems" was over-represented and the "perceived lack of skills" was somewhat less frequent, whereas the "perception of skills" predominated in the CG.

Table 6 Limits

Limits Variables	SG (N and %)	CG (N and %)	Test Significance
Maternal Control			
Controlling	53 (22.2)	36 (33.3)	Chi^2 18.96
Close	40 (33.3)	69 (63.9)	P 0.000
Distant	15 (13.9)	3 (02.8)	
Paternal Control			
Controlling	24 (19.3)	16 (14.8)	NS
Close	36 (33.3)	53 (49.1)	
Distant	48 (44.4)	39 (36.1)	
Coping			
Lack of perception of problems	34 (31.5)	3 (02.8)	Chi^2 37.31
Perception of skills	55 (50.9)	93 (86.1)	P 0.000
Perceived lack of skills	19 (17.6)	12 (11.1)	

Table 7 Alliances and coalitions

	SG (N and %)	CG (N and %)	Test Significance
Alliances			
Lacking	62 (57.4)	38 (35.2)	Chi^2 39.61
Intergenerational	37 (34.3)	31 (28.7)	P 0.001
(Mother-Child)	31 (28.7)	25 (23.1)	
Intragenerational	16 (14.8)	49 (45.4)	
Coalitions			
Lacking	92 (90.7)	107 (99.1)	Chi^2 15.46
Intergenerational	15 (13.9)	1 (00.9)	P 0.000
(Mother-Child)	13 (12.0)	0 (00.0)	
Intragenerational	1 (00.9)	0 (00.0)	

Alliances and Coalitions

In Table 7 we see that there were statistically significant differences between groups, with a greater number of alliances and coalitions in CG than SG.

Organization of Meals

As noted in the introduction, the *organization of meals* was considered a variable that influences the development and maintenance of EBs. In our samples, the "null" and "excessive" organization of meals predominated in the SG compared to "appropriate" in the CG (Table 8).

Relation between family structure and ED restrictive-purgative types in SG

Considering the two main types of diagnosis (anorexia and bulimia), no differences were found between these two groups for the variables studied.

These results led us to consider whether there would be differences in structure upon analysis of the families with members with ED in relation to the purgative or restrictive features of the ED. The results only revealed statistically significant differences in the variable "organization of meals," which was more often "null" in the purgative forms (Table 9).

Table 8 Organization of meals

	SG (N and %)	CG (N and %)	Test Significance
Organization of meals			
Excessive	13 (12.0)	3 (02.8)	Chi^2 28.54
Appropriate	64 (59.3)	98 (90.7)	P 0.000
Null	31 (28.7)	7 (06.5)	

Table 9

Variables	Restrictiva N (%)	Purgativa N (%)	Prueba; Signif.
Organization of meals			
Excessive	8 (21.6)	5 (7.0)	Chi2 6.17
Appropriate	22 (59.5)	42 (59.2)	P 0.046
Null	7 (18.9)	24 (33.8)	

Table 10

Variables	B	S.E.	Wald	df	Signif.	Exp B
Application of rules			15.133	2	0.001	
Application of rules (1)	2.203	0.633	12.097	1	0.001	9.050
Application of rules (2)	1.554	0.649	5.737	1	0.017	4.731
Coping skills			7.027	2	0.030	
Coping skills (1)	2.142	0.877	5.964	1	0.015	8.514
Coping skills (2)	-0.365	0.573	0.407	1	0.524	0.694
Emotional expression			16.662	2	0.000	
Emotional expression (1)	1.931	0.479	16.256	1	0.000	6.896
Emotional expression (2)	0.016	1.038	0.000	1	0.988	1.016
Constant	-2.548	0.563	20.444	1	0.000	0.078

Predictive comparative analysis (logistic resgression in search of factors predictive of ED)

We included all of the variables that proved significantly different in one group or the other (maternal attitudes -*distance, bond* and *control*- and paternal attitudes -*distance, bond* and *control*; hierarchy- *leadership, leadership style, application of rules, coping skills; emotional expression,* and *affective relationship between parents*) and constructed a logistic regression model to search for factors that might be predictive of EDs. We followed a method of selection of variables "by conditional forward steps" according to the significance of the coefficients of regression and with criteria of entry for step 0.1 and exit for 0.2. The statistical program ended up including in six steps the variables *application of rules*, *coping skills,* and *emotional expression* and eliminated all others.

