

Reviewer ID: Emily Procter, Matthew Querée, Risa Fox			
Type of Outcome Measure: Multidimensional Pain Readiness to Change Questionnaire (MPRCQ) & MPRCQ2			Total articles: 2
Author ID Year	Study Design	Setting	Population (sample size, age) and Group
Nielson et al. 2003	Development and validation of an assessment tool (MPRCQ)	Not specified	N=88, 43 of which were SCI patients (and 65% of these were male). Mean age 47.84±12.08yrs (range 22-79yrs) Must have had some chronic pain (≥1 on a 10-point scale). No details given for injury level or duration.
Nielson et al. 2008	Postal survey (MPRCQ2)	Research program on pain in persons with disabilities in the Department of Rehabilitation Medicine, University of Washington (UW), Seattle	127 SCI participants (29.6% female) mean age: 44.82±14.48 88.8% Caucasian, 1.6% African-American, 4.0% Hispanic, 2.4% Asian, 4.0% Native American, 2.4% other
1. RELIABILITY			
Author ID	Internal Consistency	Test-retest, Inter-rater, Intra-rater	
Nielson et al. 2003	Cronbach's alpha levels were sufficiently high on all scales (Exercise, 0.84; Task persistence, 0.82; Cognitive control, 0.91; Avoid asking for assistance, 0.73; Assertive communication, 0.82); however, they were only marginal for Pacing (0.64) and Relaxation (0.68).	No data available	
Nielson et al. 2008	Cronbach's alpha for MPRCQ2 subscales Exercise: 0.83 Task persistence: 0.75 Relaxation: 0.81 Pacing: 0.88 Avoid rest: 0.77 Avoid asking for assistance: 0.83 Assertive communication: 0.83 Body mechanics: 0.76 Cognitive control: 0.91 Divert attention: 0.77 Self-statement: 0.80 Reinterpret sensations: 0.84 Avoid catastrophizing: 0.83 Ignore pain: 0.91	No data available	
2. VALIDITY			
Author ID	Validity		

<p>Nielson et al. 2003</p>	<p>Factor analysis with varimax rotation.</p> <p>Two factors were derived – active coping (relaxation, cognitive control, pacing and assertive communication), which accounted for 32.1% of the variance, and perseverance (task persistence, avoid asking for assistance and exercise), which accounted for 23.5% of the variance.</p> <p>MPRCQ responses were compared to those of the Pain Stages of Change Questionnaire (PSOCQ) and Survey of Pain Attitudes (SOPA).</p> <p>PSOCQ: MPRCQ total scores correlated significantly with the PSOCQ subscales of contemplation ($r=0.29$, $P<.006$), action ($r=0.60$, $P<.0001$), and maintenance ($r=0.66$, $P<.0001$).</p> <p>MPRCQ perseverance scores correlated significantly with the contemplation ($r=0.39$, $P<.0001$), action ($r=0.59$, $P<.0001$) and maintenance ($r=0.61$, $P<.0001$) scales.</p> <p>MPRCQ active coping scores correlated significantly with the precontemplation ($r=-0.28$, $P<.01$), action ($r=0.26$, $P<.02$) and maintenance ($r=0.33$, $P<.002$) scales.</p> <p>SOPA: MPRCQ total scores correlated significantly with the SOPA subscales of control ($r=0.51$, $P=.0001$) and harm ($r=-0.24$, $P=.03$).</p> <p>MPRCQ active coping scores correlated significantly with the control scale ($r=0.46$, $P<.0001$), and the perseverance scores correlated significantly with all subscales (control, $r=0.26$, $P<.02$; harm, $r=-0.42$, $P<.0001$; disability, $r=-0.43$, $P<.0001$).</p>
<p>Nielson et al. 2008</p>	<p>The validity of the MPRCQ2 was evaluated by correlating the MPRCQ2 scales with the questionnaires measuring the use of related coping behaviors (Chronic Pain Coping Inventory (CPCI), Catastrophizing and Ignoring Sensations scales of the Coping Strategies Questionnaire (CSQ) and Pain Stages of Change Questionnaire (PSOCQ))</p> <p>Moderate correlations were generally found between the MPRCQ2 scales and the corresponding CPCI scales. Readiness to Avoid Guarding was not significantly correlated with the CPCI Guarding scale.</p> <p>Significant correlations ($p<0.001$):</p> <ul style="list-style-type: none"> MPRCQ2 Exercise and: <ul style="list-style-type: none"> CPCI Relaxation = 0.29 CPCI Pacing = 0.28 MPRCQ2 Task Persistence and: <ul style="list-style-type: none"> CPCI Persistence = 0.38 CPCI Ask Assistance = -0.35 CPCI Resting = -0.29 CPCI Support = -0.28 CSQ Catastrophizing = -0.34 CSQ Ignore Sensations = 0.45 MPRCQ2 Relaxation and: <ul style="list-style-type: none"> CPCI Relaxation = 0.54 CPCI Self-Statements = 0.40 CPCI Pacing = 0.42 CPCI Resting = 0.28 CPCI Support = 0.28 MPRCQ2 Cognitive Control and: <ul style="list-style-type: none"> CPCI Self-Statements = 0.31

