



**Ruprecht-Karls-Universität Heidelberg  
Medizinische Fakultät Mannheim  
Dissertations-Kurzfassung**

**Psychological and Psychophysical Predictors and Inhibitory  
Control of Chronic Pain**

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**Introduction:** Back pain, the leading cause of disability worldwide, often progresses from acute to chronic stages. The subacute phase, characterized by distinct pain features, presents a critical window to identify predictive factors and implement early interventions to prevent chronicity.

**Objective:** To identify predictors of chronic back pain (CBP) by examining psychological factors and psychophysical markers in individuals with subacute back pain (SABP), assessing their influence on pain outcomes 6 months later and their role in the transition from subacute to chronic pain.

**Method:** Study One analyzed 75 SABP participants, assessing psychological factors via the Örebro Musculoskeletal Pain Questionnaire (ÖMPQ) and additional emotional, cognitive, behavioural, and social factors at baseline to identify predictors of 6-month pain severity and interference using correlation and best subsets regression. Study Two included 88 SABP, 35 CBP, and 40 healthy controls (HC), assessing central sensitization (Quantitative Sensory Testing) and descending pain inhibition (Stress-induced Pain Modulation Tests). Psychophysical measures differentiating groups were used to predict pain outcomes after six months in SABP.

**Results:** In Study One, the ÖMPQ and Pain Vigilance and Awareness Questionnaire (PVAQ) scores significantly predicted pain severity, while the ÖMPQ, the scores of Pain Behaviour Checklist, and PVAQ scores significantly predicted pain-related interference at six months, with pain hypervigilance (PVAQ) emerging as the strongest predictor of both outcomes, independent of baseline pain. Study Two showed that the central sensitization index—Wind-up Ratio—was elevated only in CBP. SABP participants exhibited impaired pain inhibition in Stress-induced Pain Modulation Tests, whereas CBP participants showed responses similar to HC, potentially moderated by long-term stress, anxiety, and depression. Psychophysical measures did not predict SABP chronicity.

**Discussion:** Both studies highlight the multidimensional nature of pain and the interplay between psychological and psychophysical factors in the development of CBP. Psychological factors, especially pain hypervigilance, are stronger predictors of back pain chronicity in the subacute stage than psychophysical markers, which may be more relevant in established chronic pain.