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Influence of Defensiveness on Disability in a Chronic Musculoskeletal Pain Population.

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Abstract:

Objective: This study aimed to identify, (1) the proportion of the defensive high-anxious personality type in a chronic pain population; and (2) whether personality type affects the relationships between cognitive factors and disability.

Method: Sixty patients with chronic musculoskeletal pain, referred to a hospital for treatment, completed questionnaires assessing defensiveness, trait-anxiety, pain intensity, disability, depression, catastrophizing, self-efficacy and kinesiophobia. Personality type was assessed using the State-Trait Anxiety Inventory and the Marlowe-Crowne Social Desirability Scale.

Results: Within the defensive high-anxious group, lower levels of self-efficacy, and high levels of depression and catastrophizing most strongly predicted perceptions of disability. Interestingly, the cognitive variables failed to significantly predict disability for individuals lower in anxiety and defensiveness, however, pain intensity did have a greater effect, explaining 36% of the variance.

Conclusions: The interaction of defensiveness and anxiety plays an important role in patients' perceptions of, and outcomes from, chronic pain. Differentiating the defensive high-anxious group revealed different patterns of relationship between a range of cognitive factors and disability. This highlights the necessity of assessing personality characteristics that include defensiveness in order to identify those individuals who may be more vulnerable to cognitive factors influencing their perceptions of disability. If personality type is identified as a predictor of poor adjustment, interventions could be customized to the unique needs of this group (e.g. high defensive and anxious individuals).

Key words: chronic pain; defensive high-anxious; disability; personality type.

Introduction:

Chronic musculoskeletal pain affects approximately 10 million individuals and has significant psychological [1], physical [2] and social implications[3]. Individuals suffering with chronic musculoskeletal pain have an effect on the economy and tend to be heavy users of the healthcare system. The primary outcome objective for most chronic pain patients is to reduce pain intensity and the resulting disability [4].

There is increasing evidence to show that psychological (cognitive) factors are relevant to the development of, treatment response, and clinical outcome from chronic pain [5, 6]. Based upon previous work [7], and in an attempt to explain how some of these cognitive factors contribute to the debilitating nature of chronic pain, Vlaeyen et al. [8] and Vlaeyen and Linton [9] proposed the Fear Avoidance Model. The model suggests that the development of pain depends on the way individuals interpret their pain. When pain is appraised as non-threatening, patients are likely to maintain engagement in daily activities, thereby promoting recovery. In contrast, when pain is catastrophically mis-interpreted, a vicious cycle tends to occur. This leads to the individual developing a disproportionate and irrational fear of pain, this, in turn, leads to a fear of movement as a means of pain avoidance or escape. This pattern of appraisal, particularly if associated with cessation of critical social or employment activities, is predicted to lead to disuse, disability and depression. The long-term consequences of disuse and disability may also lower the individual's pain tolerance and lead to further fear of movement and lower self-efficacy [10]. Research has supported this model [10, 11] and the relationship between these psychological variables and clinical outcome [12]. Specifically, lower functional self-efficacy, greater catastrophizing and disability have been associated with perceptions of greater pain intensity. In addition, greater catastrophizing, lower functional

self-efficacy and higher levels of depression have been associated with increased levels of disability [13, 14]. Anxiety levels, in particular, can increase fear of movement and as a result are associated with differences in pain perception and disability. Pain-related state-anxiety has been shown to predict pain and disability at 12 months follow-up [15], however, an individual's trait-anxiety will also affect how they respond to pain. Cognitive factors such as a tendency to selectively attend to physical stimuli and to interpret such stimuli negatively can amplify the pain experience [16]. High trait-anxious individuals are more likely to catastrophize, report higher disability and have a greater fear of movement than low-anxious individuals. Previous research has suggested that attentional processes may differ based on an individual's trait disposition to fear or pain-related stimuli [17].

