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Initial Evaluation of the Chronic Pain Acceptance Questionnaire – 2

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Abstract

Greater acceptance of chronic pain is associated with lesser levels of pain-related distress and disability and better overall functioning. Pain acceptance is most often assessed using the Chronic Pain Acceptance Questionnaire (CPAQ), which includes both an eight-item short form (CPAQ-8) and a twenty item parent measure (CPAQ-20). This study derived a two-item CPAQ for use in busy clinical settings and for repeated measurement during treatment, the CPAQ-2. An Item Response Theory approach was used to identify the strongest items from the CPAQ-20, one from each of its two subscales. Next, regression analyses were conducted to evaluate the utility of the CPAQ-2 by examining variance accounted for in the CPAQ-8, CPAQ-20, and in measures of depression, pain-related fear, physical disability, and psychosocial disability. Four clinical databases were combined (N = 1776) for the analyses. Items 9 and 14 were identified as the strongest CPAQ-20 items in the IRT analyses. The sum score of these two items accounted for over 60% of the variance in the CPAQ-8 and CPAQ-20. Furthermore, this score accounted for significant variance in measures of depression, pain-related fear, physical disability, and psychosocial disability after controlling for data collection method (i.e., in clinic or online), participant age, education, pain duration, and usual pain. Finally, the amount of variance accounted for by the CPAQ-2 was comparable to that accounted for by both the CPAQ-8 and CPAQ-20. These results provide initial support for the CPAQ-2 and suggest that it is well suited as a brief assessment of chronic pain acceptance.

Introduction

Chronic pain acceptance has emerged as an important aspect of adaptive functioning in people with chronic pain. Pain acceptance is most frequently assessed via the 20 item Chronic Pain Acceptance Questionnaire (CPAQ-20). The CPAQ-20 yields two subscales and a total score (McCracken, Vowles, & Eccleston, 2004). Subscales include Activity Engagement (AE), which entails participating in important or meaningful activities with continued pain, and Pain Willingness (PW), which entails refraining from ineffective pain reduction strategies. Previous work has supported the CPAQ's factor structure, association with pain-related distress and disability, and sensitivity to intervention (Luciano et al., 2014; McCracken & Gutiérrez-Martínez, 2011; Reneman, Dijkstra, Geertzen, & Dijkstra, 2010; Rovner, Vowles, Gerdle, & Gillanders, 2015; Scott, Hann, & McCracken, 2016; Vowles, McCracken, McLeod, & Eccleston, 2008; Vowles, Witkiewitz, Sowden, & Ashworth, 2014). Furthermore, correlational and mediational analyses indicate that increases in CPAQ scores during treatment are associated with improvements in pain interference, physical and psychosocial disability, depression, pain anxiety, and pain-related healthcare utilization through follow-ups of as long as three years (Luciano et al., 2014; Vowles & McCracken, 2008; Vowles, McCracken, & O'Brien, 2011; Wicksell, Olsson, & Hayes, 2011).

In 2010, Fish and colleagues used a factor analytic approach to reduce the 20 item CPAQ to an 8 item short form (CPAQ-8; Fish, McGuire, Hogan, Morrison, & Stewart, 2010). The CPAQ-8 retained much of the psychometric strengths of the CPAQ and was shown to be factor invariant across two large samples (Fish et al., 2010), as well as within a tertiary care sample (Baranoff, Hanrahan, Kapur, & Connor, 2014). Scores on the CPAQ-8 are associated with key aspects of pain-related functioning, including depression, pain-related fear, and disability (Baranoff et al., 2014; Fish et al., 2010; Rovner et al., 2015).

