Anorexia nervosa: Divergent validity of a prototype narrative among anorexia relatives[1]

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ABSTRACT. The objective of this *ex post facto* study was to test the divergent validity (degree of discrimination) of anorexia prototype narrative according to anorectic close confidents (relatives), as well as explore different characteristics of the participants which may be associated with the degree of prototype discrimination. Sixty-four relatives of individuals with anorexia nervosa participated in the study and were asked to indicate their degree of identification, according to their relative, with five different narrative prototypes (depressive, agoraphobia, anorexic, alcoholic, and drug addiction prototypes). Results did not confirm the divergent validity of the anorexic prototype narrative. The participants tended to identify primarily their relative with the agoraphobia prototype. Once again, no significant differences were found between the identification with the anorexic prototype and depression, agoraphobia and alcoholism prototype. The only significant differences found were for the comparison between the anorexic and drug addiction prototype. However, anorectic mothers and illness duration were found to be associated with the degree of identification of prototype narrative. Results were discussed in terms of a systemic versus a prototype approach to the eating disorders.

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KEYWORDS. Narratives. Psychopathology. Prototype narrative. Close confidents. Anorexia. Divergent validity. *Ex post facto* study.

RESUMEN. El objetivo de este estudio *ex post facto* fue analizar la validez divergente (grado de discriminación) de la narrativa prototipo de la anorexia nerviosa de acuerdo a los familiares significativos de los pacientes anoréxicos y explorar distintas características de los participantes que pueden estar asociadas con el grado de discriminación de la narrativa prototipo. Participaron 64 personas significativas de los individuos con anorexia nerviosa, a los que se les pidió que indicasen el grado de identificación, de acuerdo con su familiar, con cinco narrativas prototipo distintas (depresión, agorafobia, anorexia, alcoholismo y tóxico-dependencia). Los resultados no confirmaron la validez divergente de la narrativa prototipo de la anorexia. Los participantes mostraron tendencia a identificar en primer lugar a sus familiares con el prototipo de la agorafobia. Además, no se encontraron diferencias significativas entre la identificación con el prototipo de la anorexia y el de la depresión, de la agorafobia y del alcoholismo. La única diferencia significativa encontrada fue en la comparación entre el prototipo de la anorexia y el de la tóxico-dependencia. No obstante, las madres de las anoréxicas y la duración del trastorno se asocian al grado de identificación con la narrativa prototipo de la anorexia. Se discuten los resultados en términos de una aproximación sistémica *versus* prototipo de las perturbaciones del comportamiento alimentario.

PALABRAS CLAVE. Narrativas. Psicopatología. Narrativa prototipo. Personas relevantes. Anorexia. Validez divergente. Estudio *ex post facto*.

RESUMO. O objectivo deste estudo *ex post facto* foi analisar a validade divergente (grau de discriminação) da narrativa protótipo da anorexia nervosa de acordo com os significativos (familiares) dos pacientes com anorexia e explorar diferentes características dos participantes que possam estar associadas com o grau de discriminação da narrativa protótipo. Participaram neste estudo 64 significativos dos indivíduos com anorexia nervosa e foi-lhes pedido que indicassem o grau de identificação, de acordo com o seu familiar, com as cinco diferentes narrativas protótipo (depressão, agorafobia, anorexia, alcoolismo e toxicodependência). Os resultados não confirmaram a validação divergente da narrativa protótipo da anorexia. Os participantes mostraram tendência para identificar, em primeiro lugar, os seus familiares com o protótipo da agorafobia. Mais uma vez, não foram encontradas diferenças significativas entre a identificação com o protótipo da anorexia e o da depressão, da agorafobia e do alcoolismo. A única diferença significativa encontrada foi para a comparação entre o protótipo da anorexia e o da toxicodependência. Contudo, as mães das anorécticas e a duração da doença estão associadas com o grau de identificação com a narrativa protótipo da anorexia. Os resultados são discutidos em termos de uma abordagem sistémica versus protótipo das perturbações do comportamento alimentar.

PALAVRAS CHAVE. Narrativas. Psicopatologia. Narrativa protótipo. Significativos. Anorexia. Validade divergente. Estudo *ex post facto*.

