Original article

Frost Multidimensional Perfectionism Scale: the Portuguese version

Frost Multidimensional Perfectionism Scale: versão portuguesa

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Abstract

Background: The Frost Multidimensional Perfectionism Scale is one of the most world widely used measures of perfectionism. **Objective:** To analyze the psychometric properties of the Portuguese version of the Frost Multidimensional Perfectionism Scale. **Methods:** Two hundred and seventeen (178 females) students from two Portuguese Universities filled in the scale, and a subgroup (n = 166) completed a retest with a four weeks interval. **Results:** The scale reliability was good (Cronbach alpha = .857). Corrected item-total correlations ranged from .019 to .548. The scale test-retest reliability suggested a good temporal stability with a test-retest correlation of .765. A principal component analysis with Varimax rotation was performed and based on the Scree plot, two robust factorial structures were found (four and six factors). The principal component analyses, using Monte Carlo PCA for parallel analyses confirmed the six factor solution. The concurrent validity with Hewitt and Flett MPS was high, as well as the discriminant validity of positive and negative affect (Profile of Mood Stats-POMS). **Discussion:** The two factorial structures (of four and six dimensions) of the Portuguese version of Frost Multidimensional Perfectionism Scale replicate the results from different authors, with different samples and cultures. This suggests this scale is a robust instrument to assess perfectionism, in several clinical and research settings as well as in transcultural studies.

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Keywords: Frost Multidimensional Perfectionism Scale, personality, reliability, validity, Portuguese.

Resumo

Contexto: A Escala Multidimensional de Perfeccionismo de Frost (FMPS) é uma das escalas mais usadas em todo o mundo para avaliar o perfeccionismo. **Objetivo:** Analisar as características psicométricas da versão portuguesa da FMPS. **Métodos:** A amostra foi constituída por 217 estudantes do ensino superior (178 mulheres). Um subgrupo (n = 166) completou o reteste após quatro semanas. **Resultados:** A consistência interna da escala mostrou ser elevada (alfa de Cronbach = ,857). As correlações item-total corrigido variaram entre ,019 e ,548. Os resultados também sugeriram uma boa estabilidade temporal da escala, sendo a correlação teste-reteste de ,765. Foi realizada a análise das componentes principais com rotação Varimax e com base no *Scree plot* foram extraídas duas soluções fatoriais robustas (quatro e seis fatores). A análise paralela (Monte Carlo PCA) confirmou a solução de seis fatores. A validade concorrente com a escala MPS de Hewitt e Flett foi elevada, assim como a sua capacidade discriminante dos afetos positivos e negativos (Perfil de Estados de Humor – POMS). **Conclusão:** As duas estruturas fatoriais (quatro e seis fatores) encontradas na versão portuguesa da Escala Multidimensional de Perfeccionismo de Frost replicam os resultados obtidos por diferentes autores, em diferentes amostras e culturas. Esse fato sugere que essa escala é um instrumento robusto para a avaliação do perfeccionismo em vários contextos, clínicos e de investigação, bem como em estudos transculturais.

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Palavras-chave: Escala Multidimensional de Perfeccionismo, personalidade, fidelidade, validade, português.

Introduction

Perfectionism has been a topic of increased interest in recent years. It is commonly viewed as a personality trait characterized by striving for flawlessness and by the setting of excessively high standards for performance which is accompanied by a tendency to be overly critical of one's behavior[1].

Since the early 1990's perfectionism has been conceptualized as a multidimensional construct, with intrapersonal and interpersonal dimensions[1,2]. This conception of perfectionism led to the development of two of the most widely used perfectionism measures, the Multidimensional Perfectionism Scales, one from Frost *et al.* (FMPS, 1990)[1] and the other from Hewitt and Flett (MPS-H&F, 1991)[2].

Literature findings have indicated that perfectionism may be characterized by positive and negative dimensions, differently linked to various adaptive and maladaptive processes and outcomes. Perfectionism has been implicated in the stress generation and maintenance[3] and in psychological distress, such as depression[2], anxiety, obsessive-compulsive disorders[4], eating disorders[5], personality disorders[6], sleep disturbances[7] and suicide[8]. In respect to eating disorders, Carvalho *et al.*[9] underlined the relationship between perfectionism and body checking behaviors in males and Sherry and Hall[10] observed that perfectionism increased the risk of binge eating by generating conditions in daily lives that are conducive to binge episodes. Another study[11] showed that personality characteristics, such as a self-demand trait (a construct related to perfectionism, as perfectionists demand perfection of themselves, and self-imposed standards in salient domains that are personally demanding) interfere with intestinal functioning, being associated with irritable bowel syndrome. In fact, recent literature findings support that perfectionism and secondary appraisal are implicated in the stress response, by their association with cortisol increase and HPA axis activation[12]. Therefore, perfectionism has a role in the individual response to psychosocial stress and might be a transdiagnostic personality trait implicated in the vulnerability to many psychiatric disorders[13].

