

# Sense of coherence predicts development of chronic widespread pain over time

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**A HIGH LEVEL OF SENSE OF COHERENCE REDUCED THE RISK FOR DEVELOPMENT AND PERSISTENCE OF CHRONIC WIDESPREAD PAIN OVER A 13 YEAR PERIOD**

## Background

Chronic musculoskeletal pain is a common condition that has become a great challenge for those affected and for the society. Although much is known about factors that are associated with chronic pain, there is less knowledge on the influence of salutogenetic factors as measured by sense of coherence (SOC) on pain, especially over time.

## Purpose

To investigate the associations between SOC, health status and chronic musculoskeletal pain in a sample from the general population followed over 13 years.

## Method

A cohort study, including 1850 subjects from the general population, with a baseline postal survey in 2003 and a follow-up in 2016. SOC was measured by a short three item questionnaire, SOC-3. Subjects were divided into three levels of SOC (low, moderate, high). Health status was measured by SF-36. Pain was reported on a pain mannequin and was categorized into three pain groups; no chronic pain (NCP), chronic regional pain (CRP), and chronic widespread pain (CWP). CWP was defined according to the ACR 1990 criteria for fibromyalgia. The results were controlled for age and gender, and where appropriate also for pain group.

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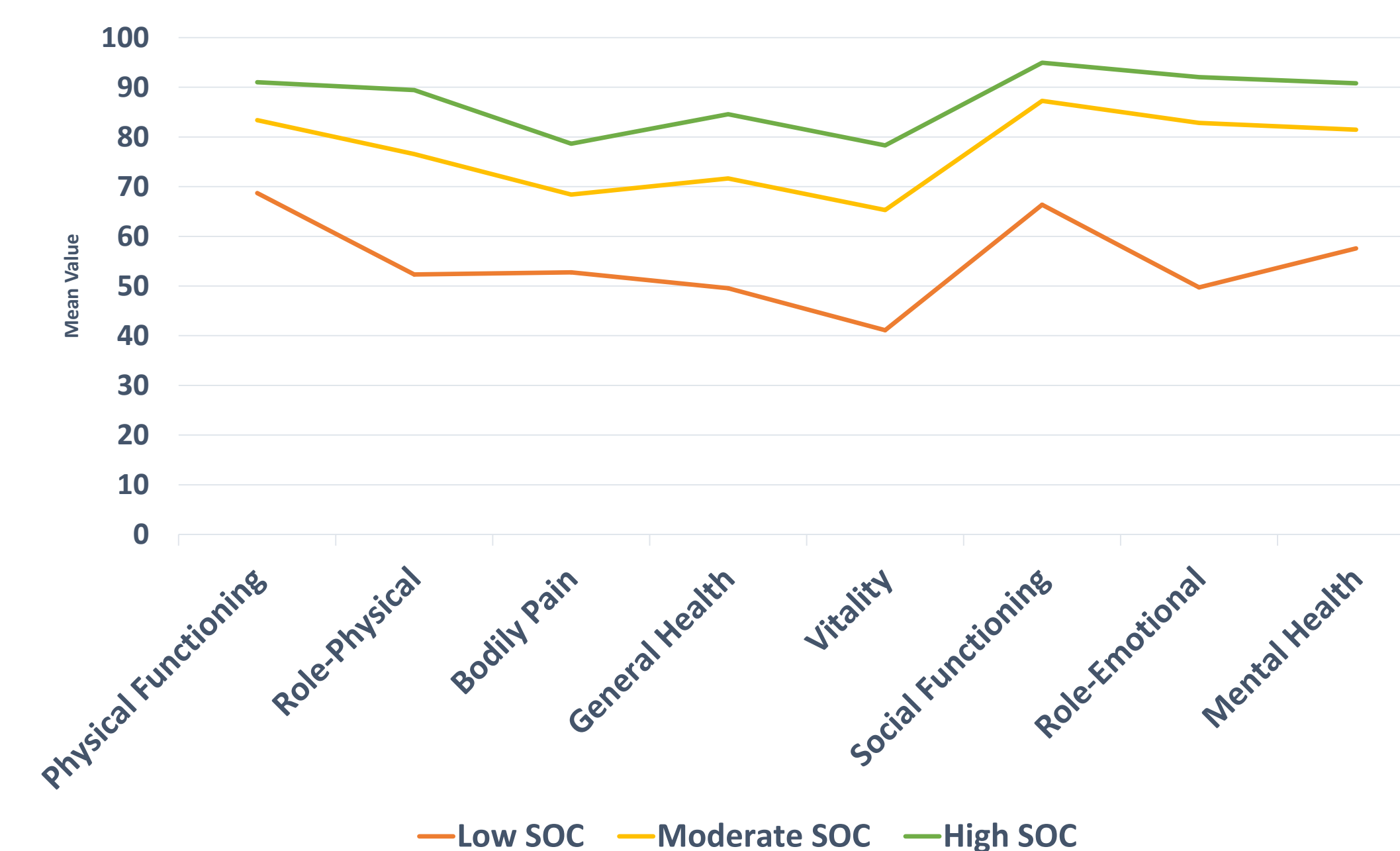