The overarching objective of the present study was to establish a two-item version of the CPAQ, the CPAQ-2, using an Item Response Theory (IRT) approach. It was felt that a very brief version of the CPAQ would allow for more regular use in busy clinical settings and could make it more feasible to assess pain acceptance repeatedly throughout treatment in order to examine if trajectory of change was related to outcome (e.g., Vowles, Sowden, Hickman, & Ashworth, 2019). The IRT approach has been contrasted with classical test theory approaches, which aim to estimate a "true score" by repeated assessment of items that are assumed to be replications of one another. Instead, IRT examines the probabilistic relation between an individual's response to an item and that same individual's level of the hypothetical latent trait (Edelen & Reeve, 2007; Embretson & Reise, 2000a; Hays, Morales, & Reise, 2000). Items can be selected to provide the most accurate assessment of the trait or to maximize discrimination for the presence or absence of a particular trait or feature (e.g., a clinical cut score). Thus, IRT is well suited to identify the

most potent items of the CPAQ-20 and CPAQ-8 and is increasingly being used specifically in the development and refinement of pain measures (McEntee, Vowles, & McCracken, 2016; Revicki et al., 2009). Further, an IRT approach presents several strengths over other item reduction strategies, such as factor analysis. Specifically, IRT allows an investigation of both individual item performance and psychometric properties, while also facilitating scale development by examining the information provided by each item in relation to a total score (de Ayala, 2009; Edelen & Reeve, 2007; Embretson & Reise, 2000b; Reise, Ainsworth, & Haviland, 2005).

The present analysis involved three analytic steps. First, IRT was used to identify the most robust items of the CPAQ, one item from each subscale. Second, the performance of the summed score for these two items in assessing pain acceptance was evaluated by examining variance accounted by the CPAQ-2 in both the CPAQ-8 and CPAQ-20. Third, aspects of the CPAQ-2's convergent validity were evaluated by examining variance accounted for in important aspects of pain-related functioning, including depression, pain-related fear, physical disability, and psychosocial disability. In order to evaluate incremental validity, variance accounted for by the CPAQ-2 in pain-related functioning was also examined relative to variance accounted for by the longer versions of the CPAQ. In order to achieve the study objective, data from four large databases (range n = 359 – 612) were combined (N = 1776).

Methods

Participants

As noted, four databases were combined, two of which were collected in chronic pain treatment services and two collected online. The first database (n = 359) included treatment seeking individuals presenting to a tertiary care chronic pain service located in the southwest of United Kingdom. These data were collected between December 2006 and December 2008. The second (n = 612) included data collected from individuals presenting to a service designed to fit at the interface between primary and secondary care in the midlands of the United Kingdom. These data were collected between August 2010 and October 2016. For both clinical databases, permission was obtained from local National Health Service research ethics boards and each participant provided informed consent for their anonymised questionnaire data to be used for research purposes.

The third and fourth databases were online survey data collected from individuals with chronic pain residing in the United States (n = 407 and 398, respectively). Data were collected between May 2016 and August 2016 and February 2017 and May 2017, respectively. For the latter two databases, participants were recruited from the Amazon Mechanical Turk system and were paid to complete survey data. Each participant provided electronic informed consent for

their anonymised questionnaire data to be used for research purposes. The human subjects institutional review board of the University of New Mexico approved both studies.

For the online databases, participants were initially screened for chronic pain via four self-report questions. To be eligible for study participation, participants had to report that they experienced pain: (1) on most days of the week (i.e., 4 or more days per week), (2) at an average weekly intensity of 3 or greater on a 0 (no pain) to 10 (worst pain possible) numerical rating scale (NRS), (3) for at least three months in duration, and (4) that was not restricted to headache pain alone. These individuals were not necessarily treatment seeking.

In the combined data, 57.3% of individuals were female. Participants averaged 44.5 years of age (*SD* = 14.1) and 14.0 years of education (*SD* = 3.9). With regard to ethnicity, the majority noted Caucasian or White European, 87.7%. In decreasing order, other ethnicities identified were Black or African decent, 5.0%, Asian, 4.9%, or other, 2.4%. Overall, 60.1% were married or co-habitating, 28.5% were single, 9.2% were divorced, and 2.1% were widowed. One quarter of the combined sample, 24.9%, was working full time, 26.8% were working part-time, and the remaining 48.3% were not working.

