

# Responsiveness and construct validity of the Depression, Anxiety and Positive Outlook Scale (DAPOS)



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## Introduction

- Reviews have described difficulty in accurate and appropriate measurement of negative mood in pain populations due to criterion contamination by somatic items.
- Additionally, a lack of measurement of positive affect has been noted. The DAPOS is an 11 item instrument, which has been recently developed to address these concerns by measuring distress (with non-somatic items) and positive affect in chronic pain populations (Pincus et al., 2004).
- The aim of this study was to further assess the construct validity and responsiveness of the DAPOS in patients before and after a multidisciplinary intervention.

## Results

- The hypothesised relationships were confirmed in all cases (see Table 2): the DAPOS-D correlated significantly with Zung Depression Inventory ( $r = 0.69$ ), SF-36 Role Emotional ( $r = -0.36$ ) and SF-36 Mental Health ( $r = -0.50$ ). The DAPOS-A correlated significantly with TSK-17 ( $r = 0.44$ ). The DAPOS-PO correlated positively with the SF-36 Vitality ( $r = 0.55$ ) and negatively with Zung Depression ( $r = -0.64$ ).
- Means and standard deviations for all measures pre- and post-treatment are presented in Table 3.
- For ES and SRM a value of 0.5 to 0.7 is considered moderate responsiveness, 0.80 to 1.0 is considered excellent (Crosby et al., 2003).
- The DAPOS-D and DAPOS-A show moderate responsiveness, but higher than the Zung scale after exclusion of somatic items. DAPOS-PO shows moderate to good responsiveness.

## Method

- Measures were completed by 82 patients (46 women, ages 23 - 77, M = 45.10; SD = 11.99) with chronic musculoskeletal pain before and after they underwent a pain management programme. All participants had pain for longer than 3 months.
- The DAPOS (see Table 1) contains 3 sub-scales, Depression, Anxiety and Positive Outlook, each scale provides an independent score.
- Measures included SF-36 (Ware et al.1993), Zung Depression Inventory (Zung, 1965) and Tampa Scale of Kinesiophobia (Kori et al. 1990).
- To assess construct validity the DAPOS was compared with theoretically related measures. Responsiveness was assessed by effect sizes (ES) and standardized response means (SRM).

## Conclusion

- This study examined for the first time the responsiveness of the DAPOS to a pain management programme aimed at rehabilitation by increasing activity and promoting return to work. Additionally, we tested construct validity by posing a-priori relationships between the DAPOS and theoretically related measures.
- The construct validity of the DAPOS appears to be excellent, indicating that it is a valid measure of the three mood states with good repeated evidence of validity and moderate responsiveness in this sample.
- Future studies should test the moderate responsiveness of DAPOS-D and DAPOS-A in different settings, and especially in interventions, which target negative affect in order to continue the process of validation and refinement of the DAPOS.

Table 1. The DAPOS Items

		Almost never	Almost all the time			
		1	2	3	4	5
1.	I feel like a failure.	1	2	3	4	5
2.	I get a frightened feeling, as if something awful is about to happen.	1	2	3	4	5
3.	I feel guilty.	1	2	3	4	5
4.	I can laugh and see the funny side of things.	1	2	3	4	5
5.	I am disappointed in myself.	1	2	3	4	5
6.	I get a frightened feeling, like butterflies in the stomach.	1	2	3	4	5
7.	I feel cheerful.	1	2	3	4	5
8.	I blame myself constantly.	1	2	3	4	5
9.	I get a sudden feeling of panic.	1	2	3	4	5
10.	I look forward with enjoyment to things.	1	2	3	4	5
11.	I think about harming myself.	1	2	3	4	5

Table 2. Construct validity

	DAPOS-D	DAPOS-A	DAPOS-PO
Zung Depression	0.69**	0.51**	-0.64**
TSK 17	0.44**	0.44**	-0.36**
SF-36 Energy/Vitality	-0.39**	-0.30**	0.55**
SF-36 Role Emotional	-0.36**	-0.38**	0.37**
SF-36 Mental Health	-0.50**	-0.54**	0.22*

Supported by BackCare U.K., the charity for healthier backs ([www.backcare.org.uk](http://www.backcare.org.uk))

Table 3. Responsiveness

	Pre-treatment M (SD)	Post-treatment M (SD)	P	ES	SRM
DAPOS-D	12.17 (5.15)	9.60 (4.12)	0.000	-0.50	0.63
DAPOS-A	7.51 (3.74)	5.96 (2.91)	0.000	-0.42	0.53
DAPOS-PO	8.05 (3.23)	10.24 (2.49)	0.000	0.68	-0.68
Zung Depr.	37.94 (10.61)	28.27 (11.06)	0.000	-0.91	0.92
Zung without somatic items	11.25 (3.47)	11.18 (3.87)	NS	-0.02	0.01
TSK 17	40.31 (8.38)	32.12 (8.04)	0.000	-0.98	1.04

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