CPCI Pacing = 0.36
 CSQ Catastrophizing = -0.26
 CSQ Ignore Sensations = 0.43
 MPRCQ2 Avoid Ask Assistance and:
 CPCI Persistence = 0.28
 CPCI Ask Assistance = -0.41
 MPRCQ2 Pacing & CPCI Pacing = 0.59
 MPRCQ2 Avoid Rest & CPCI Rest = -0.40
 MPRCQ2 Assertive and:
 CPCI Ask Assistance = 0.23
 CPCI Support = 0.28
 MPRCQ2 Body Mechanics & CPCI Pacing = -0.26

Significant correlations were obtained between 6 of the 9 MPRCQ2 scales and the same 3 PSOCQ scales. No significant correlations were found between MPRCQ2 scales and the PSOCQ Contemplation scale.

Interscale variability significant correlations:
 SCI: $F(8,119) = 37.37, P < .0001$

SCI mean (SD) for total MPRCQ2 – 38.82 (7.87)

3. RESPONSIVENESS –no data available

4. FLOOR/CEILING EFFECT – no data available

5. INTERPRETABILITY

Author ID	Interpretability																																
Nielson et al. 2008	<p>Mean (SD) scores for the MPRCQ2:</p> <table border="1"> <thead> <tr> <th data-bbox="228 1066 537 1100">MPRCQ2 scale:</th> <th data-bbox="537 1066 837 1100">Mean (SD) score:</th> </tr> </thead> <tbody> <tr> <td data-bbox="228 1100 537 1134">Exercise</td> <td data-bbox="537 1100 837 1134">4.53 (1.62)</td> </tr> <tr> <td data-bbox="228 1134 537 1167">Task persistence</td> <td data-bbox="537 1134 837 1167">5.38 (1.59)</td> </tr> <tr> <td data-bbox="228 1167 537 1201">Relaxation</td> <td data-bbox="537 1167 837 1201">3.12 (1.58)</td> </tr> <tr> <td data-bbox="228 1201 537 1234">Cognitive control</td> <td data-bbox="537 1201 837 1234">5.03 (1.41)</td> </tr> <tr> <td data-bbox="228 1234 537 1268">- Divert Attention</td> <td data-bbox="537 1234 837 1268">5.16 (1.86)</td> </tr> <tr> <td data-bbox="228 1268 537 1302">- Self-statement</td> <td data-bbox="537 1268 837 1302">5.01 (1.84)</td> </tr> <tr> <td data-bbox="228 1302 537 1356">- Reinterpret sensations</td> <td data-bbox="537 1302 837 1356">4.54 (2.06)</td> </tr> <tr> <td data-bbox="228 1356 537 1411">- Avoid catastrophizing</td> <td data-bbox="537 1356 837 1411">4.92 (1.76)</td> </tr> <tr> <td data-bbox="228 1411 537 1444">- Ignore sensations</td> <td data-bbox="537 1411 837 1444">5.52 (1.82)</td> </tr> <tr> <td data-bbox="228 1444 537 1478">Pacing</td> <td data-bbox="537 1444 837 1478">5.10 (1.89)</td> </tr> <tr> <td data-bbox="228 1478 537 1512">Avoid Contingent Rest</td> <td data-bbox="537 1478 837 1512">3.23 (2.07)</td> </tr> <tr> <td data-bbox="228 1512 537 1566">Avoid Asking for Assistance</td> <td data-bbox="537 1512 837 1566">3.61 (2.20)</td> </tr> <tr> <td data-bbox="228 1566 537 1621">Assertive Communication</td> <td data-bbox="537 1566 837 1621">4.53 (2.10)</td> </tr> <tr> <td data-bbox="228 1621 537 1675">Proper Body Mechanics</td> <td data-bbox="537 1621 837 1675">4.49 (1.81)</td> </tr> <tr> <td data-bbox="228 1675 537 1730">MPRCQ2 Total</td> <td data-bbox="537 1675 837 1730">38.82 (7.87)</td> </tr> </tbody> </table>	MPRCQ2 scale:	Mean (SD) score:	Exercise	4.53 (1.62)	Task persistence	5.38 (1.59)	Relaxation	3.12 (1.58)	Cognitive control	5.03 (1.41)	- Divert Attention	5.16 (1.86)	- Self-statement	5.01 (1.84)	- Reinterpret sensations	4.54 (2.06)	- Avoid catastrophizing	4.92 (1.76)	- Ignore sensations	5.52 (1.82)	Pacing	5.10 (1.89)	Avoid Contingent Rest	3.23 (2.07)	Avoid Asking for Assistance	3.61 (2.20)	Assertive Communication	4.53 (2.10)	Proper Body Mechanics	4.49 (1.81)	MPRCQ2 Total	38.82 (7.87)
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