Computing the logistic regression with the selected variables and the single-step "enter" method, we obtained the results shown in Table 10. The model correctly classified 87.0% of subjects.

Given the signs of the B coefficients, their significance, and the fact that in the construction of the *dummy* variables the reference category in three-category variables was the middle, which at first seems the lowest risk, we see that the following behaved as risk factors for the emergence of ED: "rigid" application of rules (9-fold more than "flexible"

application of rules); "unpredictable" application (4.7-fold greater); coping without awareness of the situation (8.5-fold greater); and "strong" emotional expression (6.9-fold greater).

DISCUSSION

There were numerous differences between the family groups making up SG and CG. However, in the CG we found some families with a structure similar to that of majority of families with SG, although none of them has had psychiatric symptoms and diagnoses among its members, at least until now. Similarly, there were some families in the SG with a structure similar to that prevailing in the CG. So, how does family structure influence EDs? Some structures may be fertile terrain for the emergence of pathology, but not a sufficient factor for emergence. Further extra-familial factors may also be required for the disorder to occur. On the other hand, the same structures in the presence of protective factors might not be favorable to occurrence. We will thus review the variables analyzed to assess their contribution to EDs.

A characteristic common to both groups of families is that they reflect the specific characteristics of postmodernism: predominance of individualism, horizontal and close relationships, working mothers who assume family leadership, weakening authority and values, narcissism, and depressive feelings.

Although it has been reported that the wear of chronic disease alters family functioning and favors the development of mental illness among its members,[40] our results indicate that both groups had at least statistically similar somatic family backgrounds, as measured by both the number of cases of various diseases and the degree of kinship with the study subject.

As expected, given the way that both groups were selected, the families of the SG had a greater psychiatric disease burden than the controls, whether we considered the number of cases in the family or evaluated the degree of kinship (3.67 *vs* 2.1). If we compare these results with the literature consulted, in our SG we found similar data for affective disorders,[41] anxiety disorders,[42] and EDs.[41-43] However, if what we take into account is the family relationship, the most frequent conditions being personality disorders, followed by problem gambling, alcoholism, and anxiety disorders, in that order. Affective disorders and EDs occupy the fifth and ninth places, respectively, in the SG. This point may be of interest as it may indicate that these disorders could have less relation with EDs than has so far been claimed.

Regarding the fact that the mother was going through a situation of grieving during the perinatal period or early infancy that made it difficult to establish a secure mother-child bond, which could eventually lead to the development of EDs, the comparison between the SG and CG did not yield significant differences, although we cannot rule out that grief experienced by mothers during early infancy might influence the development of eating disorders. In any case, the major psychopathology found among the relatives of the CG group of families with ED and different family functioning could give grief a different meaning.

If we analyze family structure, the variables referring to the subsystem were selected to study the attitude of parents towards their children in terms of both the time devoted to them and their rank among their preferences, such as the distance at which they situated themselves and the quality of the bond they developed. In first place, when we examined dedication we saw that although traditional families with separation of roles and mothers working at home protect their children from ED,[44] our results did not confirm this claim. The mothers in both groups behaved similarly in this respect and it thus did not seem that the fact that the mother works or not, or dedicates more or less time to the children, protects against ED, although how she exercises her function does.

In second place, regarding the distance at which parents were situated with respect to their children, the results indicate that the fathers and mothers of the SG were largely polarized into two extremes, either more complacent with a passive style that rejected and delegated their own desires and needs in an attempt to satisfy those of others, or they were selfish, imposing their desires without taking into account the needs of others. These results are consistent with those found by Suzuki[45] or Sayin,[46] who described the parents as distant, emotionally unstable, and narcissistic.

An unaffectionate mother is one of the possible causes of the dissatisfaction of adolescents with their families that weighs most heavily,[47] and the mothers of children with EDs have been described as overprotective, over involved, and very dependent, with separation difficulties and lack of boundaries,[46] or strong, rigid, and dominant, but at the same time lacking in warmth.[48] This ambivalence, a mixture of scant affection or rejection with overprotection,[29,49,50] results in a relationship of the patients with their mothers characterized by the need for approval, interpersonal distrust, and negative attention.[51] We thus see that there is considerable agreement in describing the mother-child relationship as symbiotic, but aggressive[27] or hostile,[28,] which in the case of EDs is built on a narcissistic bond.[46] The mothers of children with SG in our study tended to establish a bond characterized by either separation anxiety with mother-daughter dyadic dependency, or ambivalence and scant affection, which in both cases indicates insecure bonds. However, one-third of the mothers did not share this

