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INTERNATIONAL ARTICLE

Perfectionism Dimensions in Children and Adolescents with Anorexia Nervosa

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Purpose: To assess the dimensions of perfectionism in adolescents with anorexia nervosa in comparison with adolescents from the general population and to validate the Spanish versions of two measures of perfectionism.

Methods: The Child and Adolescents Perfectionism Scale (CAPS), the Perfectionistic Self-Presentation Scale (PSPS) scale, the Eating Attitudes Test (EAT), and the Beck Depression Inventory (BDI) were administered to a group of 71 anorexia nervosa patients (mean age 15.3 years). Moreover, the CAPS and the PSPS were also administered to 113 adolescents from the general population (mean age 14.6 years). The CAPS and the PSPS were administered again after 1 week in 68 subjects to evaluate test-retest reliability.

Results: Both the CAPS and the PSPS demonstrated good internal consistency (Cronbach alpha for anorexia nervosa patients = .91; Cronbach alpha for general population = .85) and the two scales of the CAPS also had alpha coefficients in excess of .7. One-week test-retest reliability was also adequate (r = .80). Anorexia nervosa patients had higher mean scores in Self-oriented perfectionism ($p < .001$) and Perfectionistic self-presentation ($p < .001$) but not in Socially prescribed perfectionism ($p = .292$). There were significant correlations among perfectionism and the EAT and the BDI. A percentage of anorexia nervosa patients between 39% and 42% obtained a score higher than the mean in the comparison group plus two standard deviations in Self-oriented perfectionism and Perfectionistics self-presentation.

Conclusions: The Spanish version of the CAPS and the PSPS showed good psychometric properties. A percentage of 40% of adolescent patients with anorexia nervosa show high Self-oriented perfectionism and Perfectionistic self-presentation. © *Society for Adolescent Medicine, 2004*

KEY WORDS:
Self-oriented perfectionism
Social prescribed perfectionism
Perfectionistic self-presentation
Adolescents
Anorexia nervosa

Perfectionism is a complex construct characterized by the setting of and striving for unrealistic personal standards, a tendency toward critical self-evaluation if these standards are not reached, excessive concern over mistakes, doubts about the quality of personal achievements, and excessive emphasis on precision and organization [1]. Excessive perfectionism leads to dissatisfaction with oneself and with others. Authors have identified various components within perfectionism [2–4]. Specifically, Hewitt and Flett described self-oriented perfectionism (critical self-scrutiny and unrealistic self-imposed personal standards), other-oriented perfectionism (the expectation that others should achieve unrealistic standards, tendency toward dominance and authoritarianism), and socially prescribed perfectionism (the need to achieve standards and goals indicated by others) [4,5]. These authors have also detected another component of perfectionism related to self-presentation

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to others, characterized by great efforts to achieve an image in front of others without defects or weaknesses in relationship to performance, competence, and physical appearance. The Perfectionistic Self-Presentation Scale (PSPS) was created to evaluate this kind of perfectionism. This scale has been related to eating disorder symptoms, body image avoidance, and self-esteem [6]. To explore perfectionism in all its components in adult subjects, two different scales have been produced, both called the Multidimensional Perfectionism Scale (MPS) [2,3]. To explore perfectionism in children and adolescents, Flett and Hewitt developed the Child and Adolescent Perfectionism Scale (CAPS), which has also been used by other authors in studies of depressive cognitions and perfectionism at these ages [7].

Certain effects of perfectionism have been described as maladaptive, and this personality characteristic is considered a predisposing factor for depressive cognitions and hopelessness in both children and adults [5,7,8–11], suicide ideation [12], headache [13], or chronic insomnia [14].

