

# GENERAL VERSUS SPECIFIC INDICES IN THE ASSESSMENT OF CHRONIC PAIN COPING

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*The Vanderbilt Pain Management Inventory (VPMI) (Brown & Nicassio, 1987) was created to assess two forms of coping with chronic pain: active and passive. The aim of the present paper was to extend the utility of the VPMI to evaluate specific coping strategies. 210 chronic pain patients participated in the first study. A confirmatory factor analysis revealed that the Active and Passive scales of the VPMI could be divided into four reliable scales: Catastrophizing, Social Support Seeking, Suppression and Behavioural Coping. Studies 2 and 3 evaluated the criteria validity of the general and specific scales in relation to pain intensity, negative mood and impairment in two samples of pain patients (N=112 and N=135). Passive coping, and especially catastrophizing, showed a strong consistent relationship with deficient outcomes in adaptation.*

*El objetivo de este trabajo es que el Inventario Vanderbilt para el Afrontamiento del Dolor (VPMI) (Brown & Nicassio, 1987), construido para evaluar dos modos de afrontamiento generales, pasivo y activo, pueda ser también utilizado para valorar de forma fiable y válida estrategias específicas. En el estudio 1, en el que participaron 210 pacientes con dolor crónico, un análisis factorial confirmatorio mostró que las escalas Activa y Pasiva del VPMI se podían dividir en cuatro escalas fiables de estrategias específicas: catastrofismo, búsqueda de apoyo social, supresión y afrontamiento conductual. En los estudios 2 y 3, con dos muestras distintas de pacientes con dolor crónico (N= 112 y N=135 ) se estudió la validez concurrente de las escalas de afrontamiento generales y específicas respecto la intensidad del dolor, el estado de ánimo negativo y el deterioro. El afrontamiento pasivo y especialmente el catastrofismo, mostraron una asociación consistente con una peor adaptación.*

Since the 1980s, psychologists have been developing a fruitful research line based on models of stress and coping to explain adaptation to chronic illness, and specifically, chronic pain (Chico, 2002; González, Montoya, Casullo & Bernabeu, 2002; Martín-Aragón, Pastor, Lledó, López-Roig, Perol & Rodríguez-Marín, 2001; Muela, Torres & Peláez, 2002; Pelechano, Matud & De Miguel, 1993; Rodríguez, Pastor & López, 1993). Several theoretical reviews covering the body of research on coping and chronic pain have appeared (Boothby, Thorn, Stroud & Jensen, 1999; Jensen, Turner, Romano & Karoly, 1991; in Spain, Rodríguez, Esteve & López, 2000a). All of these highlight the important and controversial question of whether, in the assessment of pain coping and in the prediction of adaptation, researchers should use general scores, made up of several types of strategy, or whether it is preferable to consider the information from each scale separately. In

the earliest of these broad reviews, Jensen et al. (1991) raised the possibility that only some of the strategies included in the general indices were truly responsible for adaptation, and that, therefore, their use was leading to error. Two studies have tried to respond to these questions (Dozois, Dobson, Wong, Hughes & Long, 1996; Jensen, Turner & Romano, 1992) using the Coping Strategies Questionnaire (Rosenstiel & Keefe, 1983). Both works compared the utility of general and specific indices of coping in the prediction of patients' adaptation to chronic pain. The results from Jensen et al. (1992) show that using indices of specific strategies leads to a better understanding of the relationships between coping and adaptation in patients with chronic pain. Dozois et al. (1996), on the other hand, conclude that the utility of general or specific indices depends on how adaptation to pain is defined.

The second major review of the field covers the works published between 1991 and 1999. With regard to studies that use composite scores, Boothby et al. (1999) conclude that the evidence is fairly consistent, especially as regards general strategies that are associated with poorer adaptation, and which are defined with labels such as *passive coping, negative thinking and pain avoid-*

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dance. However, general strategies such as *active coping*, *attempts at coping*, *pain control* and *rational thinking*, which are associated with better adaptation, show much weaker predictive capacity. In our country, an interesting study (Comeche, Vallejo & Díaz, 2000) shows that the dimensions *active* and *passive* have heuristic value for predicting the differential efficacy of two treatment alternatives, each representing one of these dimensions.