pattern and their daughters suffered pathology, despite a secure bond. Similarly, in the one-third of the control group that had established insecure bonds, at least at the time of the evaluation, the children did not present psychiatric disorders. This discrepancy would seem to indicate that an insecure mother-daughter bond, despite its importance, is not sufficient for ED to appear, perhaps because this relationship of dyadic dependence rarely occurs among fathers (65.1% mothers *vs* 13.3% fathers), which could have a compensatory effect in these cases. On the other hand, in a large number of fathers of children with SG we found a bond based on rejection of the child. This would explain the etiological model of Selvini[33] in which the daughter turns to her father in response to the marital conflict and, disappointed with her father's rejection, the pre-anorexic responds aggressively by dieting; this form of relationship multiplies 14.7-fold the risk of developing an ED.[50]

In accordance with Selvini[33] and Treasure,[52] we find fragile families with the parents confronting each other or with a distant relationship in which communication is often based on rejection and strong demands.

Regarding the family hierarchical organization, the families in the SG and CG were mostly led by mothers, but in contrast, families with structural deficits predominate in the SG. Among them, we found a sizeable group in which neither parent assumes leadership, with incongruous anarchic or authoritarian styles that apply rules in an unpredictable and very rigid way. In this sense, the results differ from those of the CG (61.5% democratic), which were similar to those found by Meil[53] in the population of Spain. Interestingly, there were no differences between groups in the authoritarian style, which supports the conclusion of Chamblas[47] that there is no association between authoritarianism and the dissatisfaction of young people with their families, although those living in a more democratic household feel more comfortable in their homes. Like the families of the general population of Spain studied by Meil,[53] the families of the SG and CG were not very strict. In this study, only 8% of parents were in favor of punishment even though young people feel more dissatisfaction with their families when parents are not involved in discipline at home, particularly when the rules and punishment are unpredictable.[47]

As in the families that Suzuki[45] and Cava[50] found in the SG, mothers were either too controlling or did not control their children, while the fathers were more distant (50%). However, one-third of the patients with EDs had a mother who exercised close control.

Dare[31] defined families with EDs as psychosomatic, i.e., conflict avoidant and with low emotional expressiveness. We found that the families in the SG tended to avoid problems due to not having problem-solving skills to deal with them or simply because they were unaware of their existence, unlike the families in the CG, which for the most part had problem-solving skills.

Alliances and coalitions are another aspect of great importance for the individuation of the members of the family structure. Alliances between the members of a family subsystem (the union of two or more people in favor of an activity or sharing a common interest) have been considered functional because, unlike coalitions (two individuals, usually of different generation, united against a third), when two people join they automatically separate from the others. This separation protects the development of the functions of the sibling or spousal subsystems, favors autonomy, and avoids the formation of transgenerational coalitions, thus favoring the individuation of members. For their part, intergenerational coalitions always alter the family hierarchy and involve renouncing one's autonomy to occupy a place of privilege. One of the characteristics of the differentiated subject is to not allow triangulation (coalition), i.e., to not allow oneself to be included in the parental dyad in crisis situations.[54] In our study, alliances between members of the same subsystem were more frequent in the SG than in the CG; likewise, inter-subsystem alliances and inter-generational coalitions were more frequent in the SG and practically nonexistent in the CG (Table 11).

As noted in the Introduction, when families share few family meals it is a risk factor for EDs. However, these family gatherings are becoming increasingly rare in Spain. One-third of fathers and one-quarter of mothers with paying jobs eat outside the home on workdays, a figure that reaches 43% and 28%, respectively, in large cities.[53] Family meals have been reduced in the best of cases to weekends, and only for as long as the children are not yet independent. In our study, the SG and CG presented statistically significant differences in this regard; 46.7% of households in the SG compared to 11.1% of CG had risk behaviors (either eating alone or in an unrewarding environment). These new lifestyles reflect the postmodern trend toward individuality and a change of priorities that relegates the family group to second place, more than to the particular circumstances of each family. Our study was conducted in a medium-sized city where it is still possible to balance work with family meals in most cases, although it may also reflect family difficulties inherent to EDs in both the attitude of the parents and the conduct of the person with the disorder.