Introduction

Recently, several authors have been defending that different psychological disorders can be differentiate in terms of specific meaning systems, and that these systems can be best captured in narrative prototypes (e.g, Gonçalves, Machado, Korman, and Angus, 2001; Hermans and Hermans-Jansen, 1995; Leahy, 1991). According to Gonçalves *et al.* (2001), prototype narratives refer to the communality of themes in the individuals' core auto-biographical memories. These prototypes may be hypothesized to differentiate meaning organization from different psychological disorders. Gonçalves and colleagues, through a ground analytic method, construct narrative prototypes for different psychological disorders: anorexia nervosa, depression, agoraphobia, alcoholism, and drug addiction (c.f., Gonçalves and Machado, 1999). In spite of the promising nature on the convergent validity of the different prototype narratives, recent divergent validity results (cf. Gonçalves *et al.,* 2004; Henriques, Machado, and Gonçalves, 2002; Machado *et al.,* 2005) point out that individuals with anorexia nervosa only discriminate their prototype from the drug addiction prototype narrative. However, it remains to be studied if anorectic relatives are able to discriminate the anorexia prototype narrative from the other four narratives.

The objective of this *ex post facto* study (Montero and León, 2005) is to test to what extent anorexia nervosa close confidents (relatives) identify their anorectic relative differentially with the anorectic narrative prototype (comparatively with the depression, agoraphobia, alcoholism, drug addiction). We will also explore different characteristics of the anorectic relative's sample that may contribute to differentiate the degree of identification with the prototype narratives. For drawing up this article, we followed the proposal by Ramos-Álvarez and Catena (2004).

Method

Participants

Sixty-four close relatives of individuals with anorexia nervosa participated in this study. Each anorexia nervosa subject was represented, in this study, by a pair of relatives. The majority of participants (52; 81.2%) were the parents of individuals with current diagnose of anorexia nervosa. Almost half of the participants were female (35; 54.7%) and half male (29; 45.3%). Their age ranged between 18 to 64 years old (M = 43; SD = 10.17) and their socio-economic status was essentially distributed between high to middle (i.e., very-high 11, 17.2%; high 16, 25%; average 24, 37.5%; low 11, 17.2%; very low 2, 3.1%). The educational level of participants ranged from 4th grade to university degree (M = 9.81; SD = 4.48). The inclusion criteria for this study was the own agreement of each individual with anorexia nervosa about letting their relatives participate, selecting which one they consider very close to them.

Measures

The Prototype Narratives Hierarchy Questionnaire (Gonçalves and Henriques, 2000) was used in their relative's version to study the divergent validity in relatives of individuals with anorexia nervosa. It was designed to elicit a comparative evaluation of anorexia

relatives with each of the five prototype narratives according to their opinion about the identification of their relative with each narrative. Participants' task was to create a hierarchy, organizing their identifications by assigning a ranking order for the degree of identification with each prototype narrative. Demographic, socio-economic information and relatives' duration of anorexia nervosa was also assessed in that questionnaire.

Procedure

Participants were contacted when they accompanied their anorexia relatives to the eating disorders clinical unit filling in the Prototype Narratives Hierarchy Questionnaire along with particular instructions.

Data analysis

Nonparametric statistic analyses were used. Anorexia prototype narrative divergent validity was computed using Friedman test with the purpose of comparing the order of identification for each narrative prototype according to the relatives of individuals with anorexia nervosa. A Multiple Comparison Formula (MCF) was used to test the significance of differences between each prototype narrative. We also computed the multiple regression analysis to test the predictive power of different relatives' demographic variables, assuming the mean order given to the anorectic prototype narrative as the dependent variable and, demographic and anorexia nervosa subjects results as independent variables. Finally, Spearman correlations and discriminant analyses were used to study the relation between the relative's results and the anorexia subject's results (cf. Machado *et al.,* 2005), considering the ordination results.

It is important to stress that in the last three analyses we divided the relatives into two different groups, as they represent anorexia relatives pairs: relative's group 1, composed by the mothers of individuals with anorexia nervosa, and relative's group 2, composed by the fathers of individuals with anorexia nervosa.

Results

The results on the divergent validity (see Table 1), showed that participants identify their anorexia nervosa relatives in the following order with the different narrative prototypes (agoraphobia, anorexia, depression, alcoholism, and drug addiction). As can be seen in Table 2, only the comparison between the identification with the anorexia prototype narrative and the drug addiction prototype narrative was found to be statistically significant ($\chi^2 = 49 > 38.75$; $p < .05$). There are no significant differences between the identification with the anorexia prototype narrative and the other three narratives (i.e., depression prototype narrative, agoraphobia prototype narrative, and alcoholism prototype narrative).

TABLE 1. Mean order of identification with the prototype narratives (PN) and Friedman's χ^2 for the ordination results according to anorexia nervosa relatives.

Prototype narratives	*Mean order of identifications*
Depression PN	3.18
Anorexia PN	3.41
Agoraphobia PN	3.12
Alcoholism PN	2.88
Drug Abuse PN	2.41
	$\chi^2 (4) = 14.78, p < .01$

Note. The highest mean order value is in bold.

