

Pain and Mood Regulation in Women with Chronic Pain

Mary C. Davis, Ph.D.
Department of Psychology
Arizona State University

9th Annual Pain Consortium Symposium
NIH-May 2014



Pain and emotion dysregulation

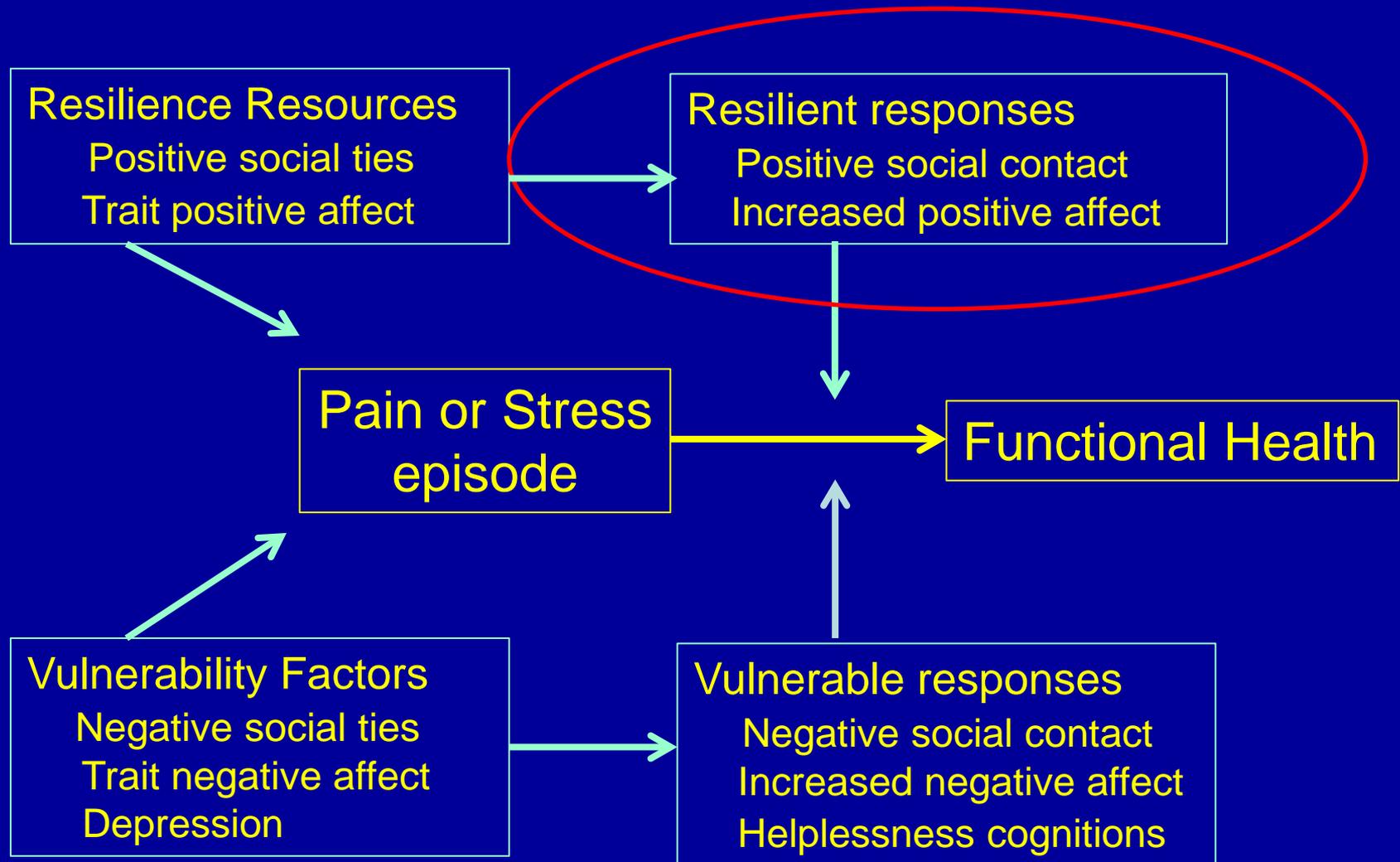
- Focus on negative emotions and vulnerability factors
 - Negative affective disturbance
 - : 2-4 X the risk of anxiety and mood disorders in National Comorbidity Survey (McWilliams et al., 2003)
- Also true that positive emotions and resilience factors are often diminished
 - Decreased positive affect and engagement (e.g., Davis et al., 2001; Zautra et al., 2005)