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This scale has been validated and reveals good psychometric characteristics in many countries and cultures. The original version of FMPS[1] presents six dimensions, but this factor structure was not always replicated. Purdon *et al.*[14] found a three factor solution in a sample of anxiety disorders, and other researchers found four factor solutions[15-18].

Given the clinical and research importance of this scale, the purpose of the present study is to develop the FMPS Portuguese version and analyze its psychometric characteristics.

Materials and methods

Participants and procedures

Data for this study were drawn from an ongoing research on Perfectionism and Stress. This research project was reviewed and approved by the Ethical Committee of the Faculty of Medicine of University of Coimbra. Students from College of Health Technology of Coimbra's Polytechnic and from Medicine Faculty of Coimbra University participated in the study.

The research aims and its voluntary nature were explained to the students. Confidentiality was ensured following the guidelines of the Portuguese law for data protection (Law 67/98; 26 October). After they agreed to participate, they filled in the questionnaires. There was complete adherence.

The FMPS and other self-report questionnaires were administered to a community sample of 217 1st year university students (178, 82.0% females; 39, 18% males), aged between 17 and 35 years (mean age = 18.50; sd = 2.35). The mean age did not significantly differ by genders (p = .788). The great majority of the students were single (212; 97.7%). One hundred eighty one (83.4%) participants were from Health Technologies courses and 36 (16.6%) were studying Dentistry.

To analyse the temporal stability of the Portuguese FMPS, 166 respondents (135 girls; 81.3%) answered the questionnaires at two different moments, separated by approximately four weeks. Their mean age was of 18.31 years (sd = 1.92; range = 17-35 years).

Instruments

The Frost Multidimensional Perfectionism Scale

The FMPS[1] consists of 35 questions, which can be responded in a five-point Likert scale (from 1-"strongly disagree" to 5-"strongly agree"). The total score may range from 35 to 175, with higher scores indicating higher perfectionism levels. Originally, the scale included six subscales: Personal Standards (PS), Concern over Mistakes (CM), Doubts about Actions (DA), Parental Expectations (PE), Parental Criticism (PC), and Organization (O). The PS subscale reflects the setting of high standards, the striving to attain it and the contingent self-evaluation based on the achievement. The CM dimension reflects excessive concerns about failure and the fear of negative evaluation from others. The DA dimension reflects the individual doubts about one's abilities. The PE and PC scales reflect the belief that one's parents set very high goals and were overly critical. The O dimension reflects the excessive importance given to orderliness. Research revealed that personal standards and organization are more adaptive, dimensions whereas concern over mistakes, doubts about actions, high parental expectations and parental criticism seem to be maladaptive[6].

The original version revealed good reliability (alpha: scale = .90; subscales from .77 to .93).

To develop the Portuguese FMPS version, we followed a back-translation process. The original scale was translated by two Portuguese psychiatrists (MH Azevedo; A Macedo) dominating both languages and who had large experience on the translation of psychopathology assessment instruments. Preliminary qualitative item analyses included the thinking aloud methodology with pilot participants and an experts panel. After that it was retranslated by a bilingual person blind to the study. This English version was discussed by three English-speaking experts in psychological assessment. These experts also analyzed the linguistic and conceptual equivalence. The discrepancies found were discussed between the research team and the independent reviewers. Accordance was achieved and the Portuguese version adjusted.

The Multidimensional Perfectionism Scale (H&F)

The MPS-H&F[2] is a self-report instrument, with 45 items, rated on a 7 point Likert scale (from 1-"strongly disagree" to 7-"strongly agree"). It evaluates Self-Oriented Perfectionism, Social-Prescribed Perfectionism and Other-Oriented Perfectionism. The Portuguese version revealed good psychometric properties[5].