Within some clinical populations, variations in trait-anxiety and defensiveness have been strongly linked to differences in treatment preferences and health outcome [18]. Weinberger, Schwartz and Davidson [19] proposed four personality groupings based on self-reports of trait-anxiety and defensiveness. These groups are typically termed; repressors (low anxiety, high defensiveness), defensive high-anxious (high anxiety and defensiveness), high-anxious (high anxiety, low defensiveness) and low-anxious (low anxiety and defensiveness). The four groups show different attentional and interpretive biases, which influence their perception of threatening stimuli [20]. High-anxious individuals selectively attend to threatening stimuli and interpret ambiguous stimuli as threatening. Repressors, on the other hand, show opposite biases, which lead them to avoid threatening stimuli and interpret ambiguous stimuli as benign. Low-anxious individuals tend to show no attentional or interpretive biases. Although there are no specific predictions about defensive high-anxious individuals, they are predicted to have similar biases to high-anxious individuals [21, 22]. Interestingly, the high-

anxious and defensive high-anxious groups have demonstrated similar interpretive biases for their ability to control future events, with both showing undue pessimism [21, 23]. Defensive high-anxious individuals are broadly similar to high-anxious individuals, however, in some situations the defensive coping style of defensive high-anxious individuals provides them with limited protection from worry [22].

Previous research has primarily investigated the way repressors respond to pain [24] and cope with illnesses such as cancer [25, 26]. Limited studies have identified all four-personality types, with defensive high-anxious individuals often omitted due to their scarcity within the general population (estimated at 7%-10%). In a notable exception, Prasertsri et al. [26] identified the four groups in a lung cancer outpatient group. The authors found that defensive high-anxious individuals reported higher catastrophizing than repressors. This may be indicative that defensive high-anxious individuals have negative thoughts about their pain and adopt maladaptive coping strategies. In contrast to their prevalence in the general population, Lewis, Fowler, Woby and Holmes [27] and Creswell and Chalder [28] identified 39%-46% of individuals in different chronic musculoskeletal pain populations as defensive high-anxious. In a low back pain population, Franklin, Smith and Fowler [29] found that defensive high-anxious individuals were the most persistent in seeking treatment and reported higher depression and disability compared to repressors and low-anxious individuals. The tendency for these individuals to continue to seek treatment may explain the higher proportion of defensive high-anxious individuals found in chronic pain populations. These findings suggest that variations in defensiveness and trait-anxiety together, affect the experience of and response to pain symptoms.

Due to the scarcity of defensive high-anxious individuals in the general population, there is limited evidence of how they respond to threatening situations (e.g. chronic pain). In light of the high proportion of defensive high-anxious individuals identified from the limited body of research in musculoskeletal pain populations, it would seem important to investigate further how they respond to chronic pain to better understand why they appear to be disproportionately represented. Unlike in previous research, individuals who score in the mid-range on trait-anxiety and defensiveness ('non-extreme' scorers) were included in the current study to help understand how they differ from more extreme defensive high-anxious individuals. Consequently, this study aims to identify, (1) the proportion of defensive high-anxious individuals, as defined by Weinberger et al. [19] within a chronic musculoskeletal pain population; and (2) whether personality type affects the relationships between cognitive factors and disability.

Method:

Participants

Participants were 60 patients with chronic musculoskeletal pain referred to a hospital for treatment. Patients who had suffered from chronic pain for more than 3 months, were given an information pack by their clinician asking them to contact the Chief Investigator of the study if they wished to take part. Volunteer participants then completed a series of self-report measures. Personality type was assessed based on criterion splits on the trait subscale of the State-Trait Anxiety Inventory (STAI) [30] and the Marlowe-Crowne Social Desirability Scale (MC-SDS) [31]. Repressors (REP; n= 5) were defined as scoring higher than 8 on the MC-SDS and lower than 29 on the STAI. Defensive high-anxious (DHA; n= 18) individuals were

classified as scoring higher than 8 on MC-SDS and 45 on the STAI. Finally, high-anxious (HA; n= 11) individuals scores lower than 5 on the MC-SDS and higher than 45 on the STAI. The 'non-extreme' (NE) group who scored between 5-8 on the MC-SDS and 29-45 on the STAI (n= 27) were also analysed. Patient characteristics are presented in Table 1. Ethical approval was granted by Manchester Metropolitan University Ethics committee and the NHS Health Research Authority.

Measures

Current Pain Intensity

A numerical rating scale (NRS) was used to assess pain intensity. Participants were asked to rate their pain over the last 24 hours on a scale ranging from (0) 'no pain' to (10) 'pain as bad as could be'. The 11 point NRS has been supported by previous research and has been recommended by the Initiative on Methods, Measurement and Pain Assessment in Clinical Trial (IMMPACT) to assess chronic pain intensity [32].