Anorexia nervosa patients have been found to have greater self-control, inhibition of emotionality, and conscientiousness [15]. They have also been described as low novelty-seeking and self-directed, and as presenting high harm avoidance and persistence [16]. Bastiani et al reported a higher score on perfectionism, especially self-oriented perfectionism, in 19 anorexia nervosa patients with a mean age of 24 years [17]. The same group found that patients with obsessive-compulsive disorder and anorexia nervosa had similar scores on the Yale-Brown Obsessive Compulsive Scale, but anorexia nervosa patients' symptoms were more closely related to symmetry and order [18]. Cassidy et al found high obsessional scores in adolescent anorexia nervosa patients and suggested that this was probably owing to their scores on perfectionism [19]. Other authors have shown that adult patients recovered from anorexia nervosa have higher rates than comparison groups on a range of scales of perfectionism [20,21]. Perfectionism has been proposed as a risk factor for anorexia nervosa [22,23] and also, high levels of perfectionism and weight and shape concerns have also been found in parents of eating disorder patients [24].

Other authors have shown an association between certain dimensions of perfectionism and abnormal eating attitudes, and between perfectionism and excessive commitment to exercise and dietary restraint in college students from the general population [6,25]. In a sample of adolescent girls from the general population, Martin et al demonstrated that dieters scored higher in self-presentational concern than nondieters [26]. Only socially prescribed perfectionism has been related to binge eating [27]. The great majority of these studies of perfectionism and anorexia nervosa have been carried out with adult patients, and none has specifically studied adolescents. Perfectionistic self-presentation is an aspect that may be crucial for anorexia nervosa at these ages, as external appearance is very important for self-esteem, and a high perfectionism can drive patients to pursue a perfect body.

The study aimed to validate the Spanish versions of the CAPS and the PSPS in a population of adolescents and to evaluate different aspects of perfectionism in a sample of adolescent anorexia nervosa patients.

Methods

Subjects and Procedure

The group of subjects from the general population comprised 113 female adolescents from primary and secondary schools in Barcelona. The ages ranged from 11 to 19 years (mean = 14.6; SD = 2.1). Permission was obtained from school authorities and parents to carry out the study. Subjects were told that the purpose of the study was to evaluate perfectionistic tendencies in normal children and adolescents, and they accepted to collaborate voluntarily and to answer the questionnaires anonymously .The scales were administered at school during a normal class day and took about a half an hour to complete.

The group of patients comprised 71 female adolescents aged 11 to 19 years (mean = 15.3; SD = 1.7) who fulfilled DSM-IV diagnostic criteria [28] for anorexia nervosa at the moment of starting treatment at the Eating Disorders Unit of the Child and Adolescent Psychiatry and Psychology Department of the Hospital Clinic Universitari in Barcelona. Patients treated at the unit were asked to collaborate in this study, and were informed that their responses were confidential. Study procedures were approved by the Ethics Committee of the Institution. Patients were at different periods of their treatment programs; some were inpatients, others were attending the Day Hospital, and others were outpatients. This strategy ensured that the sample presented a wide range of BMIs and treatments, but they may not have met diagnostic criteria at the time they completed the assessment.

Treatment in this unit is based on a multidisciplinary approach combining biological management,

nutritional rehabilitation, a behavioral program aimed to improve eating patterns and weight, individual and group cognitive treatment, and individual and group parent counseling. Only patients with good compliance with treatment are attended as outpatients. If weight and eating behavior do not improve, patients are hospitalized or required to attend the Day Hospital. When physical risk is high, psychopathology intense, or collaboration in the outpatient setting very poor, inpatient treatment is indicated.

Measures

The Child and Adolescent Perfectionism Scale (CAPS) is a self-report questionnaire of 22 items based on a multidimensional conceptualization of perfectionism [7]. It has two scales: "Self-oriented perfectionism" with 12 items (e.g., "I try to be perfect in every thing I do," "I always try for the top score on a test". . .) and the other "Socially prescribed perfectionism" with 10 items (e.g., "There are people in my life who expect me to be perfect," "People expect more from me than I am able to give". . .).

The Perfectionistic Self-Presentation Scale (PSPS) [6,29] scale is a self-report questionnaire of 27 items about the subject's need to appear perfect to others and not to show defects or difficulties (e.g., "I will do almost anything to cover up a mistake," "I must always appear to be perfect."..). These two scales of perfectionism were translated into Spanish by a process of translation and back translation carried out by two Spanish experts and one with English as native language.