The Profile of Mood States

The Portuguese version[19] of the Profile of Mood States[20] (POMS) is a 65 adjective Likert scale commonly used to measure psychological distress. In this study we used the shorter version composed by 36 items (Bos *et al.*, unpublished data). A factorial analysis of the responses given by our sample revealed two factors: the "Negative Affect" (NA, α = .95) and the "Positive Affect" (PA, α = .89).

Statistical analyses

SPSS 17.0 for Windows was used. To compare two independent groups on continuous variables we used Student t-tests. Pearson's or Spearman's correlation coefficients were used to test variables associations. A 0.10 coefficient was considered poor, .30 moderate and .50 high[21].

The FMPS temporal stability was analysed by the test-retest score correlation (after a month).

To analyse the contribution of each item to the scale internal consistency, Cronbach's alpha coefficients for the total scale, excluding each item were calculated and compared with the total scale alpha. When the exclusion of the item corresponded to a lower alpha than the one obtained for the total scale, we concluded that it contributed to the scale internal consistency. To analyse the extent to which each item was a good construct measure, we performed correlations between each item and the total scale (excluding the item). The items were considered a good/very good construct measure when these correlations were higher than .20/.30[22,23].

The scale factor structure was studied using the principal components method, with Varimax rotation and the Cattell's Scree plot. Only the items with a loading factor ≥ .30 were retained. The principal component analysis (PCA) was also explored, using the Monte Carlo PCA for parallel analysis computer software[24].

The FMPS dimensions and total score internal consistency was measured by the Cronbach's alpha coefficient (α). Values of 0.65-0.70 were considered acceptable; 0.70-0.80 good; and 0.80-0.90 very good[25].

Results

Reliability analyses

The correlation coefficients between each item and corrected total score ranged from .019 (item 35) to .548 (item 16). All correlation coefficients were higher than .2, except for item 13, and Organization items that presented lower coefficients. Twenty four items presented higher coefficients than .3.

The Cronbach's alphas (excluding each item) were calculated and compared with the total alpha. Results revealed that 29 items contributed significantly for the scale's internal consistency. The majority of the Organization items and the item 13 did not increase the alpha.

Temporal stability

Spearman's correlation coefficients of each item ranged from .349 (item 1) to .740 (item 3) and were all significant (*p* < .001). Pearson's

correlation coefficient of the total test-retest score was of r = .765 (*p* < .001), which indicating a good temporal stability.

Internal validity/factor structure

Prior to the principal components analysis (PCA), the data suitability for factor analysis was assessed. The Kaiser-Meyer-Oklin value was of .825, exceeding the recommended value of .6 and Bartlett's Test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix. PCA explained between 2.9% and 21.4% of the variance.

However, the Scree plot analysis showed a clear break after the fourth component (Figure 1). Although the four factor solution seemed an acceptable option, the six factor solution also showed to be good, and was confirmed by parallel analysis (PA)[24]. The PA revealed six components with eigenvalues exceeding the corresponding criterion for a randomly generated data matrix of the same size (35 variables x 217 respondents). The six factors were significant, as their eigenvalues (7.44, 4.66, 3.93, 2.21, 1.73, and 1.49, respectively) were larger than the 95th percentile of the eigenvalues found using parallel analysis with 500 replications (1.85, 1.74, 1.65, 1.58, 1.52, and 1.46, respectively).

Considering the importance of research comparability, we decided to explore the two factorial solutions.

The four factor solution

The four component solution explained 51.88% of the total variance (F1-21.38%, F2-13.41%, F3-10.87%, F4-6.22%). The Varimax rotation showed four factors with loadings > .3, revealing good interpretability. Factor 1 results from the sum of CM and DA (CMDA) items, with the exception of the item 5 from CM. This factor also includes item 10, an item from the original PS component. Factor 2 showed to be related with parental representations and was composed by PE and PC (PEPC) items. Factor 3 includes all the Organization (O) items. Factor 4 is formed by PS items and also includes the 5 item from CM.

The scale and all the four factors revealed a good internal consistency: α total scale = .857; F1 (CMDA) = .858; F2 (PEPC) = .892; F3 (O) = .933; F4 (PS) = .736 (Table 1).

The six factor solution

The six component solution explained 61.02% of the total scale variance. In respect to each dimension the explained variance was of: F1(O)-21.38%, F2(CM)-13.41%, F3(PE)-10.87%, F4(PC)-6.22%, F5(DA)-5.02%, F6(PS)-4.12%.