Median pain duration was 51.0 months (range 3 – 576 months). The most frequently identified primary chronic pain location was location was low back, 52.7%, which was followed by full body, 13.0%, neck, 10.8%, lower extremity, 8.9%, upper extremity/shoulder, 8.1%, middle back, 4.2%, or abdomen/pelvis, 3.5%. The majority of individuals, 61.6%, also reported a secondary pain location.

Measures

Demographic and Pain Details

For each sample, collected demographic and pain details included sex, age, years of education, ethnicity, relationship status, pain duration, and primary and secondary pain sites. All data were self-reported.

Pain Acceptance

All participants completed the CPAQ-20. The CPAQ-20's items ask respondents the degree to which they agree or disagree with a series of statements describing responses to pain. Items are rated on a 0 to 6 Likert-type scale. As noted, previous work has supported the psychometric properties, factor structure, and responsiveness to intervention of the CPAQ-20. For the purposes of testing variance accounted for by the CPAQ-2 in the longer versions of the measure, a total score was calculated for both the CPAQ-8 and CPAQ-20. Reliability was acceptable in the present data, Cronbach's = .86 for the CPAQ-8 and Cronbach's = .92 for the CPAQ-20.

Usual Pain Intensity

Average pain intensity during the preceding week was assessed via a Numerical Rating Scale (NRS), which ranged from 0 (no pain) to 10 (maximum possible pain). This method of assessing pain is well-established and widely used (Campbell & Vowles, 2008; Jensen & Karoly, 1992).

Depression

The British Columbia Major Depression Inventory (BCMDI; Iverson & Remick, 2004) was used to evaluate level of depressive symptoms. The BCMDI is a 21 item measure that was developed based on the criteria for Major Depressive Disorder from the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000). The BCMDI has good evidence of psychometric properties and sensitivity/specificity for a diagnosis of Major Depressive Disorder (Iverson & Remick, 2004). Reliability was acceptable in the current data, Cronbach's α = .90.

Pain-Related Anxiety

The 20 item Pain Anxiety Symptom Scale (PASS; McCracken & Dhingra, 2002) was used to assess pain anxiety. The PASS has established excellent psychometric properties and reliable relations with important aspects of pain-related functioning (McCracken & Dhingra, 2002; Roelofs et al., 2004). Reliability was acceptable in the current data, Cronbach's α = .93.

Disability

The Sickness Impact Profile (SIP; Bergner, Bobbitt, Carter, & Gilson, 1981) was used to assess disability in the two clinical databases and the briefer Sickness Impact Profile – Chronic Pain (SIP-CP; McEntee, Vowles, & McCracken, 2016) was used for both online databases. Both versions allow for the calculation of physical and psychosocial disability subscale scores. The psychometric properties of both the SIP and SIP-CP have been supported in previous work (Bergner et al., 1981; McEntee et al., 2016; Vowles & McCracken, 2008). Reliability was acceptable in the current data, Kuder-Richardson Coefficient (for dichotomous items), .84 and .76 for Physical Disability for the SIP and SIP-CP, respectively, and .88 and .84 for Psychosocial Disability for the SIP and SIP-CP, respectively.

Analytic Approach

Initially, demographic and pain-related details were assessed across the four databases. In addition to calculating descriptive information, differences across the databases were examined.

As noted, IRT analyses were used to determine the item that best represented the AE and PW subscales. Graded response models (GRM; Samejima, 1969)) were used for IRT analyses using the R statistical program's (R Core Team, 2018) *ltm* package (Rizopoulos, 2006). The GRM

models the interaction between a person's score on a latent construct (e.g., AE or PW) and item response properties. The GRM model assumes unidimensionality of each construct.

A GRM uses three parameters to explain item responses: latent construct score, response thresholds, and item discrimination. An individual with a higher latent score will be more likely to select higher responses on individual items. Thresholds indicate the level of the latent trait where the probability for selecting a given response or higher is 50%. Each item has *K*-1 thresholds, where *K* is the number of responses for a given item. Because the CPAQ items have seven possible responses, there are six thresholds for each item.