The results of studies that use scores related to specific strategies are somewhat confused, since the majority of the strategies show an inconsistent relationship to the adaptation measures, and their predictive capacity appears to vary from one study to another, depending on the characteristics of each specific sample; more consistent evidence is only offered with regard to the negative influence of *Catastrophizing* (Rodríguez et al., 2000a). We can conclude, therefore, that although composite scores appear to be more reliable for predicting patients' functioning, they can lead us to overlook important

information, especially with a view to the design of individual intervention. It is for this reason that it is currently considered advisable to use instruments that provide both types of score (DeGood, 2000).

In Spain, two instruments for the assessment of pain coping have been validated, the *Coping Strategies Questionnaire* (CSQ) (Rosenstiel & Keefe, 1983; Soriano & Monsalve, 1999), created for the assessment of specific strategies, and the *Vanderbilt Pain Management Inventory* (VPMI) (Brown & Nicassio, 1987; Esteve, López & Ramírez, 1999), designed to assess two general coping strategies: active and passive. Active strategies would aim to control the pain or to continue functioning in spite of it; with passive strategies the control of pain is passed over to others. In the validation of the VPMI for Spanish samples, factor analysis permitted the identification of one passive coping factor and another of active coping, and there is evidence of the concurrent validity of the passive scale, which presents a positive and significant association with the intensity of pain (Esteve et al., 1999; Rodríguez, Esteve & López, 2000b). On the other hand, although active coping presents a positive association with adaptation, this relationship does not attain significance in scarcely any study.

To recapitulate, the body of research accumulated over two decades suggests the need for instruments for assessing chronic pain coping that permit the combined use of general and specific scores, given that the former are the more reliable for predicting adaptation and the second for planning individual intervention (DeGood, 2000). In line with this, the chief objective of the present work is to determine whether the VPMI (Brown & Nicassio, 1987), an instrument designed for assessing two general coping strategies (passive and active), may also be used for assessing in a valid and reliable way the use of specific strategies in patients with chronic pain. First of all, we shall examine the viability of an alternative factor structure based on specific strategies, and whether the resulting scales present acceptable reliability. This is the objective of Study 1, in which we compare the degree of fit of the factor structure proposed by the instrument's designers with the alternative factor structure of specific coping strategies. In Studies 2 and 3, with two different samples, we study the concurrent

**Table 1**  
**Descriptive characteristics of the samples of the three studies**

		Study 1 N= 210	Study 2 N=112	Study 3 N= 135
Hospital Service	Carlos Haya University Hospital (Málaga)	Pain Unit	Pain Unit	Pain Unit Rheumatology Service
Age	Mean	56.82	59.00	56.70
	Standard deviation	15.65	17.16	14.99
	Range	17-87	22-85	17-87
Sex	Men	48%	30%	35%
	Women	52%	70%	65%
Marital Status	Single	21%	9%	9%
	Married	60%	64%	80%
	Widowed	15%	22%	9%
	Separated	4%	5%	2%
Education	Basic literacy	55%	46%	50%
	Primary	28%	38%	30%
	Secondary	11%	11%	12%
	University	6%	5%	8%
Diagnoses according to International Association for the Study of Pain classification	Generalized syndromes	51%	34%	63%
	Back - neurological	23%	26%	12%
	Neuralgias face or head	7%	11%	3%
	Neurological neck, shoulders, upper extremities	7%	9%	3%
	Neurological leg or foot	3%	1%	1%
	Primary - head	2%	4%	2%
	Musculo-skeletal hip and thigh	1%	3%	1%
	Plexo-branchial lesions	1%	4%	2%
	Vascular disorders - limbs	1%	2%	1%
	Abdominal-visceral	1%	3%	3%
	Musculo-skeletal - back	1%	1%	2%
	Craniofacial - musculo-skeletal	1%	1%	1%
	Ear, nose and oronasal lesions,	1%	1%	1%
	Visceral - back			2%
	Chest			2%
	Visceral - neck			1%

validity of the general and specific coping scales with regard to three different criteria: pain intensity, negative mood and impairment. It is predicted that active coping and its corresponding specific dimensions – behavioural coping and suppression – will be significantly associated with better adaptation. In contrast, passive coping and its specific dimensions – Catastrophizing and Social Support Seeking – will be significantly associated with greater intensity of pain, more negative mood and more impairment.