To conclude, we studied the family factors that could entail more risk for the occurrence of EDs. The statistical data highlighted the fact that rigid families with capricious rules and unrealistic expectations for their members, lacking in empathy and, above all, with an attitude of denial of

Table 11

		SG	CG
Attitude of the Parents	Dedication	No differences	
	Distance	"complacent" and "selfish"	"responsible"
	Bond	"overly strong"[1] and "weak"	"adequate"
Communication	Emotional expression	"strong" and "very weak"	"weak"
	Affective relationship of parents	"confrontational" and "distant"	"optimal"
Hierarchy	Leadership	leadership not exercised	shared by both parents
		No sex differences when leadership is assumed by one of the parents	
	Leadership style (rule-making)	"anarchic"	"democratic"
		"authoritarian" style similar in both groups	
	Application of rules	"unpredictable" and "rigid"	"flexible"
	Punishment for rule-breaking	No differences	
Limits	Parental control	"distant"	"close"
		No differences in "control" style	
	Coping skills	Lack of problem-solving skills and inability to recognize problems	Problem-solving skills
Alliances and Coalitions	Alliances		More frequent
	Coalitions with the mother	More frequent	
Other	Organization of meals	"null" and "excessive"	"adequate"

[1]Only for mothers

Table 12 **Risk factors for EDs**

- Rigid application of rules (up to 9-fold greater risk)
- Coping based on the lack of recognition of the problem (up to 8.5-fold greater risk)
- Strong emotional expression (up to 6.9-fold greater risk)
- Unpredictable application of rules (up to 4.7-fold greater risk)

problems have a convergence of probabilities that an ED will occur in the family.

CONCLUSIONS

This study showed that families that have a member with an eating disorder differ in structure from families that do not have psychiatric pathology. They differ in several factors, some of which have to do with the distribution of affect and others, with the organization and way of coping with problems. They influence the onset and maintenance of EDs, although they do not seem to be the only cause. However, the fact that the mother works outside the home, that the mother exercises leadership, or does so with an authoritarian style, the time that fathers and mothers dedicate to the care of their children, or how breaking the rules is punished do not seem to have an influence.

From this point of view, the results indicate the importance of including family interventions in the treatment of ED and the desirability of developing community activities to promote more functional family structural models and behaviors.

FINANCING

This work was made possible by support from the *Fondo de Investigación en Biomedicina, gestión sanitaria y atención socio sanitaria* of the Regional Executive of Castilla y León and from the *Fondo Caja de Burgos de Apoyo a la Investigación Clínica.*

REFERENCES

1. Lewin KA. Dynamic theory of personality. New York: McGraw Hill, 1935.
2. Asch SE. Issues in the study of social influence on judgment.