Figure 1. Health status at baseline with regard to level of SOC.

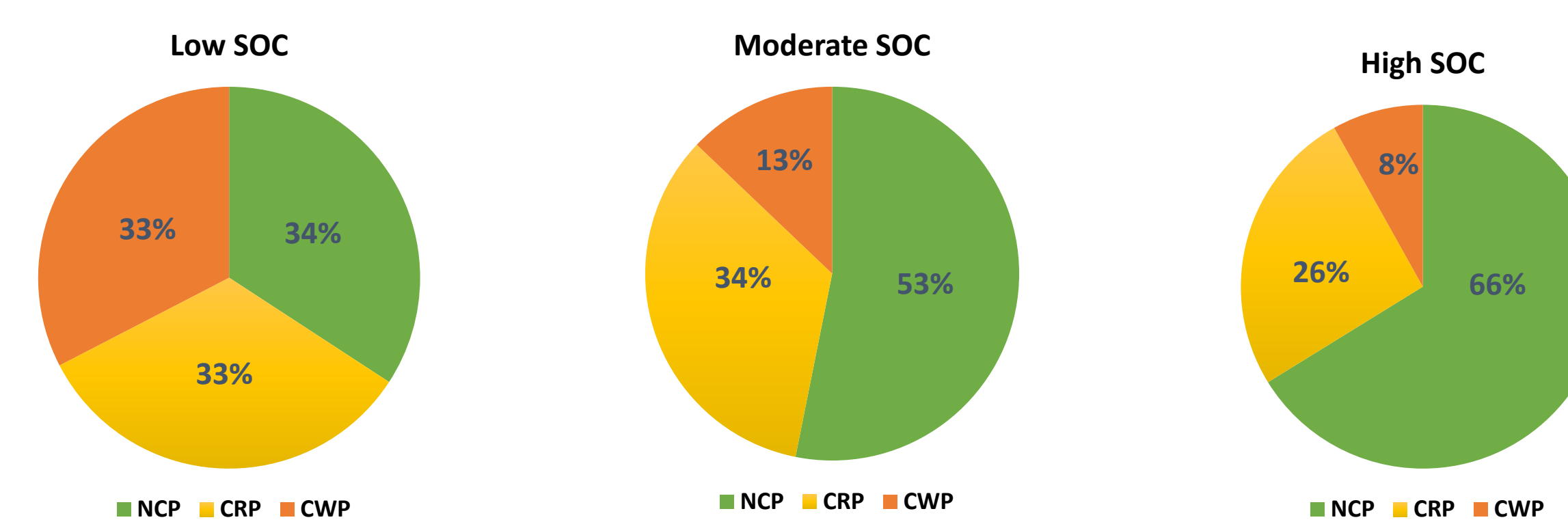


Figure 2. Pain group at baseline with regard to level of SOC. NCP= No Chronic Pain, CRP = Chronic Regional Pain, CWP = Chronic Widespread Pain

