Distinguishing between Pain-related Avoidance and Distress: Initial Validation of a New Clinical Scale

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Outline

- Background
  - Understanding Pain
  - Pain, Anxiety, and Fear
- Method
- Analyses and Results
- Summary and Discussion

Understanding Pain

- Pain can be viewed as both a sensory and emotional experience.

(Melzack & Wall, 1965)

- Pain typically occurs in response to actual or potential tissue damage as a motivator to withdraw from the source of pain and promote recuperative behaviour.

Understanding Pain

- In the short term, pain is adaptive.

- When pain becomes chronic (≥ 3 months) it may lose its adaptive qualities.

(International Association for the Study of Pain, 1986)

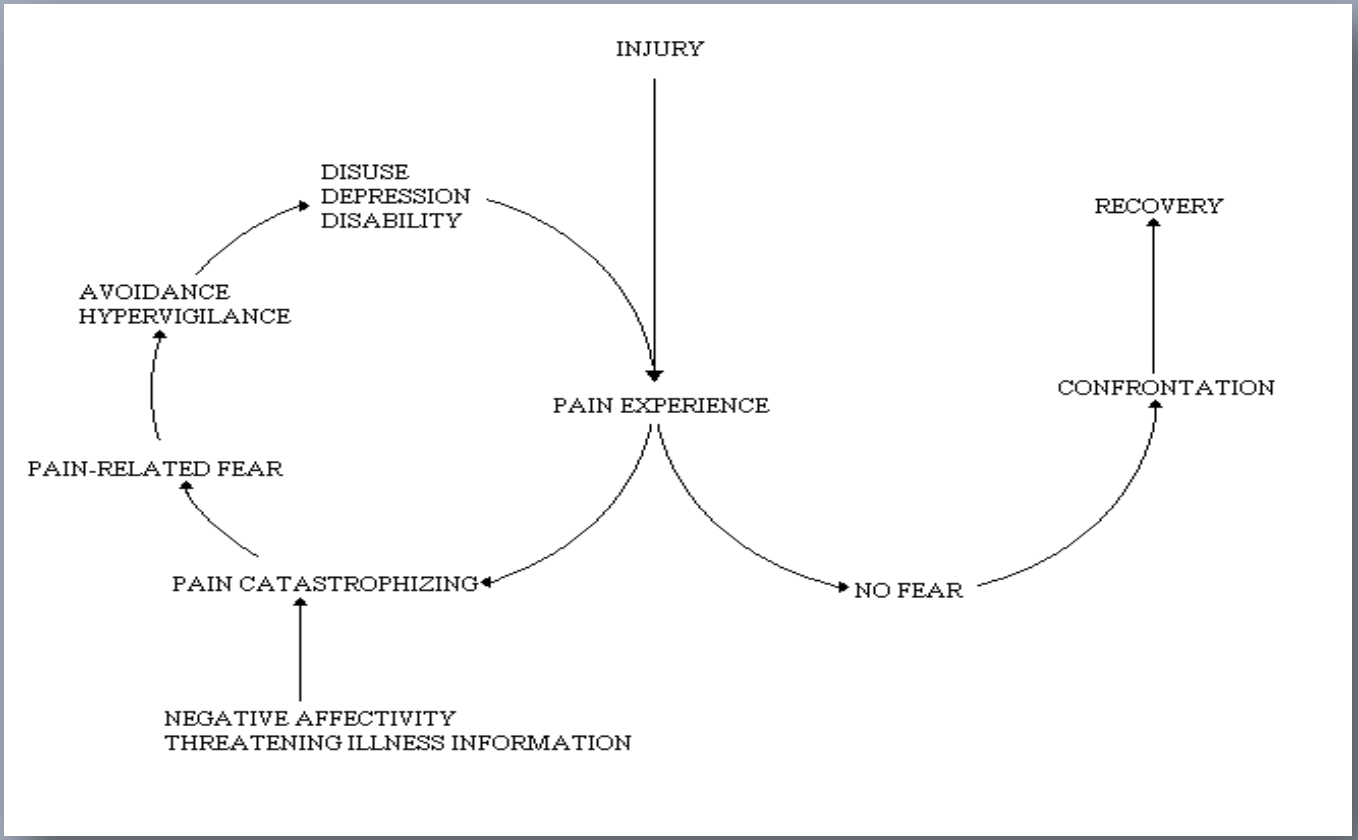
Pain, Anxiety, and Fear

- Contemporary fear-anxiety-avoidance models of chronic pain are based on the writings of several research groups

  (Asmundson et al., 1999; McCracken et al., 1992; Waddell et al., 1993; Vlaeyen et al., 1995)

- For some people, pain can provoke clinically significant and debilitating fear and anxiety.

Fear-avoidance model



Vlaeyen & Linton, 2000

Pain, Anxiety, and Fear

- Pain-related anxiety can have a significant impact on functional ability through behavioural avoidance.
  - Empirical support for the role of avoidance behaviour in the development and maintenance of disability in pain populations.

Pain, Anxiety, and Fear

- It is unclear whether pain-related avoidance can be distinguished empirically from the experience of pain-related emotional distress (e.g., fear, anxiety).