Defensiveness

The 10-item short form of the Marlowe-Crowne Social Desirability Scale (MC-SDS) [31] was used to assess defensiveness and to discriminate defensive high-anxious from high-anxious individuals. The scale consists of items that are culturally approved but unlikely to occur. A correlation coefficient of $r = 0.9$ ($p < 0.001$) has been reported between the 10 item MC-SDS and the original 33 item MC-SDS [33] with an internal consistency alpha coefficient of 0.66 [34].

Trait-Anxiety

The trait scale of the State-Trait Anxiety Inventory (STAI) [30] was used to assess trait-anxiety. The scale consists of 20 statements that participants rate on a scale of 1 (not at all) to

4 (very much so). The trait component of the STAI has a test-retest reliability of between 0.73 and 0.86 [30].

Catastrophizing

The Pain Catastrophizing Scale (PCS) [35] is a self-report measure of catastrophic thinking associated with pain and consists of 13 items. The PCS asks participants to reflect on their painful experiences and indicate the degree which they experienced the 13 thoughts or feelings on a 5-point, Likert scale ranging from 0- 'not at all' to 4- 'all the time'.

Depression

The CES-D [36] is a 20 item self-report measure of depression symptoms. Each item asks participants how frequently a specific symptom was experienced in the past week, ranging from 0 (not even one day) to 3 (daily). High internal consistency has been reported with coefficient alphas ranging from 0.85-0.92 [36].

Disability

The Roland Morris Disability questionnaire (RDQ) [37]was used to assess disability due to pain. This is a 24 item self-report measure where participants answer either 'true' or 'false' to each statement about how they are feeling today. This measure has shown an acceptable level of reliability, with a correlation coefficient of 0.91 [37] and internal consistency of 0.90 [38].

Functional Self-efficacy

Similar to Woby et al. [5], the functional subscale of the Chronic Pain Self-Efficacy Scale (CPSS-PF) [39] was used to measure functional self-efficacy. The questionnaire comprises of nine items scored on a 9 point, Likert scale. Three written descriptors anchor the scale scores at 0 (Totally Unconfident), 4 (Moderately Unconfident) and 8 (Totally Confident).

Woby, et al. [40] assessed the psychometric properties of this scale. They reported alpha coefficients for internal consistency of 0.88 and test-retest reliability of 0.80-0.93.

Kinesiophobia

For the purposes of this study, the 11 item version of The Tampa Scale of Kinesiophobia (TSK) [41] was utilised to measure fear of movement or (re)injury. Respondents rate themselves on a 4-point, Likert scale ranging from 'strongly agree' to 'strongly disagree'. The 11 item demonstrates good internal consistency (α= 0.79), and test-retest reliability (ICC= 0.81) [42].

Statistical analyses

An initial heterogeneity check was done to ensure the groups differed in defensiveness and trait-anxiety. Zero-order correlations were calculated to determine the relationships between the cognitive factors. A multivariate analysis of variance (MANOVA) and analysis of variance (ANOVA) and *post-hoc* Tukey honest significant difference (HSD) were conducted to identify between-group differences on the cognitive measures. Two hierarchical regression analyses were performed to determine the extent to which the cognitive measures predicted levels of disability in the defensive high-anxious group and the non-extreme group. Due to low numbers, the repressor group were excluded from regression and ANOVA analysis. With disability as the outcome variable of interest, age, sex and pain duration were entered in step 1, pain intensity in step 2, and the cognitive variables were entered in step 3.

Results:

Patient Characteristics

Table 1 shows the baseline characteristics for the groups. All groups reported moderate levels of pain (NRS 5.5-6.4) and moderate to high levels of disability (RDQ 12.63-18.60). A statistical heterogeneity check was performed for the three personality groups prior to the main data analysis to confirm differences in trait-anxiety and defensiveness. The one-way Analysis of Variance (ANOVA) for trait-anxiety revealed significant differences between the three groups, $F(2, 54) = 17.603$, $p < 0.01$. *Post-hoc* Tukey honest significant difference (HSD) analysis confirmed the defensive high-anxious differed significantly from the non-extreme group. In addition, the high-anxious group differed from the non-extreme group. A one-way ANOVA of the MC-SD scores showed significant differences between the three groups, $F(2, 54) = 52.179$, $p < 0.01$. *Post-hoc* Tukey HSD analysis confirmed significant differences in MC-SD scores between the defensive high-anxious and the high-anxious and non-extreme individuals.

