Validation of the Pain Frequency-Severity-Duration Scale in Community Young Adults

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BACKGROUND

• Pain intensity is the most commonly assessed aspect of pain (von Baeyer, 2009).
• Pain intensity ratings are usually acquired by asking patients to rate their pain on a scale often ranging from 0 (no pain at all) to 10 (worst pain imaginable).
• Pain intensity ratings, while important for tracking changes in pain management, do not capture all of the important characteristics of the pain experience.
• Carl von Baeyer (2006) described this limitation by saying “describing pain in terms of its intensity is like describing music only in terms of its loudness.”
• The goal of the current study is to examine the validity of the Pain-Frequency-Severity-Duration Scale (PFSD; Fuentes, Hainsworth, Davies, Khan, & Weisman, 2008) in a young adult community sample.
• The PFSD addresses current limitations in pain assessment by incorporating pain frequency and duration, resulting in a measure of total pain intrusiveness.

METHODOLOGY

• Participants were 584 young adults (51% female) between the ages of 18 and 24 years (M = 21.13, SD = 1.49).
• Participants were recruited to complete an online community survey by students taking part in an advanced psychology laboratory class.
• The majority of the participants (83%) were Caucasian with other participants identifying as: Latino (5%), African-American (4%), Asian (3%), Mixed Race (2%), Native American (1%), and Other (1%).
• The PFSD asks respondents:
  • How many days in the last two weeks they have experienced pain (frequency).
  • If they had experienced pain the in the last two weeks, they were asked to rate their usual and worst levels of pain over the last two weeks (severity) and how many hours their usual and worst pain had lasted (duration).
• Composite scores created from the PFSD were then compared to the Pain Catastrophizing Scale (PCS; Sullivan, Bishop, & Pivik, 1995) and the Short-Form Health Survey (SF-12; Ware, Kosinski, & Keller, 1996), a measure of quality of life, to examine criterion-related validity.

RESULTS

• Pain frequency ranged from 0-14 days (M = 3.4; SD = 3.71).
• Usual pain severity averaged 3.1 (SD = 1.7) whereas worst pain averaged 4.6 (SD = 2.4).
• Usual pain duration averaged 4.8 hours (SD = 4.7), and worst pain duration averaged 3.9 hours (SD = 3.7).
• Three PFSD composite scores were created for examination.
  • The first composite was the product of the usual and worst pain severity ratings.
  • The second composite was the product of the pain frequency rating and the usual and worst pain severity scores.
  • The third composite also included pain frequency and severity, but added in the measures of duration.
• Pearson correlations were then conducted to examine the relationship between these composites and the other validated measures (see Table 1).
• These correlations were computed for the Physical Component Score and Emotional Component Score of the SF-12, and the Ruminating, Magnification, and Helplessness subscales of the PCS.
• The PFSD composite that combined pain frequency and intensity was the best indicator of both pain catastrophizing and quality of life.
  • This composite showed medium effects with the SF-12 Physical Component Score (r = .413, p < .01) and Emotional Component Score (r = .238, p < .01) as well as the subscales of the Pain Catastrophizing Scale: Ruminating (r = .421, p < .01), Magnification (r = .332, p < .01), and Helplessness (r = .432, p < .01).

CONCLUSIONS

• This study provides promising preliminary evidence that a multi-dimensional pain rating scale improves the ability to predict important measures of patient functioning.
• Examination of pain severity alone is insufficient for obtaining a complete picture of the effects of pain experience.
• The PFSD is a promising measure of pain intrusiveness that is significantly correlated with both quality of life and pain catastrophizing.
• This study supports the possibility that multidimensional pain assessment can significantly broaden the clinical assessment of pain and still be accomplished in a time- and cost-efficient manner.

FUTURE DIRECTIONS

• Future research should be conducted to validate this measure in different age groups and clinical populations.

REFERENCES


CONTACT INFORMATION

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Table 1  Criterion-Related Validity for the PFSD Composites

<table>
<thead>
<tr>
<th>Physical</th>
<th>Emotional</th>
<th>Ruminating</th>
<th>Magnification</th>
<th>Helplessness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain Severity (Usual*Worst)</td>
<td>-.38**</td>
<td>-.17**</td>
<td>.30**</td>
<td>.27**</td>
</tr>
<tr>
<td>Frequency<em>Severity</em>Duration</td>
<td>-.41**</td>
<td>-.24**</td>
<td>.42**</td>
<td>.33*</td>
</tr>
</tbody>
</table>

Note. *p < .05. **p < .01