Finally, the discrimination parameter indicates the ability of the item to predict lower and higher responses on the latent score. Item discrimination is similar to factor loadings in confirmatory factor analysis in that it models the relationship between the latent construct and item responses. In other words, an item with higher discrimination is more sensitive to differences in the latent construct. GRMs also allow for the visualization of item performance via category characteristic curves (CCC) and item information curves (IIC). CCCs visualize the relation between the latent construct, thresholds and discrimination, and IICs visualize the amount of information (precision of measurement) of an item along the latent construct.

A separate GRM was fitted for AE and PW. For each GRM, the item that had the highest discrimination was selected as a candidate as most representative of the construct. Thresholds were then evaluated to determine if the item had adequate representation across the latent construct. Finally, CCCs and ICCs were visually inspected for each item to confirm numerical interpretations of parameter estimates. Because this study included the pooled results from several different databases, we also evaluated GRM models separately for each of the four databases in order to evaluate whether the same CPAQ items emerged from each.

Following IRT, the variance accounted for by the CPAQ-2 in the CPAQ-8 and CPAQ-20 was calculated using regression analyses. Next, aspects of both convergent and incremental validity were evaluated by examining variance accounted for in depression, pain-related fear, physical disability, and psychosocial disability for the CPAQ-2 and comparatively for the CPAQ-8 and CPAQ-20. It was planned that these analyses would control for gender, age, education, pain duration, and usual pain intensity, as well as database if significant differences were indicated.

Results

Significant differences were indicated between databases for age, years of education, pain duration, and usual pain intensity, all Fs > 65.8, all ps < .001. For each comparison, the differences related to the data collection sample of either clinical (i.e., databases 1 and 2) or online data collection (i.e., databases 3 and 4), therefore, the database variable was dichotomized into collection from the clinical or online samples. See Supplementary Table 1 for

details, including descriptive data and pairwise comparison results for the separate samples. As displayed in Table 1, in comparison to the clinical setting, individuals in the clinical database were older, had fewer years of education, longer pain durations, and greater usual pain intensity levels. Given these differences, subsequent regression analyses controlled for setting (i.e., clinic or online).

Based on item discrimination from GRMs, the IRT identified a single item from each subscale. For AE, item 9 was selected (*I lead a full life even though I have chronic pain*) and for PW, item 14 was selected (*Before I can make any serious plans, I have to get some control over my pain*). Item parameters for each item are displayed in Table 2 for AE and Table 3 for PW. Supplementary Figures 1 and 2 display item information curves. These two items also had the highest discrimination scores within each of the four databases when they were analyzed individually (See Supplementary Tables 2 and 3). Therefore, these two items were retained for the CPAQ-2 and a sum score was calculated.

Next, CPAQ-2 score was examined in relation to the scores of the CPAQ-8 and CPAQ-20. In summary, the CPAQ-2 accounted for significant variance in both of the longer CPAQ versions, accounting for over 60% of the variance in each case. Proportion of variance accounted by the CPAQ-2 was .82 for the CPAQ-8 and .61 for the CPAQ-20, both *p*s < .001. Standardized Beta were also significant in both cases, .90 and .78 for the CPAQ-8 and CPAQ-20, respectively, both *p*s < .001.

Table 4 displays variance accounted for in depression, pain anxiety, and physical psychosocial disability (SIP for the clinical sample and SIP-CP for the online sample), after controlling for data collection setting, age, education, pain duration, and usual pain intensity. In each case, the CPAQ-2 accounted for significant variance, range R^2 = .14 for SIP-CP Psychosocial Disability to R^2 = .28 for Pain Anxiety, all *p*s < .001. Beta weights were significant in each case. Table 4 also displays variance accounted for by the CPAQ-8 and CPAQ-20 when these variables were entered in separate regression analyses. Descriptively, the CPAQ-2 accounted for a comparable amount of variance with only modest loss of unique variance and in some cases accounted for more variance.