## METHOD

### Participants

Table 1 shows the sample characteristics for the three studies.

### Instruments

In all three studies, coping strategies were assessed by means of the Vanderbilt Pain Management Inventory (VPMI) (Brown & Nicassio, 1987) in its Spanish version (Esteve et al., 1999), which distinguishes between Active and Passive Strategies. It comprises 18 items grouped in two scales (Table 2), which show acceptable internal consistency.

In Studies 2 and 3, in order to rate pain intensity, we used the Spanish adaptation of the McGill Pain Questionnaire (Melzack, 1975) by Lázaro, Bosch, Torrubia and Baños (1994), which comprises 65 descriptors grouped in three dimensions (sensory, affective

and evaluative), as well as providing a total score index that we employ here.

In Study 2, mood was assessed by means of Lorr and McNair's (1982) Profile of Mood States (POMS) questionnaire, in its Spanish version, with an abbreviated format of 29 items (Fuentes, Balaguer, Meliá & García-Merita, 1995). This questionnaire assesses the frequency with which respondents have experienced, in the preceding week, feelings associated with five mood states: depression, tension, fatigue, anger and vigour. The scales show high internal consistency. This instrument is widely used for evaluating the emotional state of patients with chronic pain, since it does not involve items of a somatic nature that can give "false positives" (e.g., Affleck et al., 1999). Since there is a high correlation between the different scales of the POMS, which was a serious disadvantage given the analysis we intended to carry out, we created a single variable of Negative Mood ( $\alpha = .81$ ).

In Study 3 we used the *Inventario de Deterioro y Funcionamiento Diario* (Inventory of Impairment and Everyday Functioning) for patients with chronic pain (Ramírez-Maestre & Valdivia, in press), which gives a measure of impairment, comparing patients' current level of functioning with their level before the pain. It comprises 37 items grouped in: household tasks, independent functioning, social activities and recreational activities. An exploratory factor analysis revealed that the items grouped into four internally consistent factors that corresponded to the above-mentioned scales.

Table 2  
Vanderbilt Pain Management Inventory (Brown and Nicassio, 1987)

	Almost never	Sometimes	Frequently	Almost always
1. When you are in pain, do you wish the doctor had prescribed you stronger medicine?	1	2	3	4
2. Do you start to think that you're tired and fed up of the pain, that it's too much for you?	1	2	3	4
3. Telling others that it hurts a lot.	1	2	3	4
4. Praying for it not to hurt so much.	1	2	3	4
5. Reducing your social activities (going out less, doing fewer things with people, etc.).	1	2	3	4
6. Depending more on others for help with everyday tasks.	1	2	3	4
7. Starting to think that you can't do anything to relieve the pain.	1	2	3	4
8. Taking medicine to see whether the pain goes off.	1	2	3	4
9. Calling a doctor or nurse.	1	2	3	4
10. Starting to think about how much it hurts and where it hurts.	1	2	3	4
11. Trying not to feel angry, nor depressed, nor anxious.	1	2	3	4
12. Doing physical exercise.	1	2	3	4
13. Forgetting the pain.	1	2	3	4
14. Bussing yourself with lots of things.	1	2	3	4
15. Ridding your mind of thoughts that upset you.	1	2	3	4
16. Reading.	1	2	3	4
17. Doing something you enjoy.	1	2	3	4
18. Trying to distract yourself from the pain.	1	2	3	4

## Procedure

Participants in the study were selected according to two criteria: having had pain for more than six months, and seeking treatment at the Pain Unit for the first time. Once they had been attended, the doctor sent the patients to the interviewers in the order they arrived, and they signed the informed consent form. Interviews, which took place in a consulting room at the Pain Unit, were carried out individually, in a single session and with patients unaccompanied. Given the low educational level of many of the patients, we administered the questionnaires orally in all cases. The interviewers were four postgraduate Psychology students.