The Eating Attitudes Test (EAT) [30,31] is a self-report questionnaire of 40 items on abnormal eating behaviors and attitudes.

The Beck Depression Inventory (BDI) [32,33] is a self-report questionnaire of 21 items to evaluate depressive symptomatology.

Statistical Analysis

The internal consistency of the questionnaire was determined with Cronbach alpha coefficient, which has to be higher than 0.7. Test-retest reliability was analyzed by the Pearson product moment correlation between the scores obtained by the subjects at two evaluations with a 1-week interval and by the Student's *t*-test for paired samples to compare the mean obtained in the questionnaire at these two moments. The Student's *t*-test for independent samples was used to compare the means obtained by different groups of patients. The χ^2 test was used to compare the percentages of patients and adolescents from the comparison group with a high score on the scales. The Pearson product moment correlation was also used to study the association between the questionnaires. The level of statistical significance was $p <$ .05. Statistical analysis was performed using the SPSS package [34].

Table 1. Internal Consistency of the Perfectionism Questionnaires in Anorexia Nervosa Patients and Subjects from General Population

	Internal Consistency (Cronbach alpha)		
	Anorexia Nervosa	Normal Subjects	Global Sample
CAPS	.91	.85	.89
Self-oriented perfectionism scale	.92	.75	.88
Socially prescribed perfectionism scale	.92	.82	.87
PSPS	.95	.85	.93

CAPS = Child and Adolescent Perfectionism Questionnaire; PSPS = Perfectionistic Self Presentation Scale.

Results

Internal Consistency of the CAPS and the PSPS Questionnaires

Table 1 shows the internal consistency of the perfectionism questionnaires measured by the Cronbach alpha coefficient. Alpha coefficients for the CAPS, its two scales, and the PSPS were all higher than .75 in anorexia nervosa patients, in adolescents from the general population, and in all subjects taken together. All alpha coefficients were higher for anorexia nervosa patients (in excess of .9) than for subjects from the general population.

Test-retest Reliability of the CAPS and the PSPS Questionnaires

The test-retest reliability with a 1-week interval in 68 adolescents (35 from the general population and 33 anorexia nervosa patients) was .83 for both scales. In the comparison between the mean obtained in the questionnaires at first administration and the second after a 1-week interval, there were no statistically significant differences, either for the CAPS (first administration: mean = 66.5; SD = 14.5, and second: mean = 66.6; SD = 16.3; t = .15; p = .880) or the PSPS

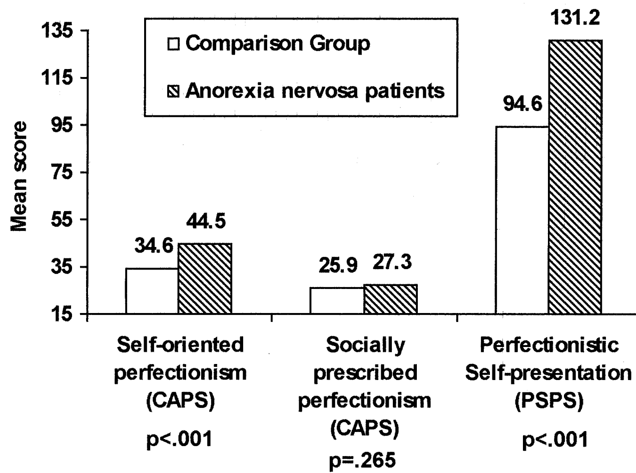

Figure 1. *Differences (Student Fisher's t-test; two-tailed) between anorexia nervosa patients (n = 71) and comparison group (n = 113) in the mean score obtained in the Socially prescribed perfectionism and Self-oriented perfectionism scales of the CAPS and in the PSPS. CAPS = Child and Adolescent Perfectionistic Scale; PSPS = Perfectionistic Self-Presentation Scale.*