Relation between the psychological measures

Table II indicates there were significant correlations between the cognitive measures. Catastrophizing was negatively related to self-efficacy and positively related to depression, kinesiophobia, trait-anxiety, depression and pain intensity. Depression was negatively correlated with self-efficacy and positively related to defensiveness, trait-anxiety, catastrophizing, kinesiophobia, pain intensity and disability. Self-efficacy was associated negatively with trait-anxiety, catastrophizing, depression, pain intensity and disability. Kinesiophobia was associated negatively associated with self-efficacy and positively related to trait-anxiety, catastrophizing, depression and disability.

The MANOVA showed significant between-group differences in cognitive variables (Wilks' Lambda = 0.232, F(21, 144) $p < 0.05$). The ANOVA demonstrated a significant difference between the defensive high-anxious and non-extreme group and between the high-anxious and non-extreme groups for disability. A significant difference was found between the defensive high-anxious and non-extreme group for catastrophizing. The defensive high-anxious and high-anxious groups both differed from the non-extreme individuals and repressors for depression. No significant differences were found between groups for pain intensity, self-efficacy or kinesiophobia.

Regression analysis:

Preliminary examination of the data

None of the correlation coefficients (Table 2) exceeded 0.90, indicating the data were not affected by singularity. Durbin-Watson values were within acceptable limits for all regression analyses, suggesting that the assumption of independent errors was met. The predictor variables used in each of the regression analyses had variance inflation factors that were considerably less than 10 and tolerance levels that were higher than 0.2 indicating no problems with multicollinearity.

Analyses 1- predicting disability from the cognitive measures in the defensive high-anxious group.

Age, sex and pain duration were not significantly related to levels of disability ($p = 0.11$). In the second step, current pain intensity was shown unrelated to levels of disability ($p = 0.23$). However, after controlling for the effects of demographics and pain intensity, self-efficacy,

depression and catastrophizing explained 48% ($p < 0.01$) of the variance in levels of disability. Examination of the beta values (Table 3) revealed that lower self-efficacy ($\beta = -0.66$, $p < 0.05$) greater depression ($\beta = 0.66$, $p < 0.05$), and greater catastrophizing ($\beta = 0.44$, $p < 0.05$) were related to greater levels of disability.

Analyses 2- predicting disability from the cognitive measures in the non-extreme group.

Table 4 shows that in step 1, age, sex and pain duration were not significantly related to levels of disability ($p = 0.25$). In step 2, current pain intensity significantly explained 36% ($p < 0.05$) of the variance in disability. After controlling for the effects of demographics and pain intensity, the cognitive measures did not contribute to the variance in levels of disability. Examination of the beta values for the final model revealed that higher pain intensity ($\beta = 0.50$, $p < 0.05$) was related to greater levels of disability.

Discussion:

There were two aims to this study, firstly, to identify the proportion of defensive high-anxious individuals, as defined by Weinberger et al. [19], within a chronic musculoskeletal pain population. Secondly, to identify whether variations in defensiveness, affect the link between cognitive factors and disability.

Only two studies have investigated the proportion of defensive personality types in a chronic low back pain [27] and a chronic fatigue syndrome population [28]. Whilst there is a relatively low proportion of defensive high-anxious individuals in the general population, our study supports previous research [27, 28] with evidence of a higher proportion of defensive high-anxious (30%) individuals in a chronic musculoskeletal pain population. This supports the

notion proposed by Franklin et al. [29] that defensive high-anxious individuals are more persistent in the care system and thus more likely to be referred to hospital based pain management centers. The low number of repressors in this study (8%) might indicate a reduced willingness to seek treatment and a preference to self-manage. Previous research has found repressors respond better to treatment when they maintain a feeling of control and tend to be overly optimistic regarding their own behaviours, which may influence their response and adherence to treatment [18, 43].

An individual's interpretation of their pain intensity is a complex phenomenon. Franklin et al. [29] found that although defensive high-anxious and repressor individuals reported similar levels of pain intensity, their interpretation of this pain, indicated through levels of depression and disability, varied. Interestingly, the defensive high-anxious and high-anxious groups in this study reported significantly higher catastrophizing and depression and lower self-efficacy compared to the non-extreme group. Both groups, however, reported similar levels of pain intensity, and there were no differences in their pain duration. These findings support the suggestion by Eysenck [22] that defensive high-anxious individuals have similar interpretive biases to threat as high-anxious individuals, however, it also highlights important individual differences when treating patients. Defensiveness and trait-anxiety are both assumed to be relatively stable traits. Therefore, the corroboration of findings of a high proportion of defensive high-anxious individuals found in this study, and the increased likelihood of re-presenting for treatment would suggest this group might differ in their approach to managing chronic pain from the high-anxious group.