## RESULTS

### Study 1

#### *Confirmatory factor analysis. Comparison of models.*

As mentioned above, the VPMI (Brown & Nicassio, 1987) is made up of two scales referring to two general forms of coping: active and passive. Taking into account previous work on coping with chronic pain, and especially the classification proposed by Fernández (1986), we carried out a content analysis of the items that led us to postulate the following dimensions in relation to specific strategies: a) Catastrophizing, which refers to statements reflecting that the patient does not feel able to continue striving to cope with the situation, and tends to see the pain and his/her situation as something “terrible”; b) Social Support Seeking, referring to patients’ tendency to turn to other people to help them control the pain; c) Behavioural Coping, referring to attempts to influence the pain through behaviours and cognitions; and d) Suppression, referring to the elimination of negative thoughts and emotions with regard to pain. Ten judges, all university teachers in the psychological field of Personality, Assessment and Treatment, who cooperated in the research voluntarily, were presented with the definitions of the four specific strategies dimensions and the VPMI items. Based on these definitions, on a scale of 1 to 6 points, the judges had to rate the extent to which they considered each item appropriate for assessing each of the dimensions. An item was ascribed to a dimension when its mean was of 5 points or more (Highly or Completely appropriate) and its standard deviation was not more than 1. In accordance with the judgements

made, the items were grouped in the following way: Catastrophizing (items 1, 2, 3, 7, and 10), Social Support Seeking (items 4, 5, 6 and 9), Behavioural Coping (items 8, 12, 14, 16 and 17) and Suppression (items 11, 13, 15 and 18).

The relative degree of fit of the two alternative structures proposed for the instrument was determined by means of confirmatory factor analysis, using the LISREL 8.20 program (Jöreskog & Sörbom, 1993), and taking as observable variables the responses to the items with a Likert-type response format; in this case the most suitable approach was to make the analyses on a matrix of polychoric correlations (Olsson, 1979). The sample fulfils the minimum participants/variables ratio of 5:1, since the actual ratio is approximately 11:1 (Gorsuch, 1983).

Given that the assumption of multivariate normality was not fulfilled, and taking into account the sample size, we used the Non-weighted Least Squares method. The fourth-order moments were provided, and given that the  $\Gamma$  matrix was correct, in these cases LISREL calculates  $t$  statistics that are robust to non-normality and two types of  $\chi^2$  statistics robust to non-normality.

The results are presented comparing the two models: the first, with two latent variables referring to two factors of active and passive coping; and another, with four latent variables of specific pain coping strategies in accordance with the judges’ assignment of items.

The indices of comparison of the goodness of fit of the theoretical model to the empirical data were: the ratio between the value of  $\chi^2$  and the number of degrees of freedom ( $\chi^2/\text{gl}$ ), in which values under 2 are considered acceptable; the Goodness of Fit Index (GFI) and the Adjusted Goodness of Fit Index (AGFI) (according to the degrees of freedom), which indicate a good fit when they are higher than 0.90 and 0.80, respectively; the Standardized Mean Squared Residual (SMSR), which should be under 0.05; the Root Mean Square of the Error of Approximation (RMSEA), which should be around 0.05; the Comparative Fit Index (CFI), which should be over 0.90, and the Non-normed Fit Index (NNFI), in which values over 0.90 are acceptable. The Akaike Information Criterion (AIC) is especially recommended in this case, since it allows comparison of models based on the same variables and data, and takes into account



the parsimony of the model. The lower the values of this index, the better the fit.

Inspection of Table 3 suggests that both *a priori* models present acceptable fit, even if the indices of the four-factor model show better fit. The two-factor model, although it comes close, does not attain an acceptable value for the RMSEA, while the four-factor model does indeed attain such a value. On the four-factor model we made a series of modifications aimed at optimizing the fit, resulting in what we shall call the *a posteriori* four-factor model (Table 3). Specifically, of the coefficients that show the estimated relationship between each latent variable and its indicators, we eliminated those that did not exceed the value of 0.40 (Gorsuch, 1983). As Table 3 shows, this model attains an exceptional global fit.