TABLE 2. Prototype narratives pair's comparison according to anorexia nervosa relatives and statistic significance of their differences using the Multiple Comparison Formula (MCF) which were obtained, for the order results, the value of 38.75.

Prototype narratives pairs (order values sum)		*Differences in the order values sum*	*Statistic significance*
Ano PN (204)	Dep PN (201)	3	3 < 38.75; *ns*
Ano PN (204)	Ago PN (219)	-15	-15 < 38.75; *ns*
Ano PN (204)	Alc PN (185)	19	19 < 38.75; *ns*
Ano PN (204)	DrAd PN (155)	49	49 > 38.75; *p* < .05
Ago PN (219)	Dep PN (201)	18	18 < 38.75; *ns*
Ago PN (219)	Alc PN (185)	34	34 < 38.75; *ns*
Ago PN (219)	DrAd PN (155)	64	64 > 38.75; *p* < .05
Dep PN (201)	Alc PN (185)	16	16 < 38.75; *ns*
Dep PN (201)	DrAd PN (155)	46	46 > 38.75; *p* < .05
Alc PN (185)	DrAd PN (155)	30	30 < 38.75; *ns*

Next, the results for the divergent validity differentiated taken into account several demographic variables were analyzed. As we can see (Tables 3 and 4), in five sub samples defined according with some descriptive variables we found significant differences between the anorexia prototype narrative, compared with the identification with the drug addiction prototype narrative ($\chi^2 = 37 > 28.9, p < .01; \chi^2 = 26 > 20.85, p < .05; \chi^2 = 34 > 26.32, p < .05; \chi^2 = 43 > 34.9, p < .05; \chi^2 = 46 > 35.55, p < .01$) despite the fact that the agoraphobia prototype narrative achieved the first place of identification in four of these sub samples.

TABLE 3. Divergent validity results in gender, educational level (EL) and socio-economic status (SES).

Female gender n = 35	*EL ≤ 4th grade* n = 18	*High SES* n = 16
Ago PN (122 / -8)	Ano PN (69)	Dep PN (56 / -7)
Ano PN (114)	Ago PN (62 / 7)	Ago PN (53 / -4)
Dep PN (113 / 1)	Dep PN (53 / 16)	Alc PN (53 / -4)
Alc PN (101 / 13)	Alc PN (45 / 24)	Ano PN (49)
DrAd PN (77 / 37)	DrAd PN (43 / 26)	DrAd PN (31 / 18)
χ^2 (4) = 14.08, p <.01	χ^2 (4) = 11.11, p <.05	χ^2 (4) = 9.69, p <.05
MCF = 28.9	MCF = 20.85	MCF = 19.67

TABLE 4. Divergent validity results in Kinship Grade (KG) and Relatives Generation (RG).

KG mother n = 29	*KG mother + father* n = 52	*RG adulthoods* n = 54
Ago PN (101 / -1)	Ago PN (180 / -7)	Ago PN (187 / -8)
Ano PN (100)	Ano PN (173)	Ano PN (179)
Dep PN (91 / 9)	Dep PN (157 / 16)	Dep PN (163 / 16)
Alc PN (79 / 21)	Alc PN (144 / 29)	Alc PN (152 / 27)
DrAd PN (66 / 34)	DrAd PN (130 / 43)	DrAd PN (133 / 46)
χ^2 (4) = 12.25, p <.05	χ^2 (4) = 13.07, p <.05	χ^2 (4) = 13.83, p <.01
MCF = 26.32	MCF = 34.9	MCF = 35.55

The results of multiple regression analysis showed that the identification of the anorexia nervosa subjects with the anorexia prototype narrative is a significant predictor variable of their mothers identification mean order given to the anorexia prototype narrative ($F(1, 35) = 7.19$, $p < .05$).

TABLE 5. Multiple regression analysis to predict the order of identification assigned by mothers (relative's group 1) to the anorexia prototype narrative.

Predictor	r^2	β	t	*Final Model*
Anorexia subjects identification with the Ano PN	.18	.43	2.68*	$F(1, 35) = 7.19*$

* $p < .05$

According to Spearman correlations results (see Tables 6 and 7), we found a significantly positive correlation between mothers and their daughter's evaluation concerning anorexia prototype narrative (r_{sp} = .36, $p < .05$). These results also showed (Table 7) that high socio economic status mothers and the ones whose daughters had a clinical condition for at least two years and a half of anorexia nervosa converge with their daughter's evaluation about their identification with anorexia prototype narrative (r_{sp} = .70, $p < .05$; r_{sp} = .65, $p < .05$).