Only the items from the O dimension had a total overlap on the six and four factor solutions. All the subscales revealed a good internal consistency, as indicated by Cronbach alpha coefficients (α F1 = .933; F2 = .829; F3 = .899; F4 = .879; F5 = .815; F6 = .743) (Table 2).

FMPS scores inter-correlations and normative characteristics

The FMPS normative characteristics and inter-correlations are shown in table 3. There were gender differences only on Organization score, with women scoring higher than men (mean = 23.90, sd = 4.47 *vs.* mean = 21.62, sd = 4.32, *t* = 2.904, *p* = .004).

Organization, the only dimension entirely shared in the two factorial structures (the items were the same) was poor and negatively correlated with CM, CMDA and PEPC (*p* < .05).

Considering the four factor solution, the inter-correlations between dimensions scores were moderate and ranged from .271 to .425. The inter-correlations between dimensions and the total score were high and ranged from .636 to .783 (all *p* < .001).

In which respects to the six factor solution, the inter-correlations between dimensions scores were moderate and ranged from .200 to .491. The inter-correlations between dimensions and the total score were high and ranged from .532 to .775 (all *p* < .001).

In the four and six component solutions the PS (a more adaptive dimension) showed significant and positive associations with maladaptive dimensions and no significant association with O.
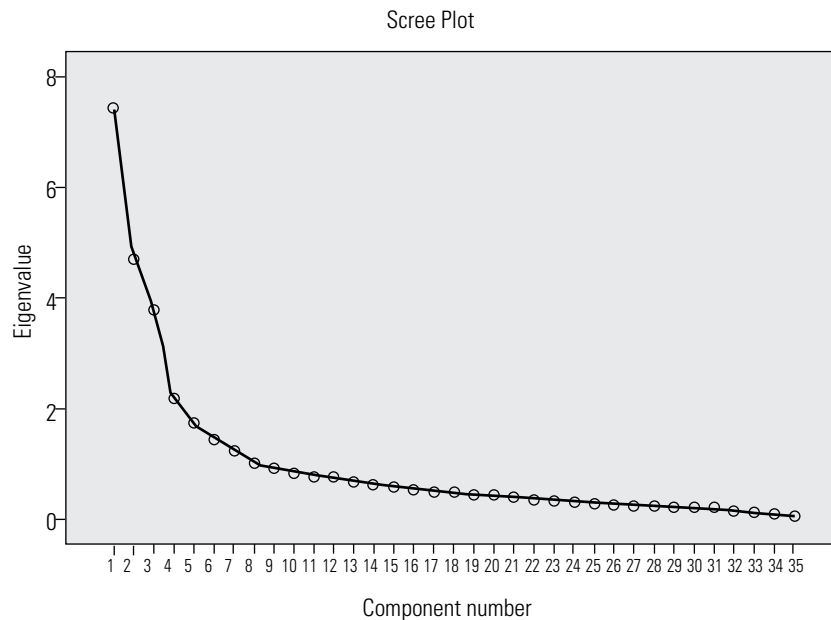

Scree Plot

Figure 1. FMPS Scree Plot.

Table 1. FMPS items subscales and factor loadings of the four factor solution with Varimax rotation