### Reliability of the scales

In order to estimate the internal consistency of the resulting specific strategies scales, we used the proposal of Jöreskog (1971), which, for estimating reliability, involves checking empirically the fit of different measurement models of a scale. Specifically, the two-halves measurement model requires the measures to be parallel and the Cronbach's Alpha to be based on a tau-equivalent model; finally, Jöreskog (1971) proposes a congeneric model, in which each observed score reflects the same true score, but to different degrees and with different measurement errors. With identical fit, the most restrictive hypotheses are preferable, as they use fewer parameters, and are thus more parsimonious.

We used the LISREL 8.20 program (Jöreskog & Sörbom, 1993). As in the factor analysis, and for the same reasons, the estimation method chosen was that of Non-weighted Least Squares. For the scales of Catastrophizing ( $\Delta\chi^2= 8.19$ ,  $p= 0.10$ ;  $\Delta\chi^2= 5.23$ ,  $p= 0.90$ ), Social Support Seeking ( $\Delta\chi^2= 3.54$ ,  $p= 0.90$ ;  $\Delta\chi^2= 1.80$ ,  $p= 0.90$ ) and Suppression ( $\Delta\chi^2= 4.36$ ,  $p= 0.90$ ;  $\Delta\chi^2= 1.70$ ,  $p= 0.90$ ) there are no significant increases in  $\chi^2$  between the congeneric model and the tau-equivalent and parallel models, and therefore reliability was found in accordance with the parallel model, as the most parsimonious. For the Behavioural Coping scale, a significant increase in  $\chi^2$  was indeed found between the congeneric and tau-equivalent models ( $\Delta\chi^2= 12.95$ ,  $p<0.001$ ), so that, in this case, reliability was calculated in accor-

dance with the congeneric model. The scales of Catastrophizing (5 items) and Behavioural Coping (3 items) present high internal consistency (0.82 and 0.83, respectively), and those of Suppression (3 items) and Social Support Seeking (3 items) present acceptable indices (0.71 and 0.60, respectively).

**Table 3**  
Confirmatory Factor Analysis. Factor weights, error variances and indicators of global fit

Latent variables and items		Factor weights	Error variances		
Two-factor model					
Passive strategies	Item 1	0.55	0.70		
	Item 2	0.77	0.41		
	Item 3	0.53	0.72		
	Item 4	0.39	0.85		
	Item 5	0.68	0.54	Goodness of fit indices	
	Item 6	0.43	0.82	S-B $\chi^2$	239.89
	Item 7	0.71	0.49	d.f.	134
	Item 8	-0.11	0.99	$\chi^2$ /d.f.	1.78
	Item 9	0.24	0.94	GFI	0.94
	Item 10	0.71	0.50	AGFI	0.92
	Item 11	-0.17	0.97	RMSR	0.089
Active strategies	Item 12	0.35	0.88	RMSEA	0.061
	Item 13	0.81	0.35	CFI	0.94
	Item 14	0.69	0.53	NNFI	0.94
	Item 15	0.51	0.74	AIC	313.89
	Item 16	0.66	0.57		
	Item 17	0.90	0.19		
	Item 18	0.68	0.53		
	<i>A priori</i> four-factor model				
Catastrophizing	Item 1	0.58	0.67		
	Item 2	0.81	0.34		
	Item 3	0.55	0.69		
	Item 7	0.75	0.43	Goodness of fit indices	
Social Support Seeking	Item 10	0.75	0.44	S-B $\chi^2$	198.57
	Item 4	0.45	0.80	d.f.	129
	Item 5	0.82	0.32	$c^2$ /d.f.	1.54
	Item 6	0.52	0.73	GFI	0.95
Behavioural Coping	Item 9	0.28	0.92	AGFI	0.93
	Item 8	0.11	0.99	RMSR	0.080
	Item 12	0.36	0.87	RMSEA	0.051
	Item 14	0.71	0.50	CFI	0.96
Suppression	Item 16	0.67	0.55	NNFI	0.95
	Item 17	0.92	0.15	AIC	282.57
	Item 11	0.24	0.94		
	Item 13	0.81	0.35		
<i>A posteriori</i> four-factor model					
Catastrophizing	Item 1	0.59	0.65	Goodness of fit indices	
	Item 2	0.80	0.36	S-B $\chi^2$	69.06
	Item 3	0.55	0.70	d.f.	59
	Item 7	0.76	0.43	$\chi^2$ /d.f.	1.71
Social Support Seeking	Item 10	0.76	0.43	GFI	0.99
	Item 4	0.43	0.82	AGFI	0.98
	Item 5	0.81	0.34	RMSR	0.048
	Item 6	0.53	0.72	RMSEA	0.029
Behavioural Coping	Item 14	0.68	0.53	CFI	1.00
	Item 16	0.76	0.42	NNFI	1.00
	Item 17	0.97	0.05	AIC	161.06
Suppression	Item 13	0.91	0.17		
	Item 15	0.41	0.83		
	Item 18	0.55	0.69		
<u>Note.</u> S-B $c^2$ : Satorra and Bentler scaled chi-squared; GFI: Goodness of fit index; AGFI: Adjusted goodness of fit index; RMSR: Root Mean Squared Residual; RMSEA: Root Mean Square of the Error of Approximation; NNFI: Non-normed fit index; AIC: Akaike Information Criterion.					

