

Influence of self-reported treatment expectations and motivations on treatment outcomes of a large cohort of patients with ankylosing spondylitis (AS), rheumatoid arthritis (RA), fibromyalgia (FM) and other chronic pain syndromes (CP) regularly attending the Gastein Healing Gallery

¹Toussaint LL, ²Kohls N, ³Hanshans C, ⁴Sirois F, ⁵Hirsch J, ⁶Untner H, ⁷Hölzl B, ⁸Gaisberger M, ⁶Offenbacher M

¹Luther College, Decorah, USA; ²University of Applied Science, Coburg, Germany; ³University of Applied Science, Munich, Germany; ⁴University of Sheffield, Sheffield, UK; ⁵East Tennessee State University, Johnson City, USA; ⁶Gastein Healing Gallery, Bad Gastein, Austria; ⁷St. Veit Hospital, St. Veit, Austria; ⁸Institute of Physiology and Pathophysiology, Paracelsus Medical University, Salzburg, Austria

Background: The current literature on management of patients with musculoskeletal pain indicates that factors related to patient expectations and motivations are associated with both clinical outcomes, satisfaction with treatment, and influences behavior. The purpose of this study was to examine individuals' expectations and motivations with regard to their ability to predict health and well-being outcomes in a diverse sample of individuals many of which were diagnosed with rheumatological disorders and seeking treatment at the Gastein healing gallery.

Methods: Patients were 1444 individuals diagnosed with ankylosing spondylitis (23%), arthritis (22%), or fibromyalgia (9%) or individuals who were undiagnosed but seeking relief of chronic pain (46%). Average age was 58 years, about 52% were female, and almost three quarters (73%) had a high school education or less. One-third was employed, just over one-third was retired (37%), and the remaining percentage held other roles (e.g., homemaker, student, disabled, etc.). Expectations were measured using 5 items and motivations were measured using 6 items (see Table 1). Health and well-being measures included: pain, self-rated physical health, life-satisfaction, depression, anxiety, stress, fatigue, and sleep problems. Data were analyzed using structural equation modeling where a latent variable was used to model the effects of expectations and motivations on health and well-being.