Item number and wording	Subscale	Factor			
		1	2	3	4
6. People will probably think less of me if I make a mistake.	CM	**.686**	.132	-.035	.066
1. If I fail at work/school, I am a failure as a person.	CM	**.671**	.127	-.010	-.150
7. If I do not do as well as other people, it means I am an inferior human being.	CM	**.654**	.062	-.052	-.020
17. Even when I do something very carefully, I often feel that is not quite done right.	DA	**.648**	.054	.013	.191
8. If I do not do as well all the time, people will not respect me.	CM	**.647**	.162	-.090	-.169
20. It takes me a long time to do something "right".	DA	**.626**	-.077	-.048	-.004
18. I usually have doubts about the simple everyday things I do.	DA	**.620**	.015	.023	.104
9. The fewer mistakes I make, the more people will like me.	CM	**.603**	.186	-.020	.062
19. I tend to get behind in my work because I repeat things over and over.	DA	**.526**	-.084	-.119	.117
10. If I do not set the highest standards for myself, I am likely to end up a second rate person.	PS	**.521**	.093	.009	.149
4. If I failed partly, it is as bad as a complete failure.	CM	**.520**	.159	-.077	.207
2. I should be upset if I make a mistake.	CM	**.491**	.048	-.109	.115
3. If someone does a task at work/school better than me, then I feel like I failed the whole task.	CM	**.452**	.247	.014	.184
29. I never felt like I could meet parent's standards.	PC	.332	**.776**	-.040	-.101
28. I never felt like I could meet parent's expectations.	PC	.299	**.759**	-.022	-.102
23. Only outstanding performance is good enough in my family.	PE	-.028	**.750**	-.058	.334
27. My parents never tried to understand my mistakes.	PC	.217	**.714**	.015	-.107
21. My parents set very high standards for me.	PE	-.005	**.701**	-.144	.407
22. My parents wanted me to be the best at everything.	PE	-.093	**.690**	-.072	.420
24. My parents have expected excellence from me.	PE	-.108	**.679**	-.026	.476
25. My parents have always had higher expectations for my future than I have.	PE	.015	**.632**	-.136	.179
26. As a child, I was punished for doing things less than perfectly.	PC	.305	**.618**	.009	-.011
34. Neatness is very important to me.	O	-.021	-.052	**.886**	.051
31. I am a neat person.	O	-.083	-.055	**.882**	-.024
33. I try to be a neat person.	O	-.007	-.026	**.860**	.027
32. I try to be an organized person.	O	-.055	-.078	**.853**	.042
35. I am an organized person.	O	-.174	-.046	**.848**	-.002
30. Organization is very important to me.	O	-.040	-.105	**.834**	.045
14. I have extremely high goals.	PS	.042	.115	.006	**.738**
12. I set higher goals for myself than most people.	PS	.083	.035	.042	**.717**
16. I expected either performance in my daily task than most people.	PS	.376	.211	.142	**.535**
15. Other people seem to accept lower standards from themselves than I do.	PS	.225	.006	-.073	**.534**
11. It is important to me that I be thoroughly competent in everything I do.	PS	.199	.216	.229	**.500**
13. I am very good at focusing my efforts on attaining a goal.	PS	-.265	.045	.318	**.415**
5. I hate being less than the best at things.	CM	.263	.234	-.138	**.375**
% Variance explained		21.38	13.41	10.87	6.22
α Cronbach (Total = .857)		.858	.892	.933	.736

F1: Concern over Mistakes and Doubts; F2: Parental Expectations and Criticism; F3: Organization; F4: Personal Standards.

External validity

To analyze the concurrent validity of the FMPS Portuguese version, we used the Portuguese version of H&F-MPS scores. The Pearson correlation between the two MPS scales total scores was high (.613, $p < .001$)[21].

We studied the scale discriminant validity exploring the associations between FMPS dimensions and total score and NA and PA dimensions (POMS). The perfectionism dimensions that were more maladaptive (CM, DA, and CMDA) were significantly and positively associated with NA and negatively associated with PA. Some parental dimensions of perfectionism (PC and PEPC) were also associated with NA. Conversely, PE was significantly and positively associated with PA. An unexpected result was the positive significant association between PS (4 and 6 factors) and NA (Table 3).

Discussion

The FMPS Portuguese version has good reliability and internal consistency (α = .857). The correlation coefficients between each item and

corrected total score revealed that 29 items contributed significantly for the scale internal consistency. Some exceptions were the majority of the Organization items and item 13.

The FMPS total scale temporal stability was good (.765, $p < .001$), as well as the items temporal stability (from .349 to .740, all $p < .001$). The inclusion of the O dimension was not consensual. This dimension is included in the Frost *et al.*[1] perfectionism conceptualization due to the clinical observation that perfectionists show a tendency to be ordered and organized. We decided to maintain the items from the O dimension because there were modest but significant negative correlations between O and some of the negative perfectionism scales. To ensure comparability between studies we provide data for FMPS total score either considering the items from the O dimension, either not.