*Note.* S-B  $\chi^2$ : Satorra and Bentler scaled chi-squared; GFI: Goodness of fit index; AGFI: Adjusted goodness of fit index; RMSR: Root Mean Squared Residual; RMSEA: Root Mean Square of the Error of Approximation; NNFI: Non-normed fit index; AIC: Akaike Information Criterion.

## Study 2

In accordance with the Kolmogorov-Smirnov test, the variables fulfilled the assumption of multivariate normality, and we therefore used as method of estimation Maximum Likelihood on a covariance matrix of the observable variables, providing also the matrix of fourth-order moments. Using the LISREL 8.20 program (Jöreskog & Sörbom, 1993), we applied a simple regression analysis of the (exogenous) determinant variables – the coping strategies (general or specific) – on the (endogenous) criterion variables.

Table 4 shows the gamma parameters representing the directional effects of the exogenous variables on the endogenous variable; also shown are the *t* values, for which it is indicated whether or not they are significant, and the determination coefficients. As it can be seen, with regard to Negative Mood, the general strategies of Passive Coping and the specific ones –Catastrophizing

and Social Support Seeking – are significantly associated with higher Negative Mood.

The general strategy of Active Coping shows a non-significant negative relationship with the Negative Mood criterion. With regard to the specific strategies, Behavioural Coping and Suppression present non-significant relationships of different signs with the criterion variable (Table 4).

As regards the criterion of Pain Intensity, we find that Passive Coping is related positively and significantly to the criterion; of the specific strategies, only Catastrophizing shows a significant relationship with Pain Intensity. Active Coping is related negatively and non-significantly to Pain Intensity, and of the specific strategies, only Behavioural Coping presents a significant relationship with the criterion, while the Suppression strategy shows a non-significant relationship which, moreover, is of different sign (Table 4).

## Study 3

In this study also we applied a simple regression analysis of the determinant variables, the coping strategies (general or specific), on the criterion variables. As can be seen in Table 4, Passive Coping is associated significantly with greater Impairment; however, of the specific strategies only Social Support Seeking has significant weight in relation to the criterion. In this case, Catastrophizing does not appear to have an influence on Impairment – as is the case with Active Coping, which presents a negative and non-significant relationship with Impairment. On examining the influence of the corresponding specific strategies, we find that Suppression has a much greater (albeit non-significant) influence than Behavioural Coping.