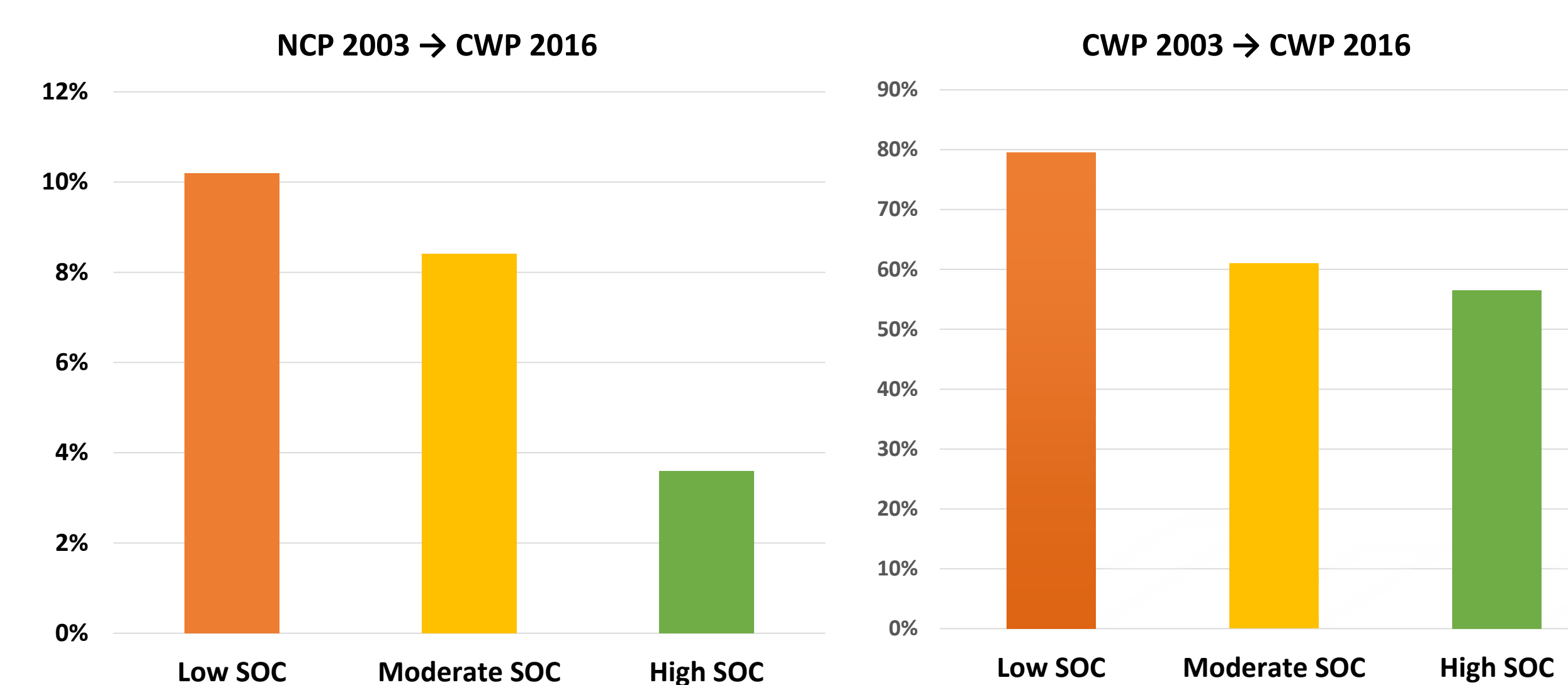


Figure 3. Pain development over 13 years with regard to baseline level of SOC for those with baseline NCP (left) and CWP (right).

## Results

Subjects with high SOC at baseline reported higher mean scores in all eight SF-36 dimensions than those with moderate or low SOC ( $p < 0.001$  for all dimensions; Figure 1).

Those with high SOC also reported a higher prevalence of NCP (66% vs. 34%;  $p < 0.001$ ) and a lower prevalence of CWP (8% vs. 33%) than subjects with low SOC (Figure 2).

In the long term follow-up, a report of high SOC significantly ( $p < 0.001$ ) predicted a better outcome with regard to development and persistence of CWP (Figure 3). Subjects with NCP and high SOC at baseline were less likely to report CWP in the thirteen-year follow-up than those with low SOC (3.6% vs. 10%). For those with CWP at baseline, subjects with high SOC twice as often reported less chronic pain (NCP or CRP) at follow-up compared to those with low SOC (43.5% vs. 20.5%). When controlled for age, gender and pain, there were no significant differences in SF-36 at follow-up for subjects with different level of SOC at baseline.

## Conclusions

High level of SOC predicted a lower risk to develop CWP over time, and a better prognosis for those with CWP at baseline. The findings suggest that it would be beneficial to develop methods and make efforts to strengthen SOC, both when meeting patients in the clinic and when making interventions on a national level.

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