The FMPS factorial analyses indicated two robust factorial structures: a six factor solution, and a four factor solution. The four factor solution explained 51.88% of the total scale variance. The four factors showed a good internal consistency, as indicated by the Cronbach alpha, ranging from .731 to .933. The six component solution explained 61.02% of the total scale variance. All of the factors had good psychometric properties (Cronbach α F1 = .933; F2 = .829;

Table 2. FMPS items, subscales and factor loadings of the six factor solution with Varimax rotation

Item number and wording	Subscale	Factor					
		1	2	3	4	5	6
34. Neatness is very important to me.	O	**.894**	.012	-.009	-.064	-.022	.028
31. I am a neat person.	O	**.889**	-.022	-.044	-.048	-.093	-.029
33. I try to be a neat person.	O	**.857**	-.034	-.046	.024	.023	.048
35. I am an organized person.	O	**.849**	-.152	-.038	-.022	-.088	.007
30. Organization is very important to me.	O	**.845**	.000	-.037	-.113	-.029	.018
32. I try to be an organized person.	O	**.844**	-.126	-.101	.021	.041	.092
7. If I do not do as well as other people, it means I am an inferior human being.	CM	-.062	**.675**	-.134	.179	.111	.076
3. If someone does a task at work/school better than me, then I feel like I failed the whole task.	CM	.037	**.660**	.242	.041	-.066	.100
6. People will probably think less of me if I make a mistake.	CM	-.026	**.654**	.067	.107	.291	.038
8. If I do not do as well all the time, people will not respect me.	CM	-.095	**.648**	-.077	.258	.148	-.098
1. If I fail at work/school, I am a failure as a person.	CM	-.019	**.614**	-.110	.260	.226	-.068
4. If I failed partly, it is as bad as a complete failure.	CM	-.057	**.608**	.190	.006	.119	.125
2. I should be upset if I make a mistake.	CM	-.073	**.582**	.171	-.136	.170	-.032
9. The fewer mistakes I make, the more people will like me.	CM	-.031	**.564**	.000	.251	.181	.132
5. I hate being less than the best at things.	CM	-.101	**.499**	.400	-.116	-.090	.200
10. If I do not set the highest standards for myself, I am likely to end up a second rate person.	PS	-.013	**.480**	-.086	.214	.120	.269
24. My parents have expected excellence from me.	PE	.009	.027	**.842**	.137	-.046	.213
22. My parents wanted me to be the best at everything.	PE	-.036	.048	**.831**	.156	-.052	.159
21. My parents set very high standards for me.	PE	-.120	.042	**.788**	.238	.067	.186
23. Only outstanding performance is good enough in my family.	PE	-.032	.108	**.784**	.276	-.071	.126
25. My parents have always had higher expectations for my future than I have.	PE	-.110	-.005	**.684**	.245	.164	-.037
29. I never felt like I could meet parent's standards.	PC	-.082	.183	.283	**.834**	.125	.043
28. I never felt like I could meet parent's expectations.	PC	-.065	.158	.272	**.820**	.102	.045
27. My parents never tried to understand my mistakes.	PC	-.028	.131	.226	**.787**	-.010	.059
26. As a child, I was punished for doing things less than perfectly.	PC	-.018	.231	.264	**.617**	.077	.078
19. I tend to get behind in my work because I repeat things over and over.	DA	-.119	.100	.005	.003	**.789**	.061
18. I usually have doubts about the simple everyday things I do.	DA	.019	.205	.031	.109	**.782**	.069
20. It takes me a long time to do something "right".	DA	-047	.247	-.052	.039	**.747**	-.042
17. Even when I do something very carefully, I often feel that is not quite done right.	DA	.008	.297	.061	.118	**.697**	.165
12. I set higher goals for myself than most people.	PS	.020	.040	.139	-018	.035	**.763**
14. I have extremely high goals.	PS	-.007	.037	.253	-.026	.007	**.734**
15. Other people seem to accept lower standards from themselves than I do.	PS	-.105	.187	-.022	.072	.014	**.658**
16. I expected either performance in my daily task than most people.	PS	.116	.217	.162	.217	.262	**.598**
13. I am very good at focusing my efforts on attaining a goal.	PS	.294	-.320	.087	.041	-.077	**.474**
11. It is important to me that I be thoroughly competent in everything I do.	PS	.233	.158	.314	.045	.161	**.430**
% Variance explained (Total = 61.02)		21.38	13.41	10.87	6.22	5.02	4.12
α Cronbach (Total = .857)		. 933	.829	.899	.879	.815	.743

F1: Organization; F2: Concern over Mistakes; F3: Parental Expectations; F4: Parental Criticism; F5: Doubts about Actions; F6: Personal Standards.

F3 = .899; F4 = .879, F5 = .815; F6 = .743). The six factor solution was also supported by the Monte Carlo PCA for Parallel Analysis[24].