In Berg IA, Bass BM,Eds. Conlormity and deviation. Nueva York: Harper & Brothers, 1961; pp. 143-58.
3. Festinger L. A theory of cognitive dissonance. Evanston Ill. Row Peterson, 1957.
4. Foulkes SH, Anthony EJ. Psicoterapia analítica de grupo. Ed. Paidos, 1964
5. Allport GW. Psicología de la Personalidad. Ed. Paidós, 1965._
6. Allen VL. Situational factors in conformity. IN Berkowitz I, ed. Advances in experimental social psychology (vol. 2). Nueva York: Academic Press, 1965.
7. Sherif M. Conflicto y cooperación. In Torregrosa JR, Crespo E, comps. Estudios de Psicología Social, Barcelona: Hora, 1984; pp. 585-606.
8. Bateson G, Jackson DD, Haley J, Weakland J. Toward a theory of schizophrenia. Behavioral Science. 1956;1:251-64.
9. Thibaut JW, Kelley HH. The social psychology of groups. New York: ey, 1959.
10. Cusinato M. Psicología de las Relaciones Familiares. España: Editorial Herder, 1992; pp. 35-334.
11. Musitu G, Buelga S, Lila MS. Teoría de sistemas. En Musitu G, Allat P, Eds. Psicosociología de la familia. Valencia: Ed. Albatros , 1994.
12. Freud S. La novela familiar del neurótico. 1909. Obras Completas, Tomo IX, pp. 217-20. Buenos Aires, Argentina: editorial Amorrortu, 1979.
13. Lacan J. La familia. Buenos Aires: Argonauta, 1978 (1938).
14. Blumer H. Interaccionismo Simbólico: Perspectiva y método. Barcelona: Ed. Hora, 1982.
15. Minuchin S, Fishman C. Familias y terapia familiar. Barcelona: Editorial Gedisa, 1999.
16. Barbagelata N, Rodríguez A. Estructura familiar e identidad. Documentación Social. 1995;98:49-59.
17. Minuchin S, Rosman BL, Baker L. Psychosomatic families: Anorexia Nervosa in context. Cambridge: Harvard University Press, 1978.
18. McGoldrick G. Genogramas en la evaluación familiar. Barcelona: Editorial Gedisa, 2000; pp. 47-59.
19. López B, Nuño BL, Arias AG. Una aproximación a la estructura familiar de mujeres con anorexia y bulimia. IMSS, 2006.
20. Marina JA: Crónicas de la ultramodernidad. Barcelona: Anagrama, 2000.
21. Lipovetsky G. Metamorfosis de la cultura liberal. Ética, medios de comunicación, empresa. Barcelona: Anagrama, 2003.
22. Lowen A. El narcisismo. La enfermedad de nuestro tiempo. Barcelona: Ed Paidos, 2000.
23. Toro J. Riesgo y causas de la anorexia nerviosa. Barcelona: Ariel, 2004.
24. Trojovsky A, Scheer P, Dunitz M, Kaschnitz W, Sommer I Kranz U. Anorexia nervosa. Paeditr Paedol. 1995;30: A93-9.
25. Kluck AS. Family factors in the development of disordered eating: integrating dynamic and behavioral explanations. Eat Behav. 2008;9(4):471-83.
26. Quiles Marcos Y, Terol Cantero MC. Assesment of social support dimensions in patients with eating disorders. Span J Psychol. 2009;12(1):226-35.
27. Bonenberger R, Klosinski G. Parent personality, family status and family dynamics in anorexia nervosa patients with special reference to father-daughter relations (a retrospective study). Z Kinder Jugendpsychiatr. 1988;16(4):186-95.
28. Jonckheere P. The body as hostage of the self. Phenomenological aspects of anorexia nervosa. Acta Psychiatr Belg. 1988;88(2):105-16.
29. Swanson H, Power K, Collin P, Deas S, Paterson G, Grierson D, et al. The relationship between parental bonding, social problem solving and eating pathology in an anorexic inpatient sample. Eur Eat Disord Rev. 2010;18(1):22-32.
30. Minuchin S. Técnicas de terapia familiar. Barcelona: Ed. Paidos, 1984.
31. Dare C, Le Grange D, Eisler I, Rutherford J. Redefining the psychosomatic family: family process of 26 eating disorder families. Int J Eat Disord. 1994;16(3):211-26.
32. Haycraft E, Blissett J. Eating disorder symptoms and parenting styles. Appetite. 2010;54(1):221-4.
33. Selvini Palazzoli M, Cirillo S, Selvini M, Sorrentino A. Los juegos psicóticos en la familia. Paidós, 1991.
34. Limbert C. Perceptions of social support and eating disorder characteristics. 12 Health Care Women Int. 2010;31(2):170-8.
35. Neumark-Sztainer D, Bauer KW, Friens S, Hannan PJ, Story M, Berge JM. Family weight talk and dieting: how much do they matter for body dissatisfaction and disorderd eating behaviours in adolescent girls? J Adolec Health. 2010;47(3):270-6.
36. Haines J, Gillman MW, Rifas-Shiman S, Field AE, Austin SB. Family dinner and disordered eating behaviors in a large cohort of adolescents. Eat Disord. 2010;18(1):10-24.
37. Di Pentima L, Magnani M, Tortolani D, Montecchi F, Ardovini C, Caputo G. Use of the Parental Bonding Instrument to compare interpretations of the parental bond by adolescent girls with restricting and binge/purging anorexia nervosa. Eat Weight Disord. 1998;3(1):25-31.
38. Gotestam KG, Agras WS. General population-based epidemiological study of eating disorders in Norway. Int J Eat Disord. 1995;18(2):119-26.
39. Gambill CL. Anorexia and bulimia in girls and young women. recertification series. Physician Assistant. 1998;22:18,20,25-7.
40. Sim LA, Homme JH, Lteif AN, Vande Voort JL, Schak KM, Ellingson J. Family functioning and maternal distress in adolescent girls with anorexia nervosa. Int J Eat Disord. 2009;42(6):531-9.
41. Moorhead DJ, Stashwick CK, Reinherz HZ, Giaconia RM, Striegel-Moore R, Paradis AD. Child and adolescent predictors for eating disorders in a community population of young adult woman. International Journal of Eating Disorders. 2003;33:1-9.
42. Halmi K. Trastornos de la conducta alimentaria: anorexia nerviosa, bulimia nerviosa y obesidad. En Autoevaluación y actualización en Psiquiatría. American Psychiatric Association, 2001.
43. Ochoa de Alda I, Espina A, Ortego MA. Un estudio sobre personalidad, ansiedad y depresión en padres de pacientes con un trastorno alimentario. Clínica y Salud. 2006;17:151-70.
44. Calvo Viñuela I, Aroca J, Armero M, Díaz J, Rico MA. Estilo de vida en trastornos de conducta alimentaria. Nutr Hosp. 2002;12(4):219-22.
45. Suzuki T. Image Parentale des Troubles de la Conduite Alimentaire: par l'Instrument de Liaison Parentale, Jpn J Psychiatry Neurol. 1994;(48):755-71.
46. Sayin A, Kuruoğu AC. A male anorexia nervosa case and its discussion from dynamic point of view. Turk Psikiyatri Derg. 2004;15(2):155-60.
47. Chamblás I, Mathiesen ME, Mora O, Navarro G, Castro M. Funcionamiento familiar. Una mirada desde los hijos/estudiantes de enseñanza media de la provincia de Concepción. http://www2.udec.cl/~ssrevi/numero4/articulofamilia02.htm. 2000.
48. Selvini PM, Cirillo S, Sorrentino AM. Muchachas anoréxicas y bulímicas. La terapia familiar. 1ª ed. Barcelona: Editorial Paidós, 1999; pp. 20-229.
49. Palmer RL, Oppenheimer R, Marshall PD. Eating dissorder Patients remember their parents: a study using the parental bonding instrument. Int J Eat Disord. 1998;(7):101-6.
50. Cava G, Rojo L, Livianos L. Influencia de la crianza en el desarrollo