The second aim of this study was to identify whether the level of defensiveness affected the relationships between cognitive factors, pain intensity and disability. To our

knowledge, there are no studies which have investigated the effect of cognitive factors on disability using Weinberger et al.'s [19] personality types in a chronic musculoskeletal pain population. The present study showed that higher levels of depression, catastrophizing and lower levels of self-efficacy had a greater effect on the prediction of disability in the defensive high-anxious group. However, within the non-extreme group no such relationship was shown. Interestingly, whilst the cognitive variables did not influence disability for the non-extreme group, pain intensity explained 36% of the variance in disability.

Identifying individuals with high defensiveness and trait-anxiety has provided interesting insights into the relationship between pain and disability. Within the defensive high-anxious group, pain intensity had no significant relationship with disability, however, cognitive factors (catastrophizing, depression and self-efficacy) explained 48% of the variance. Previous research within a cancer population [26] found that defensive high-anxious individuals engaged in significantly more catastrophizing and reported greater depression compared to those with lower trait-anxiety. The difference in the influence of catastrophizing on disability, shown between the defensive high-anxious group and the other patients, may provide insight into the variability of this relationship in previous literature. Interestingly, previous studies in which catastrophizing failed to predict disability have primarily drawn participants from primary care, acute pain groups [44, 45]. Based on the work by Franklin et al. [29], it may be reasonable to assume that the proportion of defensive high-anxious individuals in these populations would be much lower than that seen in the hospital-based interventions. It could thus indicate that the differentiator between these studies is the degree of defensiveness.

Catastrophizing is a maladaptive cognitive method of coping with pain [46], high catastrophizing can lead individuals to be more pessimistic about coping strategies, to worry

and be more likely to anticipate negative outcomes. Research has shown that vigilance to threatening stimuli (e.g. disability) is related to catastrophic thinking [47]. If defensive high-anxious individuals are more likely to focus on their condition and utilise maladaptive strategies, this could explain why they re-present for treatment and may perceive no improvement in treatment outcome. Therefore, for defensive high-anxious individuals, strategies that focus on pain-related outcomes may not be as beneficial as those focused on reduced worry about future events, such as disability and daily functioning.

Although cognitive factors explained a large proportion of variance in disability for the defensive high-anxious group, it is surprising that kinesiophobia was not linked with changes in disability. This finding is consistent with Thompson et al.[13] who suggested that self-efficacy is likely to emerge as a stronger predictor of disability when investigated alongside pain-related fear in patients with chronic pain. Findings of the present study are in agreement that low self-efficacy was a significant predictor of disability alongside depression and catastrophizing [14, 48].

Notably, within the non-extreme group, pain intensity showed a stronger relationship with disability compared with cognitive factors. This supports previous work which have shown pain intensity to describe a moderate amount of variance within these factors [8]. This is in line with the strong correlation between pain intensity and disability previously reported within acute pain populations [49]. Within the non-extreme individuals, pain coping strategies learnt at pain management programmes may allow them to effectively reduce levels of pain intensity. In turn, this may lead to lower levels of disability and greater satisfaction with treatment.

Based on the findings of this study, it can be concluded that the interaction of defensiveness and trait anxiety plays an important role in determining the progression and outcome of chronic pain. Differentiating the defensive high-anxious group revealed different patterns of relationship between a range of cognitive factors and disability. This may explain some of the variance evident from previous literature where trait-anxiety was the sole focus. This has important clinical implications, which highlight the necessity of assessing personality characteristics that include defensiveness in order to identify individuals whose characteristic patterns of cognition influence their levels of disability. Future research of a longitudinal nature should aim to examine the mechanisms of causality implied by these findings. If personality type can be identified as a predictor of poor adjustment in chronic pain populations, long term, and early interventions could be customized to meet the unique needs of this group (e.g. in high defensive and trait-anxious individuals).