With regard to the Pain Intensity criterion, Passive Coping is related positively and significantly with the criterion, as are the two specific strategies of Catastrophizing and Social Support Seeking. Active Coping is negatively and non-significantly related to Pain Intensity. Of the specific strategies, while Behavioural Coping presents a negative and non-significant relationship with the criterion, the Suppression strategy presents a non-significant (though fairly strong) relationship, but of different sign.

**Table 4**  
Criterion validity. Regression analysis

Determinant variable	Criterion variable	Gamma coefficients	t	R <sup>2</sup>
Study 2				
Active Coping	Negative Mood	-0.22	-0.53	0.16
Passive Coping		0.98	4.05*	
Active Coping	Pain Intensity	-0.11	-0.81	0.09
Passive Coping		0.26	2.81*	
Catastrophizing	Negative Mood	1.04	3.13*	0.19
Social Support Seeking		1.18	2.01*	
Behavioural Coping		0.43	0.50	
Suppression		-0.97	-1.42	
Catastrophizing	Pain Intensity	0.35	2.78*	0.17
Social Support Seeking		0.11	0.58	
Behavioural Coping		-0.76	-2.52*	
Suppression		0.38	1.38	
Study 3				
Active Coping	Impairment	-0.13	-1.64	0.10
Passive Coping		0.22	3.12*	
Active Coping	Pain Intensity	-0.15	-1.01	0.16
Passive Coping		0.73	5.35*	
Catastrophizing	Impairment	-0.05	-0.43	0.19
Social Support Seeking		0.75	4.85*	
Behavioural Coping		-0.09	-0.53	
Suppression		0.41	-1.60	
Catastrophizing	Pain Intensity	0.84	3.59*	0.21
Social Support Seeking		0.81	2.61*	
Behavioural Coping		-0.58	-1.72	
Suppression		0.71	1.32	
*p< .05				

\**p* < .05

## CONCLUSIONS

The main objective of the present work was to explore the validity and reliability of the Vanderbilt Pain Management Inventory (Brown & Nicassio, 1987) with a structure based on specific strategies. As our results show, a factor structure according to four dimensions presents an adequate fit, similar or slightly superior to the original two-factor structure. Given the acceptable reliability of the resulting scales, the way is thus open for broader use of an instrument created initially for the assessment of two general forms of coping, thus following the recommendations that instruments for assessing pain coping should provide both types of score (DeGood, 2000).

As regards the association of specific coping indices with the criteria of negative mood, impairment in everyday functioning and pain intensity, comparing with the general indices, as our results show: a) general strategies may be significantly related to the criterion, though, of the specific strategies they include, only one presents a significant relationship with the criterion; b) it may also occur that, although the general coping index is not significantly related to the criterion, some of the indices referring to specific strategies do show a significant relation; c) finally, we also found that two specific strategies included in the same general category can present relationships with the criterion of different signs. Jensen et al. (1992) found similar results, which they interpreted as indicating that the use of indices of general coping strategies may lead to excessive simplification and result in errors. Other authors, in contrast, argue that while specific strategies provide valuable information for planning individual intervention, with respect to general strategies they offer confusing and contradictory results for predicting patients' adaptation (Boothby et al., 1999). As in previous studies, and as we hypothesized, the passive coping dimension emerges as a highly robust predictor of deficient adaptation through the two studies and the different criteria employed. The evidence with regard to the active dimension, also as in previous research (Esteve et al., 1999; Rodríguez et al., 2000b), is much weaker, for although active coping presents a positive association with adaptation, the relationship is not significant. In any case, we might also ask ourselves whether the strong association of the passive dimension

with deficient adaptation might emerge because it includes the Catastrophizing scale which, in this study and many previous ones, presents a positive and significant relationship with pain intensity, negative mood and impairment in everyday functioning (Rodríguez et al., 2000a). Are these results indicative of the inconsistency of specific strategies for predicting adaptation? Or, in contrast, and as Jensen et al. (1991) argued, might it not be that only some of the strategies included in these general indices are actually responsible for adaptation, so that their use is leading to error? Future research should be able to respond to these crucial questions for research in chronic pain management. And in order to respond to them it is essential to be able to deploy instruments that provide both general and specific indices of coping. The present study represents a step towards the provision of such instruments.

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