de los trastornos de la conducta alimentaria. En Rojo L, Cava G, Eds. Anorexia Nerviosa. Ed. Ariel Ciencias Médicas, 2003.
51. Amianto F, Abbate-Daga G, Morando S, Sobrero C, Fassino S. Personality development characteristics of women with anorexia nervosa, their healthy siblings and healthy controls: What prevents and what relates to psychopathology? Psychiatry Res. 2010;Nov 20.
52. Treasure J, Sepulveda AR, Macdonald P, Whitaker W, López C, Zabala M, et al. The assessment of the family of people with eating disorders. Eur Eat Disord Rev. 2008;Jan 31.
53. Meil G. Padres e hijos en la España actual. Colección Estudios Sociales. Fundación la Caixa. 2006; nº 10.
54. Bowen M: La terapia Familiar en la práctica clínica. Bilbao: Ed. Desclee de Bronwer, 1989; p. 39.

Appendix | Eating Disorders and Family Questionnaire

Name of patient/ young person:
Group: **No.:**
Date:
Age: **Sex:**
Number of siblings and birth order:

FAMILY STRUCTURE

a) Relationships between members of the subsystem

Maternal attitude

1) DEDICATION of the mother to the care of her children:
   1. Exclusive
   2. Work-family balance (balancing work and family life; the concern for children is a priority)
   3. Scant (involved or dedicates more time to other occupations than to children)

2) DISTANCE. Attitudes and behaviors of the mother (HOW DO YOU VALUE YOUR "EGO"-OTHERS)
   1. Complacent (passive style, rejects and delegates her own wants and needs in order to satisfy those of others)
   2. Responsible (takes into account the needs of others, but also herself, in the best interests of the family group)
   3. Selfish (imposes her wishes regardless of the needs of others)

3) MATERNAL BOND. Form of affective relationship between the mother and her child
   1. Overly strong (separation anxiety, mother-daughter dyadic dependence, insecure bonds)
   2. Secure
   3. Weak (ambivalent bonds, little affect)

Paternal attitude

4) DEDICATION of the father to the care of his children:
   1. Exclusive
   2. Work-family balance (balancing work and family life; the concern for children is a priority)
   3. Scant (involved or dedicates more time to other occupations than to children)