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Table 1. Mean ± SD baseline characteristics of the four groups

	DHA (n= 18)	HA (n= 11)	REP (n= 5)	LA (n= 0)	NE (n=27)
Proportions (%)	30	18	8	0	45
Sex (Female/Male)	16/2	7/3	4/1	0	20/7
Age (years)	56.56 ± 16.00	44.70 ± 12.51	44.17 ± 11.03	0	54.31 ± 14.79
Pain duration (years)	11 ± 12	9 ± 9	8 ± 7	0	10 ± 14
Pain Intensity	5.7 ± 2.72	6.4 ± 2.08	6.3 ± 1.30	0	5.5 ± 2.44
Defensiveness	8.33 ± 0.59	3.80 ± 1.86	9.00 ± 0.17	0	6.30 ± 1.14
Trait anxiety	50.61 ± 6.34	55.50 ± 16.53	26.20 ± 3.03	0	40.19 ± 8.81
Disability	16.89 ± 4.07	18.60 ± 5.70	13.40 ± 5.98	0	12.63 ± 5.48
Catastrophizing	28.06 ± 13.58	28.00 ± 14.12	17.40 ± 11.19	0	16.93 ± 11.32
Depression	27.67 ± 8.21	33.70 ±15.05	10.00 ± 5.79	0	14.44 ± 8.58
Self-efficacy	33.72 ± 21.13	24.30 ± 15.18	39.20 ± 24.19	0	43.74 ± 20.65
Kinesiophobia	25.94 ± 8.08	29.70 ± 10.78	21.00 ± 7.11	0	23.11 ± 8.76

Table 2. Zero-order correlations between the psychological factors, pain intensity and disability.

	Pain Intensity	Defensiveness	Trait anxiety	Disability	Catastrophizing	Depression	Self-Efficacy	Kinesiophobia
Pain Intensity	-							
Defensiveness	-.168	-						
Trait anxiety	.166	-.447**	-					
Disability	.421**	-.256*	.540**	-				
Catastrophizing	.295*	-.170	.482**	.635**	-			
Depression	.338**	-.379**	.762**	.728**	.611**	-		
Self-Efficacy	-.457**	.127	-.440**	-.699**	-.409**	-.620**	-	
Kinesiophobia	.028	-.243	.372**	.409**	.633**	.511**	-.367**	-

Table 3. Regression analysis on the defensive high-anxious group with disability as the dependent variable.

Step	R^2	R^2 change	F change	Standardised β	t
1. Demographics	0.32	0.32	2.32		
Age				-0.69	-2.37
Sex				0.43	1.82
Pain duration				0.27	0.99
2. Pain intensity	0.40	0.07	1.53	0.30	1.23
3. Cognitive factors	0.88	0.48	8.73*		
Self-efficacy				-0.66	-2.89*
Depression				0.66	2.71*
Catastrophizing				0.44	2.51*
Kinesiophobia				-0.09	-0.55

Table 4. Regression on the non-extreme group with disability as the dependent variable.

Step	R^2	R^2 change	F change	Standardised β	t
1. Demographics	0.16	0.16	1.47		
Age				-0.21	-1.04
Sex				0.11	0.55
Pain duration				0.39	1.89
2. Pain intensity	0.36	0.25	6.96*	0.50	2.64
3. Cognitive factors	0.60	0.42	2.74		
Self-efficacy				-0.35	-1.70
Depression				0.10	0.36
Catastrophizing				0.47	1.65
Kinesiophobia				-0.19	-0.89

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Kinesiophobia	.028	-.243	.372**	.409**	.633**	.511**	-.367**	-

*Correlation is significant at the level 0.05
*Correlation is significant at the level 0.01

Table 3. Regression analysis on the defensive high-anxious group with disability as the dependent variable.

Step	R^2	R^2 change	F change	Standardised β	t
1. Demographics	0.32	0.32	2.32		
Age				-0.69	-2.37
Sex				0.43	1.82
Pain duration				0.27	0.99
2. Pain intensity	0.40	0.07	1.53	0.30	1.23
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Self-efficacy				-0.66	-2.89*
Depression				0.66	2.71*
Catastrophizing				0.44	2.51*
Kinesiophobia				-0.09	-0.55

Table 4. Regression on the non-extreme and high-anxious groups with disability as the dependent variable.

Step	R^2	R^2 change	F change	Standardised β	t
1. Demographics	0.16	0.16	1.47		
Age				-0.21	-1.04
Sex				0.11	0.55
Pain duration				0.39	1.89
2. Pain intensity	0.36	0.25	6.96*	0.50	2.64
3. Cognitive factors	0.60	0.42	2.74		
Self-efficacy				-0.35	-1.70
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Kinesiophobia				-0.19	-0.89