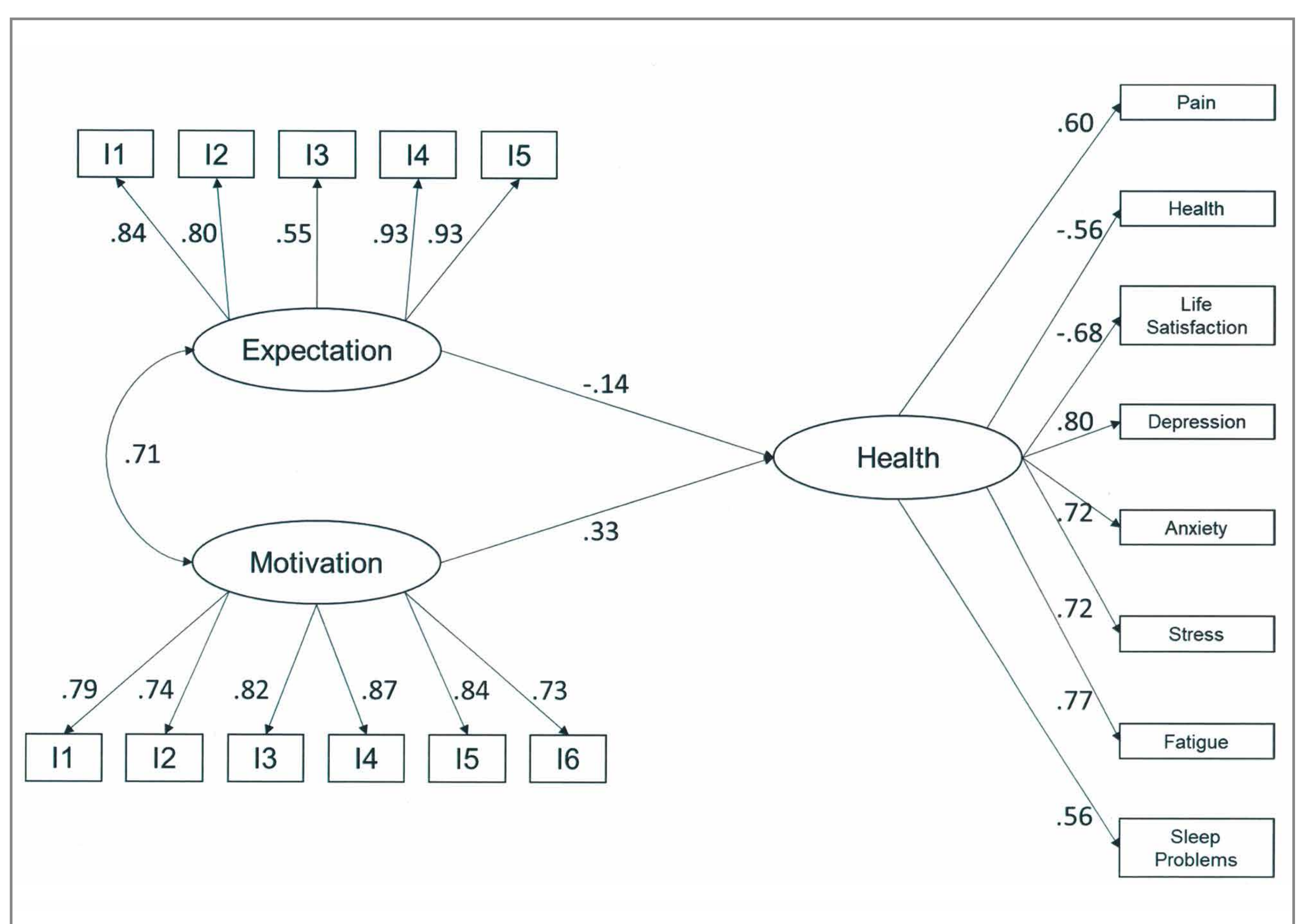
Results: Measurement models were used to first confirm that each construct was a unidimensional, well-fitting construct. Both one- and two-factor measurement models were estimated to determine if expectations and motivations scales were unique. The one-factor model did not fit the data well $\chi^2 = 3493.64$, $p < .001$, BIC = 3682.79. The two-factor model fit the data better, $\chi^2 = 1208.31$, $p < .001$, BIC = 1419.29 suggesting that expectations and motivations are unique constructs, though they are highly related, $r = .71$, $p < .001$. Structural models (see Figure 1) revealed that both expectations and motivations were significant predictors of health and well-being, after controlling age, sex, and education. Motivations were positively related to health and well-being (Beta = .33, $p < .001$) while expectations were negatively related to health and well-being (Beta = -.14, $p = .001$). Further investigation of the paradox revealed that expectations were serving as a statistical suppressor of the relationship between motivations and health and well-being.

Conclusions: While weakly positively related to health and well-being at the bivariate level, the association between expectations and health and well-being reversed direction in the structural model and acted to increase the magnitude of the association between motivations and health and well-being. Hence, this is a classic example of net statistical suppression in which the key finding is that motivations for attending the healing gallery are an important predictor of actual health and well-being outcomes.

Table 1

Expectation Items	
I am convinced, that gallery sessions help me...	
1)	to improve my health status
2)	to become more agile again
3)	to strengthen my muscles
4)	to reduce my pain
5)	to reduce my health troubles
Motivation Items	
If I perform a rehab with gallery sessions, then	
1)	I will feel physically fit again
2)	I will be able to perform strenuous activities (running fast, lifting heavy things, perform strenuous sports) again
3)	I will be able to perform moderate activities (lifting and carrying shopping bags, walking stairs, walking more than 1 km) again
4)	I will be able to perform daily chores at home or at my work without difficulties again
5)	I will be able to perform more leisure activities again
6)	I will maintain my ability to work

Figure 1



All coefficients are statistically significant $p \leq .001$ and adjusted for the effects of age, gender, and education.