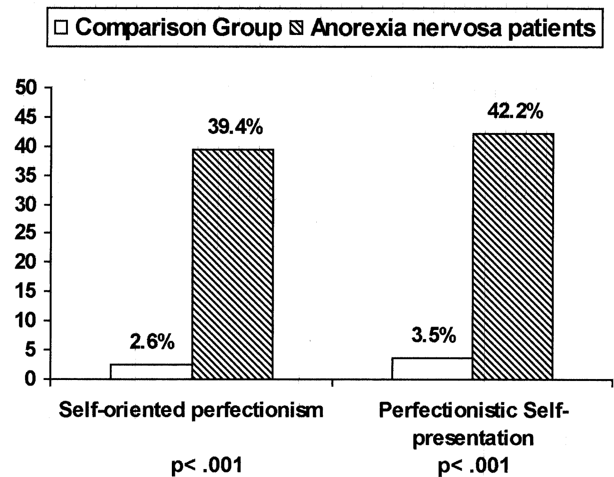

Figure 2. *Comparison (χ^2 test) of the percentages of subjects from both groups (anorexia nervosa patients, n = 71 and comparison group, n = 113) with a score on Self-oriented perfectionism and Perfectionistic Self-presentation above the mean obtained by the comparison group plus two standard deviations.*

(first administration: mean = 112.1; SD = 31.7, and second: mean = 115.4; SD = 33.6; t = 1.44; $p = .154$).

Differences Between Anorexia Nervosa Patients and Comparison Group

Figure 1 shows the mean scores obtained by patients and subjects from the general population on the perfectionism questionnaires. There were statistically significant differences between the mean score obtained on the Self-oriented scale of the CAPS (t = 7.5; $p < .001$) and in the PSPS (t = 8.2; $p < .001$) in both groups. In contrast, on the Socially prescribed perfectionism scale of the CAPS, there were no statistically significant differences between anorexia nervosa patients and normal subjects (t = 1.01; $p = .292$).

Percentage of Subjects with High Scores on Self-oriented Perfectionism and Perfectionistic Self-presentation

The percentages of subjects with high scores on the two components of perfectionism that differentiate anorexia nervosa patients from the comparison group were determined. A high score was considered when a subject obtained a score higher than the mean of the comparison group plus two standard deviations. In Figure 2, these percentages of both groups of subjects are shown for the subscale of Self-oriented perfectionism of the CAPS and the Perfectionistic Self-presentation Scale. The percentages of anorexia nervosa patients with a high score on both scales were significantly higher than the percentages of the comparison group.

Correlations Among Age, Perfectionism, Eating Attitudes, and Depressive Symptomatology in Anorexia Nervosa Patients

Table 2 shows the correlations between the two scales of the CAPS and the PSPS, and also between these two questionnaires and age and the abnormal eating attitudes and depressive symptomatology questionnaires, the EAT and the BDI. The correlation of the PSPS with the Self-prescribed perfectionism

Table 2. Correlation Coefficient (Pearson *r*, Two-tailed) Between Age, Self-oriented Perfectionism, Socially Prescribed Perfectionism, Perfectionistic Self-presentation, Eating Attitudes and Depression Questionnaires in Anorexia Nervosa Patients (N = 71)

	PSPS	EAT	BDI	AGE
Self-oriented perfectionism (CAPS)	.76***	.32**	.37**	.07
Socially prescribed perfec. (CAPS)	.39***	.24*	.34***	.06
PSPS		.38**	.44***	.04
EAT			.55***	.09
BDI				.09

* $p < .05$; ** $p < .01$; *** $p < .001$.
CAPS = Children and Adolescent Perfectionistic Scale; PSPS = Perfectionistic Self Presentation Scale; EAT = Eating Attitudes Test; BDI = Beck Depression Inventory.

was higher than with the Socially prescribed perfectionism. Correlations of the PSPS and the Self-oriented perfectionism with the EAT were higher than with the Socially prescribed perfectionism. The correlations of the BDI with both scales of the CAPS and the PSPS were quite similar and statistically significant. Correlations among all four questionnaires and age were not significant.

