

Profile of Mood States (POMS)



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POMS: Basics

 Original: 65 adjectives rated on 5-point scale

0= not at all; 1=a little; 2=moderately;
3=quite a bit; 4=extremely

 Time frame


 “How you have been feeling during the PAST WEEK, INCLUDING TODAY”

 “How you feel RIGHT NOW”

POMS: Subscales

- ✚ Factor analysis: 6 subscales
 - ✚ tension-anxiety (9 items, score range: 0-36)
 - ✚ depression (15 items, range 0-60)
 - ✚ anger-hostility (12 items, range 0-48)
 - ✚ vigor-activity (8 items, range 0-32)
 - ✚ fatigue (7 items, range 0-28)
 - ✚ confusion-bewilderment (7 items, range 0-28)
- ✚ Total mood disturbance (TMD): add subscales, subtract vigor (range 0-200)

POMS: Psychometric properties

 Excellent internal consistency of subscales

✍ range from 0.63 (confusion) to 0.96 (depression)

Curran, Andrykowski, & Sudts, Short Form of the POMS... *Psychological Assessment*, 1995, 7:80.

POMS: Psychometric properties


 Test-retest less frequently examined

 POMS manual provides data on psychiatric outpatients

☞ avg of 20 days (range 3-110): r_{tt} ranged from 0.65 (vigor) to 0.74 (depression)

☞ avg of 4 weeks of VA psychiatric treatment: ranged from 0.61 to 0.69

POMS: Validity

 Multiple factor-analytic studies have confirmed the 6 factors

 Concurrent validity

 BDI, MMPI-2

 Consistent sex effects (except anger-hostility)

 Psychiatric diagnostic groups

 Discriminant validity

 low-moderate correlations with social desirability (except anger)

POMS: Problems

Multiple time frames

- ✍ usually time frame is not reported in Methods

Multiple short forms are used

- ✍ there is an official Brief POMS (30 items)
- ✍ unofficial short forms
 - ☞ 11 items (no subscales)
 - ☞ 37 items – often used in the cancer literature


Variations in scoring

- ✍ Most studies use sum of item responses
- ✍ Some use average of item responses
- ✍ Some studies use T scores
 - ☞ and don't report the norms used to calculate T scores

POMS: Problems (cont'd)


Significant inconsistencies in reporting of data

-  some studies use only selected subscales

-  many studies provide no summary statistics on POMS

Many studies not appropriate for current purpose

-  short periods of study (hours or days)

-  no control groups in many treatment outcome studies

POMS: Problems (cont'd)

Minimal Difference (MD) with POMS

 no anchor-based (patient or clinician ratings of importance) studies found

Population-based differences are available:

e.g., studies comparing patients with pain and without pain

 most are in cancer literature and studies generally use various versions of the Brief POMS

POMS: Observed Group differences

POMS Subscale	Mean Diff Score (# studies)
Tension	2.7 (5)
Depression	4.9 (6)
Anger	2.8 (4)
Vigor	4.2 (6)
Fatigue	5.4 (5)
Confusion	3.2 (4)
TMD	25.8 (5)

Diff – refers to comparison of patients and non-patients or patients with pain to patients without pain

POMS: Observed Change Scores

POMS Subscale	Mean Change Score (# studies)	
Tension	2.4 (4)	
Depression	4.4 (4)	
Anger	2.1 (5)	
Vigor	1.1 (5)	
Fatigue	3.3 (4)	
Confusion	2.3 (3)	
TMD	17.9 (5)	

Change – refers to treatment studies

POMS: combining these two

POMS Subscale	Mean Change Score (# studies)	Mean Diff Score (# studies)
Tension	2.4 (4)	2.7 (5)
Depression	4.4 (4)	4.9 (6)
Anger	2.1 (5)	2.8 (4)
Vigor	1.1 (5)	4.2 (6)
Fatigue	3.3 (4)	5.4 (5)
Confusion	2.3 (3)	3.2 (4)
TMD	17.9 (5)	25.8 (5)

Change – refers to treatment studies

Diff – refers to group comparison studies

POMS: Calculations using SDs from Baseline

POMS Subscale	Rowbotham study – PHN patients Average SD (active and placebo)			Sator-Katzenshlager N=477 CPPs		
	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)
Tension	4.0	3.8	4.4	7.6	7.2	8.3
Depression						
Anger						
Vigor						
Fatigue						
Confusion						
TMD						

Rowbotham et al., 1998, *JAMA*, 280: 1837.

Sator-Katzenshlager et al., 2003, *Anesth Analg*, 97:791.

