ORGANIZATION NEWS

## Highlights From the Rehabilitation Measures Database

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# Measurement Characteristics and Clinical Utility of the Pain Catastrophizing Scale in Individuals Experiencing Low Back Pain

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Low back pain (LBP) is a leading cause of physical restriction in the United States and around the world, with an estimated lifetime prevalence rate of 38.9% reported among the general population globally.[1] The Pain Catastrophizing Scale (PCS) is a 13-item, self-report instrument used to quantify pain experiences,[2] and it was developed to facilitate research on the mechanisms by which pain catastrophizing influences the experience of pain.[3] Respondents are asked to reflect on a previous episode of pain and indicate to what degree they experienced thoughts or feelings consistent with (1) rumination, (2) magnification, and (3) helplessness.[2,3] Items on the PCS were drawn from previous research related to catastrophic pain.[3] Research demonstrates that the PCS is a valid measure for the functional evaluation of individuals with LBP. The clinically derived PCS total score has demonstrated excellent test-retest reliability and internal consistency.[2,4,5] Additionally, the PCS has been shown to be useful in differentiating between patients experiencing pain in outpatient settings and individuals living in the community without pain.[6] The PCS is free to use and can be administered and scored in <5 minutes, making it a clinically useful and low-burden instrument to incorporate in routine clinical practice.

BIBLIOGRAPHY

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This abbreviated summary provides a review of the psychometric properties of the PCS in people with LBP. A full review of the PCS and reviews of nearly 375 other instruments for patients with various health conditions can be found at: www.rehabmeasures.org.

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The instrument summary is designed to facilitate the selection of outcome measures by trained clinicians. The information contained in this summary represents a sample of the peer-reviewed research available at the time of this summary's publication. The information contained in this summary does not constitute an endorsement of this instrument for clinical practice. The views expressed are those of the summary authors and do not represent those of the author's employers, the instrument owner(s), *Archives of Physical Medicine and Rehabilitation*, the Rehabilitation Measures Database, or the U.S. Department of Education. The information contained in this summary has not been reviewed externally.

| Rehabilitation Measures | Measure Name: Pain Catastrophizing Scale | Acronym: PCS | Population: Lower Back Pain (LBP) | Cost: Free |
|---|---|---|---|---|

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| Items: | Time: | Training: | Equipment: | Age Range: |
|---|---|---|---|---|
| 13 | ~5 Minutes | None | Pencil, PCS | **Adults:** 18 - 64 Years; **Elderly Adults:** 65+ Years |

## Purpose and Administration Instructions:[2,3]

The Pain Catastrophizing Scale evaluates an individual's pain experience by asking them to reflect on past painful experiences, and quantifying their thoughts and feelings about those painful experiences. The PCS assesses pain experience and catastrophizing as a unidimensional construct that is comprised of three individual components: 1) rumination, 2) magnification, and 3) helplessness.

- A PCS Total Score (minimum= 0, maximum= 52) is computed by summing responses to all 13 items; item response set is a 5-point scale, ranging from 0 (not at all) to 4 (all the time), with higher scores indicating greater levels of catastrophizing.

- PCS Subscale Scores are computed by summing the responses to the following items: Rumination (8, 9, 10, 11), Magnification (6, 7, 13), and Helplessness (1, 2, 3, 4, 5, 12).

- The individual being assessed does not need to be experiencing pain at the time of the evaluation.

### Reliability:

*Internal Consistency[4*]*

- **Excellent**: (Cronbach's Alpha = 0.90)

*Interrater / Intrarater[5*]*

- Interrater: **Excellent** (ICC = 0.77)

- Intrarater: **Excellent** (ICC = 0.88)

*Test-retest Reliability[4*]*

- **Excellent**: (ICC = 0.85)

### Standard Error of Measurement:[4*]

- **Total Score SEM** = 4.6

### Minimal Detectable Change:[4*]

- **Total Score MDC$_{95\%}$** = 12.8
- **MDC as % of Total Score** = 24.6%

### Cut-off Criteria:

|  | *r* | ICC |
|---|---|---|
| **Excellent** | $\geq 0.6$ | $\geq 0.75$ |
| **Adequate** | 0.31-0.59 | 0.40-0.74 |
| **Poor** | $\leq 0.3$ | $< 0.4$ |

### Validity:

*Construct Validity[6*]*

- Confirmatory factor analysis supports a second-order factor model, which suggests that the PCS taps a single unidimensional construct (catastrophizing), with three underlying, related dimensions: 1) Rumination, 2) Magnification, and 3) Helplessness.

*Criterion Validity[6*]*

- Logistic regression analyses demonstrated that the PCS is useful for differentiating between pain groups and non-pain community samples (Standardized Estimate = 0.42; $t$ = 4.99, $p < .001$).

### Considerations:

- The PCS has been validated in several other languages and is available online.

- Reported statistics with an asterisk are from other-language validated versions of the PCS.

### Abbreviations:

- ICC = Interclass Correlation

- $r$ = Correlation Coefficient