Discussion

The results support the psychometric properties of the Spanish versions of the CAPS and the PSPS and corroborate the usefulness of these scales with adolescent anorexia nervosa patients. These findings extend previous research using these questionnaires with normal populations [6] and with other psychiatric adolescent samples [7,12]. In the present study, the internal consistency of the CAPS, its two scales, and the PSPS was highly acceptable, especially in anorexia nervosa patients. The test-retest reliability was also adequate in the group that was reexamined after 1 week. In addition, the significant, positive correlation between the two perfectionism questionnaires provides support for their concurrent validity.

Anorexia nervosa patients had significantly higher mean scores on the Self-oriented perfectionism scale of the CAPS than adolescents from the general population. In contrast, there was no difference in the means obtained by the two groups in the Socially prescribed scale of the CAPS. The mean obtained in the Socially prescribed perfectionism by anorexia nervosa patients and normal adolescents was lower than the mean obtained in this subscale by a group of suicide attempters, also adolescents [7]. Furthermore, the EAT presented a higher correlation with Self-oriented perfectionism than with Socially prescribed perfectionism. These results stress the importance of self-oriented perfectionism in anorexia nervosa.

Perfectionism and rigid and obsessive behavior have been proposed as the reasons for the effectiveness of selective serotonin reuptake inhibitors after refeeding in helping to maintain weight, prevent relapse, and improve rigidity and obsessive behavior [35,36]. Other studies in females from the general population have found that abnormal eating attitudes are associated with self-oriented perfectionism [6]. In 19 anorexia nervosa patients, Bastiani et al [17] found that the greatest difference with respect to control subjects was also in self-oriented perfectionism and not socially prescribed perfectionism. Ours is the first study to find a greater self-oriented perfectionism in young adolescents with anorexia nervosa. It seems that unrealistic standards for physical attractiveness and thinness are associated to unrealistic standards for other personal characteristics with high self-imposed goals and critical self-scrutiny. Self-oriented perfectionism and Perfectionistic Self-presentation also presented significant differences between anorexia nervosa patients and control subjects. A percentage of about 40% of anorexia nervosa patients have a very high score on these two aspects of perfectionism. It shows that in this subgroup of patients it would be necessary to address specifically these psychological characteristics to achieve a good outcome.

Correlations between the PSPS and the EAT were again high, showing the importance in these patients of this aspect of perfectionism, a desire to achieve an image in front of others without defects or weaknesses in relationship to performance, competence, and physical appearance. Physical appearance is closely related to the core symptoms of anorexia nervosa [37,38]. Self-presentation concerns are of great importance in adolescence and they have been related to unhealthy practices such as dieting [26]. Hewitt et al also found a statistically significant correlation between the PSPS and the EAT in young females from the general population, and suggested that eating disorders are related to a strong need to present an image of perfection to others [6]. All aspects of perfectionism correlated with the BDI, especially perfectionistic self-presentation, showing the relationship between perfectionism and depressive symptomatology that other authors have pointed out in adult samples [4,8,9,11] and in adolescents [7,12].

Study Limitations

The first limitation of the study is to use a self-report questionnaire as measure of perfectionism. A structured interview would be a better instrument to avoid the subjective perception of the subject in answering the self-report questionnaire, but it would be also more time consuming for the clinician. The other limitation is the cross-sectional nature of the study. It is not possible to deduce any conclusion about the importance of high perfectionism in the outcome of the disorder.

Conclusions

The present study extends our knowledge about the relationship between perfectionism and anorexia

nervosa to young adolescent patients, placing special importance on self-oriented perfectionism and perfectionistic self-presentation. These data support the psychometric properties of the Spanish version of the CAPS and the PSPS, in terms of internal consistency, test-retest reliability, and concurrent validity. As such, it is likely to be a useful instrument in clinical and research work on anorexia nervosa in Spanish-speaking populations and in young adolescent samples. These results show the existence of a big subgroup (about 40%) of anorexia nervosa patients with a very high level of perfectionism, especially the components mentioned. In this subgroup it would be necessary to complement the general treatment of anorexia nervosa with a very specific therapy for perfectionism. Further studies will be necessary to analyze if this kind of therapy influences definitively treatment outcome in this subgroup of anorexia nervosa patients.

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