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Tension	4.0	3.8	4.4	7.6	7.2	8.3
Depression	5.1	3.3	5.2	12.1	7.8	12.3
Anger						
Vigor						
Fatigue						
Confusion						
TMD						

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Tension	4.0	3.8	4.4	7.6	7.2	8.3
Depression	5.1	3.3	5.2	12.1	7.8	12.3
Anger	4.0	1.8	4.3	6.3	2.8	6.7
Vigor						
Fatigue						
Confusion						
TMD						

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Anger	4.0	1.8	4.3	6.3	2.8	6.7
Vigor	3.1	1.8	3.7	5.6	3.2	6.6
Fatigue						
Confusion						
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Tension	4.0	3.8	4.4	7.6	7.2	8.3
Depression	5.1	3.3	5.2	12.1	7.8	12.3
Anger	4.0	1.8	4.3	6.3	2.8	6.7
Vigor	3.1	1.8	3.7	5.6	3.2	6.6
Fatigue	3.9	2.1	4.5	N/A	N/A	N/A
Confusion						
TMD						

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Tension	4.0	3.8	4.4	7.6	7.2	8.3
Depression	5.1	3.3	5.2	12.1	7.8	12.3
Anger	4.0	1.8	4.3	6.3	2.8	6.7
Vigor	3.1	1.8	3.7	5.6	3.2	6.6
Fatigue	3.9	2.1	4.5	N/A	N/A	N/A
Confusion	2.3	2.3	2.6	N/A	N/A	N/A
TMD						

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Tension	4.0	3.8	4.4	7.6	7.2	8.3
Depression	5.1	3.3	5.2	12.1	7.8	12.3
Anger	4.0	1.8	4.3	6.3	2.8	6.7
Vigor	3.1	1.8	3.7	5.6	3.2	6.6
Fatigue	3.9	2.1	4.5	N/A	N/A	N/A
Confusion	2.3	2.3	2.6	N/A	N/A	N/A
TMD	10.3	14.3	N/A	N/A	N/A	N/A

Rowbotham et al., 1998, *JAMA*, 280: 1837.

Sator-Katzenshlager et al., 2003, *Anesth Analg*, 97:791.

POMS: Calculations using SDs from Change Scores

POMS Subscale	Rowbotham study – PHN patients Change (placebo) SD			Specca et al – WL control Cancer outpatients		
	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)
Tension	2.5	2.3	4.4	2.6	2.5	2.8
Depression						
Anger						
Vigor						
Fatigue						
Confusion						
TMD						

Rowbotham et al., 1998, *JAMA*, 280: 1837.

Specca et al., 2000, *Psychosom Med*, 62: 613

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	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)
Tension	2.5	2.3	4.4	2.6	2.5	2.8
Depression	3.3	2.1	5.2	4.8	3.1	4.8
Anger						
Vigor						
Fatigue						
Confusion						
TMD						

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	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)
Tension	2.5	2.3	4.4	2.6	2.5	2.8
Depression	3.3	2.1	5.2	4.8	3.1	4.8
Anger	2.3	1.0	4.3	3.6	1.6	3.8
Vigor						
Fatigue						
Confusion						
TMD						

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	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)
Tension	2.5	2.3	4.4	2.6	2.5	2.8
Depression	3.3	2.1	5.2	4.8	3.1	4.8
Anger	2.3	1.0	4.3	3.6	1.6	3.8
Vigor	2.3	1.3	3.7	2.3	1.3	2.7
Fatigue						
Confusion						
TMD						

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	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)
Tension	2.5	2.3	4.4	2.6	2.5	2.8
Depression	3.3	2.1	5.2	4.8	3.1	4.8
Anger	2.3	1.0	4.3	3.6	1.6	3.8
Vigor	2.3	1.3	3.7	2.3	1.3	2.7
Fatigue	2.5	1.3	4.5	3.0	1.6	3.5
Confusion						
TMD						

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POMS Subscale	Rowbotham study – PHN patients Change (placebo) SD			Specca et al – WL control Cancer outpatients		
	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)
Tension	2.5	2.3	4.4	2.6	2.5	2.8
Depression	3.3	2.1	5.2	4.8	3.1	4.8
Anger	2.3	1.0	4.3	3.6	1.6	3.8
Vigor	2.3	1.3	3.7	2.3	1.3	2.7
Fatigue	2.5	1.3	4.5	3.0	1.6	3.5
Confusion	1.5	1.5	2.6	2.0	2.0	2.2
TMD						

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POMS Subscale	Rowbotham study – PHN patients Change (placebo) SD			Specia et al – WL control Cancer outpatients		
	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)	1/2 SD	Calculated SEM (alpha)	Calculated SEM (TRT)
Tension	2.5	2.3	4.4	2.6	2.5	2.8
Depression	3.3	2.1	5.2	4.8	3.1	4.8
Anger	2.3	1.0	4.3	3.6	1.6	3.8
Vigor	2.3	1.3	3.7	2.3	1.3	2.7
Fatigue	2.5	1.3	4.5	3.0	1.6	3.5
Confusion	1.5	1.5	2.6	2.0	2.0	2.2
TMD	14.3	8.1	N/A	18.1	11.3	N/A

Rowbotham et al., 1998, *JAMA*, 280: 1837.