Discussion

A two-item pain acceptance questionnaire, the CPAQ-2, was developed and aspects of convergent validity were examined. The IRT analyses identified the two most robust items from the CPAQ-20, one from each of the measure's two subscales, AE and PW. These two items were *I lead a full life even though I have chronic pain* for the AE subscale and *Before I can make any serious plans, I have to get some control over my pain* (negatively keyed) for the PW subscale. At a statistical level, these two items were the best performing in both the combined dataset and

within each of the four individual datasets, providing good evidence of generalizability across different chronic pain assessment settings.

The CPAQ-2 was scored by a simple summation of both items, with the PW item being reverse scored. This total score accounted for over 60% of the variance in both the CPAQ-8 and CPAQ-20, further supporting the utility of this brief measure of pain acceptance. When the CPAQ-2 was examined in relation to aspects of pain-related distress and disability, it accounted for significant variance after controlling for relevant demographic and pain-related variables and the amount of variance was comparable to that accounted for by the CPAQ-8 and CPAQ-20. Average variance accounted for was .19 (*SD* = .05) for the CPAQ-2, .21 (*SD* = .06) for the CPAQ-8, and .19 (*SD* = .04) for the CPAQ-20. While brief measures may sometimes reduce assessment of important dimensions of a measure, these results provide good evidence of the utility and validity of this brief measure and suggest it compares well with the longer versions of the measure.

Further work is needed to examine the relative utility of the CPAQ versions in relation to one another. It is likely that settings that can make use of more detailed results or nuanced information will continue to benefit from the use of the longer form of the CPAQ, but there may be settings or uses more suited to the CPAQ-2. For example, in many clinical and academic settings, there is a pragmatic need for brief and psychometrically robust measurement of important aspects of pain-related functioning. This need is especially true for aspects of functioning that are: (1) potential processes of change linked to important clinical outcomes and (2) responsive to available treatment methods. For over two decades, chronic pain acceptance has been highlighted as an important consideration in chronic pain (Geiser, 1992; Vowles et al., 2008). It is consistently demonstrated that those who are more open to the pain experience, flexible in responding to it, actually able to willingly include pain in what they do, and focused on successfully living are reliably less distressed and disabled by pain. The performance of the CPAQ-2 in relation to the longer forms of the CPAQ suggests that it is a useful addition to the assessment of pain acceptance. It may specifically be well-suited to brief assessment batteries in busy clinical settings, such as primary care, or to repeated measurement over the course of treatment. With regard to this latter possibility, there is increasing interest in the examination of trajectories of change within treatment in the prediction of treatment outcome as these analyses may identify important mechanisms (Burns, Kubilus, Bruehl, Harden, & Lofland, 2003; Ehde, Dillworth, & Turner, 2014; McCracken & Vowles, 2014). For example, a recent study from our group indicated that the slopes of change for pain intensity and pain-related distress during treatment were unrelated to treatment outcome (Vowles, Witkiewitz, Levell, Sowden, & Ashworth, 2017), while a follow-up study indicated slope of improvement in engagement in meaningful and

valued activities during treatment was related to improvement in psychosocial functioning at treatment's end (Vowles et al., 2019). Further, a series of related studies from Burns and colleagues examined how early cognitive change predicted post-treatment outcomes (Burns, Glenn, Bruehl, Harden, & Lofland, 2003; Burns et al., 2003). To date, no study has examined how trajectory of change in pain acceptance, a key theorized mechanism of treatment, relates to the magnitude of treatment-related improvements. The CPAQ-2 will be brief enough to use repeatedly within treatment to examine more nuanced patterns of change and determine their relevance to treatment outcome.

Further work is required to examine the utility of the CPAQ-2. In particular, sensitivity to treatment-related intervention will be an important consideration in the future. Moreover, while the present analyses incorporated data from both clinical and non-clinical settings, further examination of convergent and divergent validity from additional samples seems warranted. Finally, the feasibility of repeated measurement using the CPAQ-2 in treatment settings, for example in daily or weekly diary measures, will need to be tested. This could support N of 1 or single case experimental research to the types of questions regarding change processes in treatment as described above (Caneiro, Smith, Linton, Moseley, & O'Sullivan, 2019).