The four factor solution was similar to the structure found by other autors[15-18,26] showing an aggregation of the CM and DA dimensions and of the PE and PC dimensions. These lead to two new subscales: CMDA and PEPC.

However, excluding the solution founded by Khawaja and Armstrong[26] in an Australian sample, the factors order of appearance in all of these studies was different from the one we found. These differences may be related to cultural differences and sample characteristics (*e.g.*, age range, sociocultural differences, and academic level). Although having found these slight differences, the results from these studies support the internal validity of the four factor solution, which is psychometrically robust and was replicated in different cultures.

The FMPS six factor solution was found by Frost *et al.*[1] and since then replicated in many studies[19,27].

One of the limitations of our study is that the sample only included university students. Another limitation was the reduced number of males implying this gender low representativeness. There are many studies about the FMPS psychometric characteristics using university students and the higher women prevalence may reflect the Portuguese universities tendency.

The present study shows that FMPS possesses good psychometric properties in university students. The validation of the FMPS Portuguese version offers a good and useful instrument for research and clinical purposes and expands the opportunity to investigate the adaptive and maladaptive aspects of perfectionism in Portuguese speaking populations. With approximately 280 million speakers, Portuguese is one of the most spoken languages in the world. In fact, it is the official language of countries belonging to all the continents: Portugal, Brazil, Mozambique, Angola, Cape Verde, Guinea-Bissau, and São Tomé and Príncipe. Portuguese has co-official status (alongside the indigenous language) at Macau, in East Asia, at East Timor, in South East Asia and at Equatorial Guinea in Central Africa; Portuguese speakers are also found in Goa, Daman and Diu, in India.

Table 3. FMPS normative characteristics and Pearson inter-correlations between scores

| | FMPS Subscales and Total Scores | | | | | | | | | | |
	CM	DA	CMDA	PC	PE	PEPC	PS-4	PS-6	O	Total	Total +O
CM	---	---	---	---	---	---	---.	---	---	---	---
DA	.464***	---	---	---	---	---	---	---.	---	---	---
CMDA	.910***	.778***	---	---	---	---	---	---.	---	---	---
PC	.411***	.238***	.396***	--	---	---	---	---	---	---	---
PE	.200**	NS	.140*	.491***	---	---	---	---	---	---	---
PCPE	.322***	.147*	.271***	.784***	.926***	--	---	---	---	---	---
PS-4	.323***	NS	.271***	.257***	.439***	.425***	--	---	---	---	---
PS-6	.222**	NS	.216**	.234**	.400***	.385***	.973***	---	---	---	---
O	-.160*	NS	-.154*	NS	NS	-.139*	NS	NS	---	---	---
Total	.775***	.570***	.783***	.671***	.638***	.699***	.636***	.573***	NS	---	---
Total+O	.724***	.532***	.734***	.617***	.598***	.699***	.656***	.604***	.194**	.950***	---
POMS - NA	.369***	.276***	.396***	.213**	.075	.144*	.220**	.205*	-.032	.377***	.354***
PA	-.210***	-.295***	-.290***	-.097	.158*	.071	.037	.042	-.011	-.104	-.112
M/Md	22.47	10.31	30.44	6.91/7.00	12.38	19.27	21.17	18.78	23.49	71.02	94.73
sd	6.12	3.38	7.96	2.93	4.80	6.73	3.86	3.48	4.52	13.73	13.88
range	10-44	4-19	13-58	4-19	5-25	9-44	8-32	7-28	10-30	32-110	55-132
P25	19	8	24	4	10	14	18	16	21	62	85.25
P50	22	10	30	7	12	19	22	19	24	71.5	93
P75	26	13	35	8	16	23	24	21	27	80	102

* p < .05; ** p < .01, *** p < .001. M: mean; Md: median; sd: standard deviation; P: percentile; O: Organization; CM: Concern over Mistakes; PE: Parental Expectations; PC: Parental Criticism; DA: Doubts about Actions; PS-4: Four factors solution Personal Standars; PS-6: Four factors solution Personal Standars; CMDA: Concern over Mistakes and Doubts; PEPC: Parental Expectations and Criticism; Total: Total Scale scores excluding organization; Total + O: Total Scale scores including organization.

In future research it would be important to study FMPS properties in non-college student samples, and in clinical samples, and further investigate how well the scale performs in distinguishing positive and negative processes and outcomes. Additionally, transcultural studies may be conducted in order to investigate ethnic differences and sociocultural factors that might modulate this trait development.

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