5) DISTANCE Attitudes and behavior of the father:
   1. Complacent (passive style, rejects and delegates his own wants and needs towards meeting those of others)
   2. Complacent (passive style, rejects and delegates his own wants and needs in order to satisfy those of others)
   3. Selfish (imposes his wishes regardless of the needs of others)

6) PATERNAL BOND Form of affective relationship between the father and his child
   1. Overly strong (separation anxiety, mother-daughter dyadic dependence, insecure bond)
   2. Secure
   3. Weak (ambivalent bonds, little affect)

7) EMOTIONAL EXPRESSION (parental expectations regarding study level, careers, behavior, etc. of children)
   1. High (high expectations, high standards, idealization, frequent criticism)
   2. Low (more realistic expectations)
   3. Very low (absence of expectations due to detachment, no demands)

Appendix | **Continuation**

8) AFFECTIVE RELATIONS of parents
1. Good (adequate relationship between partners)
2. Distant (avoidance of problems)
3. Confrontation

b) Hierarchy

9) LEADERSHIP ROLE:
1. Father
2. Mother
3. Both parents
4. Neither of the two (no one exercises leadership or it is exercised by another family member: grandfather, grandmother, son ...)

10) HOW RULES ARE SET. Style of the family leader, leadership effectiveness
1. Authoritarian (power centralized in one person; makes decisions and all rules have to pass through the leader. The rest submit to the leader.)
2. Democratic (everyone's opinion matters; rules are negotiated).
3. Anarchic (no rules or, if rules are made, they are not enforced. Everyone does what they want.)

11) HOW RULES ARE APPLIED (how things are done: schedules, studies, sexuality, family, etc.)
1. Rigid: the leader does not modify the rules despite the circumstances.
2. Flexible: the leader is flexible depending on the circumstances.
3. Unpredictable: the leader changes rules unexpectedly and unpredictably.

12) HOW IS RULE-BREAKING PUNISHED? HOW ARE FAMILY LIMITS SET? (What happens when children break rules?)
1. Rigid/inflexible: whenever rules are broken, there are consequences.
2. Flexible: the circumstances are taken into account when determining punishment.
3. Unpredictable: sometimes there is punishment, sometimes not, regardless of the circumstances surrounding the rule breaking.
4. No consequences: there are no immediate consequences, although there may be long-term consequences.

c) Limits

13) MATERNAL CONTROL. The mother is:
1. Controlling (excessive, overbearing, overprotective, excessively and unnecessarily controlling the children).
2. Close (adequate control. The parent is watchful, but not overbearing.)
3. Distant/detached (under control, but oblivious to the needs of children).

14) PATERNAL CONTROL. The father is:
1. Controlling (excessive, overbearing, overprotective, excessively and unnecessarily controlling of the children).
2. Close (adequate control. The parent is watchful, but not overbearing.)
3. Distant/detached (under control, but oblivious to the needs of children).

15) COPING SKILLS. Perceived effectiveness of parents when faced with a family problem or conflict (grades, studies, friends, family relationships, vacations, careers of children, etc).
1. Lack of awareness of the problem. There is no awareness of the problematic situation.
2. Perception of social skills. There is awareness of the problem and the parents think they can resolve the problem and that they have strategies for achieving the most effective solution.
3. Perceived lack of social skills. The parents are aware of the problematic situation, but feel overwhelmed and believe they do not have strategies for solving the problem, or do not know how to act.

Appendix | **Continuation**

d) Alliances and coalitions

16) Alliance: the union of two or more people to carry out an activity or share a common interest, which involves a separation from the others to protect the development of the functions of the sibling or parent subsystems; it favors independence and avoids transgenerational coalitions.
Between a sibling and another member of the family:
Among family members excluding the sibling

17) Coalitions: constituted by two individuals, usually of a different generation, united against a third party.
Regressive movement for the family.
Between a sibling and another member of the family
Among family members excluding the sibling

Other variables

18) Organization of mealtimes:
1. Null: families do not eat together, the TV is on, and there is no communication or dialogue, or a common menu for everyone.
2. Adequate: relaxed atmosphere, the family eats together. Mealtimes are a moment for the family to be together.
3. Excessive: excessive maternal control and organization during meals. There is tension during the meal about how to eat the food.