Importantly, the construct validity of the CPAQ-2, and pain acceptance measures more broadly, will be important to continue to examine, particularly given the established relations between pain acceptance and pain-related functioning (Reneman et al., 2010), evidence supporting pain acceptance as an important treatment mechanism (Cederberg, Cernvall, Dahl, von Essen, & Ljungman, 2016; Vowles et al., 2014), and concerns that have been raised with regard to the face validity of some items measuring pain acceptance (Lauwerier et al., 2015). Regarding the issue of face validity, Lauwerier and colleagues (2015) noted concerns regarding the CPAQ-8, as they felt it did not adequately capture all aspects of their definition of pain acceptance. While it is likely that their concerns will be relevant to the CPAQ-2 as well, we would note the following. First, we are not sure that it is necessary to capture all aspects of pain acceptance for a measure to adequately assess the construct itself. In fact, this argument is at the core of IRT approaches – that some items are "stronger" than others at assessing the construct (Edelen & Reeve, 2007; Embretson & Reise, 2000a; Hays et al., 2000). Second, pain acceptance can be conceptually understood as the act of engaging in personally important activity with pain present and without attempts to control pain (McCracken & Morley, 2014; McCracken & Vowles, 2014). At a face validity level, the items of the CPAQ-2 are relevant to this understanding of pain acceptance. Finally, while issues of construct validity are hugely important to examine, the literature on the CPAQ has consistently supported its psychometric properties, relations with other key aspects of pain-related physical and emotional functioning, sensitivity to

intervention, and relevance as a treatment mechanism (e.g., see reviews and meta-analyses of: McCracken & Vowles, 2014; Reneman et al., 2010; Thompson & McCracken, 2011; Vowles, Pielech, Edwards, McEntee, & Bailey, in press; Vowles & Thompson, 2011).

The treatment approach most often associated with the CPAQ and pain acceptance is Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 2012). With regard to chronic pain, ACT seeks to coordinate engagement, without resistance to pain, for the purpose of successful living. In this case, engagement includes the ability to "feel what one feels," even when that is painful. Successful living means simply doing what works, for example reaching important goals and doing activities that bring meaning, joy, and vitality. Evidence shows that together these two facets reflect a pattern that is likely to improve the lives of those who have chronic pain. The two items of the CPAQ-2 tap into these dual facets of an ACT approach, as they assess the degree to which a full life is being lived, with pain present, and whether one can prioritize their aspirations today, take a first step toward eventual success, without requiring pain control first. The performance of these two items in the present data suggests that they may be a useful addition to assessment batteries and to perhaps repeatedly assess during active treatment.

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Table 1 - Descriptive information [Percentage and Means (SD)] for demographic and pain-related information

Variable	Total sample (*N* = 1778)	Clinic sample (*n* = 971)	Online sample (*n* = 807)
Gender (% female)	64.1%	$68.8\%_a$	$58.4\%_a$
Age	43.3 (13.5)	$47.9\ (13.3)_a$	$37.7\ (11.6)_b$
Education (yrs)	14.0 (3.9)	$12.7\ (3.0)_a$	$15.3\ (2.4)_b$
Pain duration (mo)	105.7 (97.9)	$121.2\ (109.1)_a$	$89.1\ (80.9)_b$
Usual pain intensity	6.3 (2.1)	$7.3\ (1.8)_a$	$5.1\ (1.6)_b$

Notes: Different subscripts indicate statistically significant differences $p < .005$.