TABLE 6. Spearman correlations for the ordination results between the identifications given by relatives (Rel.1 and Rel.2) and anorexia nervosa subjects (AN sub.) with the anorexia prototype narrative (Ano PN).

Correlations between the identifications given to Ano PN	Rel.1 Ano PN	Rel.2 Ano PN
AN sub. Ano PN	.36*	.26

* *p* < .05

TABLE 7. Spearman correlations between the identifications given by the two relative's groups (Rel.1 and Rel.2) to the Ano PN, taken into account some demographic and clinical variables.

Correlations between the identifications given to the Ano PN	
Socio Economic status	
Very high SES Rel.1 / AN Sub.	-.18
High SES Rel.1 / AN Sub.	.70*
Average SES Rel.1 / AN Sub.	.44
Low SES Rel.1 / AN Sub.	.36
Very high SES Rel.2 / AN Sub.	.70
High SES Rel.2 / AN Sub.	.22
Average SES Rel.2 / AN Sub.	.30
Low SES Rel.2 / AN Sub.	.32
Anorexia nervosa duration	
< 2.5 years Rel.1 / AN Sub.	.89
≥ 2.5 years Rel.1 / AN Sub.	.65*
< 2.5 years Rel.2 / AN Sub.	-.01
≥ 2.5 years Rel.2 / AN Sub.	.38

*p < .05

Finally, the results of discriminant analysis (see Tables 8 and 9) showed that anorexia nervosa duration discriminate the consistency/discrepancy between the identification order with the anorexia prototype narrative given by both relatives group (i.e., mothers and fathers) and by the anorexia nervosa subjects (Fisher test, < .05). As long as in the majority of consistent subjects pairs the anorexia nervosa parents consider that the clinical condition of their daughters had at least two years and a half (77.78%; 7/9), in the discrepant group this tendency reverted (68.75%; 11/16).

TABLE 8. Discriminant analysis about the consistency/discrepancy between the identification order with the Ano PN, given by the anorexia nervosa subjects (AN sub.) and by the relatives group 1 (Rel.1).

Variables	Wilks Lambda	F(1, 23)
Socio-economic status of AN sub.	.94	1.36
Anorexia duration according to AN sub.	.99	.30
Anorexia duration according to Rel.1	.80	5.74*

*$p < .05$

TABLE 9. Discriminant analysis about the consistency/discrepancy between the identification order with the Ano PN, given by the anorexia nervosa subjects (AN sub.) and by the relatives group 2 (Rel.2).

Variables	Wilks Lambda	F(1, 23)
Socio-economic status of AN sub.	.98	.50
Anorexia duration according to AN sub.	.86	3.35
Anorexia duration according to Rel.2	.68	9.46*

*$p < .01$

Discussion

The pattern of results found in this study, revealed a tendency of parents of patients with anorexia nervosa to identify their daughters with the agoraphobia prototype narrative. Once again, participants only discriminated the anorexia prototype narrative from the drug addiction prototype narrative (cf. Machado *et al.,* 2005). The only variable with a significant predictive power of anorexia prototype narrative selection was the exact identification of anorexia nervosa subjects with that narrative, predicting the anorectic mother's ordination given to the anorexia prototype narrative. High socio-economic status mothers converge with their daughters about anorexia prototype narrative evaluation. Finally, illness duration not only converges mothers and daughters evaluation but also discriminates the results consistency between both mothers and fathers, and their daughters.

The present study brings, once again, some evidence against the existence of a prototype narrative of the anorexia nervosa considering that even the anorectic parents don't select this narrative in first place of identification but in second, as had already been done by their children (cf. Machado *et al.,* 2005).

In general and about the meaning co-construction, we consider that as far as anorexia prototype narrative is concerned, parents and daughters share the same construtions. It is between mothers and daughters that we found a closer relation according to the anorexia prototype narrative prototype. Speculating about the place assumed by the agoraphobia prototype narrative, and adopting a systemic point of view, parents may have found in this narrative the specific vulnerability context in which they believe

that their daughters live, adopting a specific familiar dynamic where super protection, conflict and pain rejection emerges believing in a threatening outside world (cf., e.g., Minuchin, Rosman, and Baker, 1978; Sargent, Liebman, and Silver, 1985; White, 1983).

Once again, anorexia nervosa duration seems to be an important feature in the understanding of anorexia narrative organization, not only in individuals with anorexia nervosa (cf. Machado *et. al.,* 2005), but also in their parents. The results found in this study strengthen the idea that a chronic condition of anorexia nervosa may be associated with the development of a more rigid narrative prototype (Gonçalves, Korman, and Angus, 2000), not only in a personal meaning level, but also in a discursive shared level of that meaning.

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