Purpose

1. To develop a measure of pain-related avoidance and distress
2. To explore the relationship between pain-related avoidance and distress
3. To examine the relationships between each of pain-related avoidance and distress and pain severity and duration

Development of the PADS

1) Initial item development
   - 35 identical item pairs that assess avoidance and distress
     - How often you would avoid each activity because of your pain?
     - How emotionally upsetting or bothersome do you find each activity because of your pain?
   - Photograph Series of Daily Activities Scale (PHODA; Kugler et al., 1999)
     - 100 photographs depicting common activities
     - Lifting, bending, turning, reaching
     - Activities of daily living, housekeeping, work, sport/leisure

Development of the PADS

- PADS sample items
  - Opening a tight jar
  - Lifting a small child
  - Tying your shoes
  - Lying on your side in bed
  - Vacuuming or mopping the floor
  - Running
  - Driving

- Likert response format
  - 0 (*Not at all*) to 4 (*Extremely*)

Development of the PADS

2) Examination and revision
   - The items were piloted with 13 expert raters who provided comments and suggested items and changes.

   - This feedback contributed to the revision and selection of items for initial testing.

3) Piloting in a community sample

Participants

- Participants were community volunteers from across Canada (n=144) who reported experiencing at least 3 months of pain
- 70.3% women
- Age 18 to 62, M_{age}=33.56, SD_{age}=11.90
- 83.3% Caucasian, 4.9% Asian, 3.5% Latin, 3.5% First Nations, 0.7% South Asian, 4.2% Other

Participants

- Primary pain location
  - Lower back 21.5%
  - Upper back 11.8%
  - Neck 11.8%
  - Leg 9.0%
  - Arm 3.5%
  - Other 33.5% (e.g., shoulder, all over the body)
- All participants completed a web-administered questionnaire battery as part of a larger study on pain, fear, and anxiety

Measures

- Demographics
- PADS
- Measures of current and typical levels of pain
  - 0 (*no pain*) to 10 (*worst pain you've ever experienced*)
- Measure of pain duration

Analyses

- Descriptive statistics
- Reliability analyses - PADS
- Correlation analyses exploring the association between pain-related avoidance and distress composite scores
- Paired-samples *t*-test comparisons
- Regression analyses evaluating the contributions of pain-related avoidance and distress to current or typical pain experiences, and pain duration.

Results – Descriptive Statistics

	Current Pain	Typical Pain	PAIN-D	PAIN-A
n	144	144	144	144
M	6.78	7.02	50.24	42.32
SD	2.45	2.09	31.89	34.86
Skew	-.26	-.37	.56	.72
Kurtosis	-.59	-.32	-.31	-.02

Current and typical pain measured on a 10-point Likert scale ranging from 0 (*no pain*) to 10 (*worst pain you've ever experienced*).
PAIN-D = Pain-related distress total composite score; PAIN-A = Pain-related avoidance total composite score.

Results

- Women reported significantly higher scores than men on pain-related distress, $t(142)=-2.83$, $p<.01$, and pain-related avoidance, $t(142)=-2.23$, $p<.05$; however, the effect sizes were small ($r^2=.05$ and .03 respectively).
- The internal consistency was good for the PADS total score ($\alpha=.98$), the PADS-D score ($\alpha=.97$), and the PADS-A score ($\alpha=.97$).
- Composite levels of pain-related distress and avoidance were significantly associated ($r=.83$; $p<.01$.)

Results

- Paired-samples *t*-test comparisons showed that the participants were generally more distressed about activities than avoidant of those activities
  - $t(143)=4.86$, $p<.01$
- These findings were consistent when items were analyzed individually.

Results

- Regression analyses indicated that pain-related distress was a significant predictor ($p<.05$) of current and typical pain experiences.

	Dependent Variable: Current Pain				Dependent Variable: Typical Pain			
	β	*F*	*part r*	ΔR^2	*β*	*F*	*part r*	ΔR^2
PAIN-A	.21	46.79*	.12	.39	.21	25.79*	.12	.26
PAIN-D	.45*		.25		.33*		.18	

Results

- Regression analyses indicated that pain-related distress was also a significant predictor ($p<.05$) of pain duration.

	Dependent Variable: Pain Duration			
	β	F	*part r*	ΔR^2
PAIN-A	-.07	10.87*	-.04	.12
PAIN-D	.42*		.23	

Summary and Discussion

- Pain related avoidance and distress are significantly associated; however, each were differentially associated with current and typical pain experiences in this sample.
- Pain-related distress, but not avoidance, was significantly associated with current and typical pain experiences, and pain duration.
- Individuals who avoid activities may report less severe current and typical pain experiences because of preventative measures (Fowles, 1987).

Summary and Discussion

- The role of behavioural avoidance in impairment in chronic pain populations is well documented
  - Differential associations in treatment-seeking pain populations?
- These data contribute to a growing body of evidence suggesting that interventions targeting distress (e.g., anxiety) may help provide some relief to chronic pain patients.

Limitations

- Small sample size
  - Precluded an Exploratory Factor Analysis (EFA)
- Generalizability
  - Mostly women, mostly Caucasian
- Cross-sectional data
- Current and past pain experiences

Directions for Future Research

- EFA with a larger sample
- Inclusion of more diverse samples
- Clinical and treatment-seeking samples
- Convergent validity, discriminant validity
- Differential associations
  - Quality of life
  - Treatment effect
  - Psychological correlates (e.g., anxiety, depression-related)

Thank you

Questions?