Table 2 - GRM Parameters for Activity Engagement

CPAQ Item	Thresholds 1	2	3	4	5	6	Discrimination
1.	-0.685	-0.569	-0.319	0.405	0.855	1.458	3.669
2.	-0.729	-0.259	0.186	0.901	1.47	2.254	3.23
3.	-0.488	0.103	0.634	1.668	2.585	3.379	1.488
5.	-0.651	-0.02	0.528	1.25	1.755	2.339	1.884
6.	-0.381	0.014	0.278	0.83	1.432	2.195	3.635
8.	-1.217	-0.382	0.145	0.99	1.784	2.399	1.583
9.	**-0.399**	**-0.041**	**0.281**	**0.727**	**1.131**	**1.78**	**3.815**
10.	-0.548	-0.083	0.399	1.026	1.556	2.084	2.198
12.	-0.671	-0.293	0.05	0.685	1.291	1.983	3.124
15.	-0.822	-0.366	0.115	0.786	1.461	2.243	2.744
19.	-0.502	-0.08	0.323	0.926	1.405	1.945	2.413

Table 3 - GRM Parameters for Pain Willingness

CPAQ Item	Thresholds 1	2	3	4	5	6	Discrimination
4.	-1.464	-0.825	-0.117	0.892	1.416	2.213	1.352
7.	-1.116	-0.52	0.313	1.315	1.89	2.511	1.651
11.	-1.825	-1.232	-0.467	0.42	1.009	1.706	1.447
13.	-1.14	-0.524	0.062	0.787	1.291	1.991	2.348
14.	**-0.909**	**-0.348**	**0.161**	**0.722**	**1.108**	**1.609**	**3.117**
16.	-2.107	-1.086	-0.165	0.992	1.692	2.421	0.951
17.	-1.084	-0.188	0.608	1.6	2.089	2.903	1.516
18.	-1.671	-1.023	-0.36	0.587	1.059	1.752	1.55
20.	-0.733	0.021	0.835	1.955	2.526	3.424	1.547

Table 4 - Regression results and comparisons of variance for the CPAQ-2, -8, and -20

Step	Variable		Δ R^2	B (final model)
	Depression			
1	Data collection setting (1 = clinic, 2 = online)			.17****
	Age			-.05*
	Education (yrs)			.01
	Pain duration		.01****	-.0003
2	Usual Pain Intensity (past wk)		.05****	.16****
3a	CPAQ-2		.20****	-.48****
		Total r^2	.26	
3b	CPAQ-8		.23****	-.51****
		Total r^2	.29	
3c	CPAQ-20		.18****	-.47****
		Total r^2	.24	
	Pain Anxiety			
1	Data collection setting (1 = clinic, 2 = online)			.25****
	Age			.02
	Education (yrs)			-.004
	Pain duration		< .01	-.02
2	Usual Pain Intensity (past wk)		.05****	.14****
3a	CPAQ-2		.28****	-.57****
		Total r^2	.33	
3b	CPAQ-8		.29****	-.61****
		Total r^2	.34	
3c	CPAQ-20		.21****	-.51****
		Total r^2	.26	

(Table continues)

Table 4 (con't)

	Physical Disability (SIP/SIP-CP)			
1	Age			.06/.01
	Education (yrs)			.02/.02
	Pain duration		.01/<.01	.07*/.06
2	Usual Pain Intensity (past wk)		.10****/.01***	.23****/.03
3a	CPAQ-2		.14****/.21****	-.39****/-.46****
		Total r^2	.25/.22	
3b	CPAQ-8		.14****/.21****	-.39****/-.46****
		Total r^2	.25/.22	
3c	CPAQ-20		.12****/.20****	-.35****/-.28****
		Total r^2	.23/.21	
	Psychosocial Disability (SIP/SIP-CP)			
1	Age			-.15****/.03
	Education (yrs)			.001/-.02
	Pain duration		.03****/.01	.05/-.04
2	Usual Pain Intensity (past wk)		.04****/.001	.11***/-.03
3a	CPAQ-2		.18****/.14****	-.44****/-.38****
		Total r^2	.26/.15	
3b	CPAQ-8		.22****/.14***	-.48****/-.38****
		Total r^2	.29/.15	
3c	CPAQ-20		.21****/.16****	-.48****/-.51****
		Total r^2	.28/.17	