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Assessment of Surgical Outcome on Self-Focused Attention, Pain, and Delayed Recall

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Purpose

Research has typically found that increases in chronic pain have an adverse effect on memory in CM (e.g., Allen et al., 2014). In this study, we examined whether control processes related to personality (e.g. reflection and rumination), pain levels, and surgical status (decompressed vs. non-decompressed) had joint effects on immediate and delayed recall memory.

Methods

We tested 638 CM patients who had (n = 341) and had not (n = 297) been surgically decompressed on the McGill Pain Questionnaire-Short Form-Revised (SF-MPQ-2) (a pain measure), the Rey Auditory Verbal Learning Test (RAVLT—immediate and delayed recall), and the Rumination-Reflection Questionnaire (RRQ—measures of self-focused attention, or reflection, and anxiety-producing rumination).

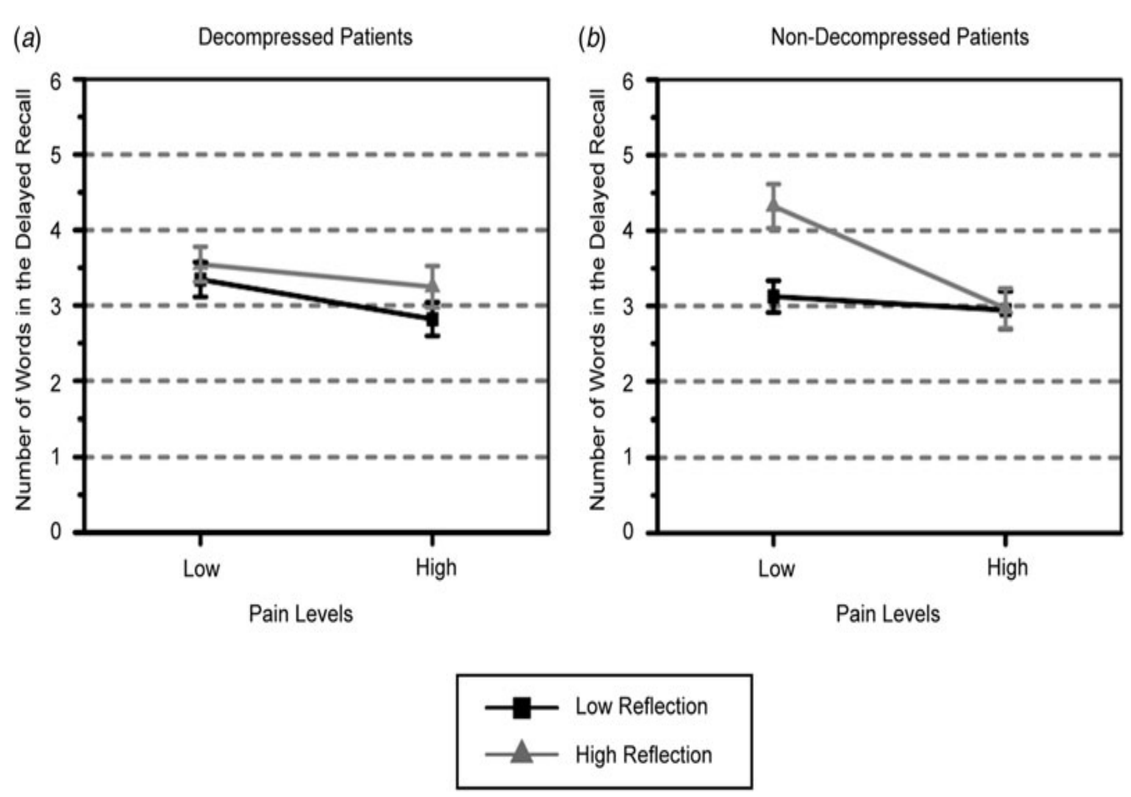
Results

The key results were that non-decompressed CM patients showed main effects for reflection (high self-focused attention showed higher recall than low), pain (low pain levels showed higher recall than high pain), and age (younger participants showed higher recall than older participants), and a Pain x Reflection x Surgical Status (surgery v. no surgery) interaction in which non-decompressed individuals with low levels of pain and high levels of reflection showed superior delayed recall relative to non-decompressed individuals with higher pain and all decompressed individuals. This complex interaction is illustrated in the Figure.

Conclusions

We assessed the effect of personality measures of reflection (self-focused attention) and rumination (neurotic self-attentiveness) on a large sample of CM patients. While rumination did not show effects on memory, higher levels of reflection were, in general, associated with better delayed recall memory. Also, for non-decompressed CM patients (but not decompressed) individuals, individuals with lower levels of pain and higher levels of self-focused attention showed better delayed recall. This suggests that individual differences in reflection may help CM patients better cope with pain—up to a point. Note the certain therapies (such as acceptance a commitment therapy) help improve reflection.

Reflection Level x Pain Level x Surgical Status Interaction for Delayed Recall



Reference: Allen, P.A., Delahanty, D., Kaut, K.P., Li, X., Garcia, M., Houston, J.R., Tokar, D.M., Loth, F., Maleki, J., Vorster, S., & Luciano, M.G. (2018). Chiari 1000 Registry Project: Assessment of Surgical Outcome on Self-Focused Attention, Pain and Delayed Recall. *Psychological Medicine, 48, 1634-1643. doi.org/10.1017/S0033291717003117*.