Specia et al., 2000, *Psychosom Med*, 62: 613

POMS: Summary of Calculations

POMS Subscale	Baseline SD			Change Scores		
	Summary of studies	Range of 1/2 SD	Range of SEM	Summary of studies	Range of 1/2 SD	Range of SEM
Tension	2.4	4.0-7.6	3.8-8.3	2.7	2.5-2.6	2.3-4.4
Depression						
Anger						
Vigor						
Fatigue						
Confusion						
TMD						

POMS: Summary of Calculations

POMS Subscale	Baseline SD			Change Scores		
	Summary of studies	Range of ½ SD	Range of SEM	Summary of studies	Range of ½ SD	Range of SEM
Tension	2.4	4.0-7.6	3.8-8.3	2.7	2.5-2.6	2.3-4.4
Depression	4.4	5.1-12.1	3.3-12.3	4.9	3.3-4.8	2.1-5.2
Anger						
Vigor						
Fatigue						
Confusion						
TMD						

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POMS Subscale	Baseline SD			Change Scores		
	Summary of studies	Range of ½ SD	Range of SEM	Summary of studies	Range of ½ SD	Range of SEM
Tension	2.4	4.0-7.6	3.8-8.3	2.7	2.5-2.6	2.3-4.4
Depression	4.4	5.1-12.1	3.3-12.3	4.9	3.3-4.8	2.1-5.2
Anger	2.1	4.0-6.3	1.8-6.7	2.8	2.3-3.6	1.0-4.3
Vigor						
Fatigue						
Confusion						
TMD						

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	Summary of studies	Range of ½ SD	Range of SEM	Summary of studies	Range of ½ SD	Range of SEM
Tension	2.4	4.0-7.6	3.8-8.3	2.7	2.5-2.6	2.3-4.4
Depression	4.4	5.1-12.1	3.3-12.3	4.9	3.3-4.8	2.1-5.2
Anger	2.1	4.0-6.3	1.8-6.7	2.8	2.3-3.6	1.0-4.3
Vigor	1.1	3.1-5.6	1.8-6.6	4.2	2.3	1.3-3.7
Fatigue						
Confusion						
TMD						

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Tension	2.4	4.0-7.6	3.8-8.3	2.7	2.5-2.6	2.3-4.4
Depression	4.4	5.1-12.1	3.3-12.3	4.9	3.3-4.8	2.1-5.2
Anger	2.1	4.0-6.3	1.8-6.7	2.8	2.3-3.6	1.0-4.3
Vigor	1.1	3.1-5.6	1.8-6.6	4.2	2.3	1.3-3.7
Fatigue	3.3	3.9	2.1-4.5	5.4	2.5-3.0	1.3-4.5
Confusion						
TMD						

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POMS Subscale	Baseline SD			Change Scores		
	Summary of studies	Range of ½ SD	Range of SEM	Summary of studies	Range of ½ SD	Range of SEM
Tension	2.4	4.0-7.6	3.8-8.3	2.7	2.5-2.6	2.3-4.4
Depression	4.4	5.1-12.1	3.3-12.3	4.9	3.3-4.8	2.1-5.2
Anger	2.1	4.0-6.3	1.8-6.7	2.8	2.3-3.6	1.0-4.3
Vigor	1.1	3.1-5.6	1.8-6.6	4.2	2.3	1.3-3.7
Fatigue	3.3	3.9	2.1-4.5	5.4	2.5-3.0	1.3-4.5
Confusion	2.3	2.3	2.3-2.6	3.2	1.5-2.0	1.5-2.6
TMD						

POMS: Summary of Calculations

POMS Subscale	Baseline SD			Change Scores		
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Anger	2.1	4.0-6.3	1.8-6.7	2.8	2.3-3.6	1.0-4.3
Vigor	1.1	3.1-5.6	1.8-6.6	4.2	2.3	1.3-3.7
Fatigue	3.3	3.9	2.1-4.5	5.4	2.5-3.0	1.3-4.5
Confusion	2.3	2.3	2.3-2.6	3.2	1.5-2.0	1.5-2.6
TMD	17.9	10.3	14.3	25.8	14.3-18.1	8.1-11.3

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POMS Subscale	Baseline SD			Change Scores		
	Summary of studies	Range of ½ SD	Range of SEM	Summary of studies	Range of ½ SD	Range of SEM
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Anger	2.1	4.0-6.3	1.8-6.7	2.8	2.3-3.6	1.0-4.3
Vigor	1.1	3.1-5.6	1.8-6.6	4.2	2.3	1.3-3.7
Fatigue	3.3	3.9	2.1-4.5	5.4	2.5-3.0	1.3-4.5
Confusion	2.3	2.3	2.3-2.6	3.2	1.5-2.0	1.5-2.6
TMD	17.9	10.3	14.3	25.8	14.3-18.1	8.1-11.3