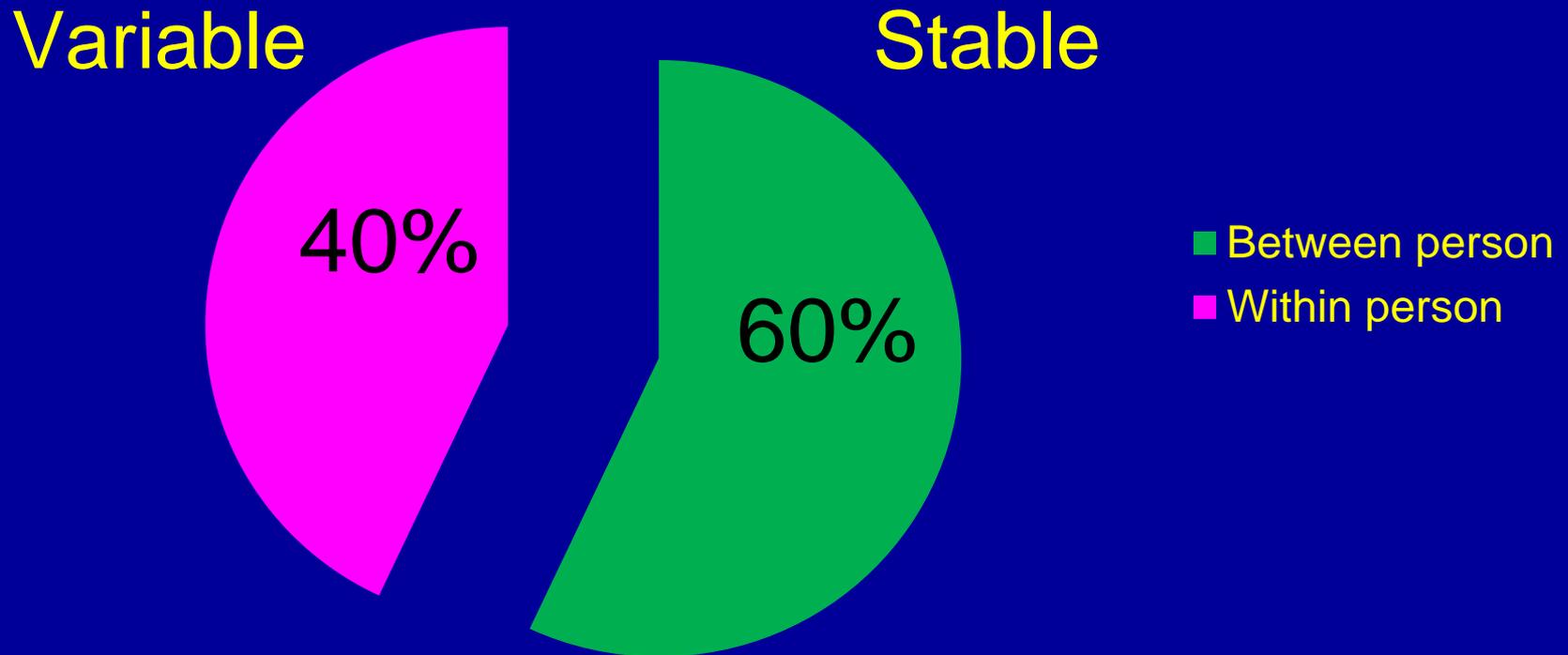
Being Irish, he had an abiding sense of tragedy, which sustained him through temporary periods of joy.

~William Butler Yeats

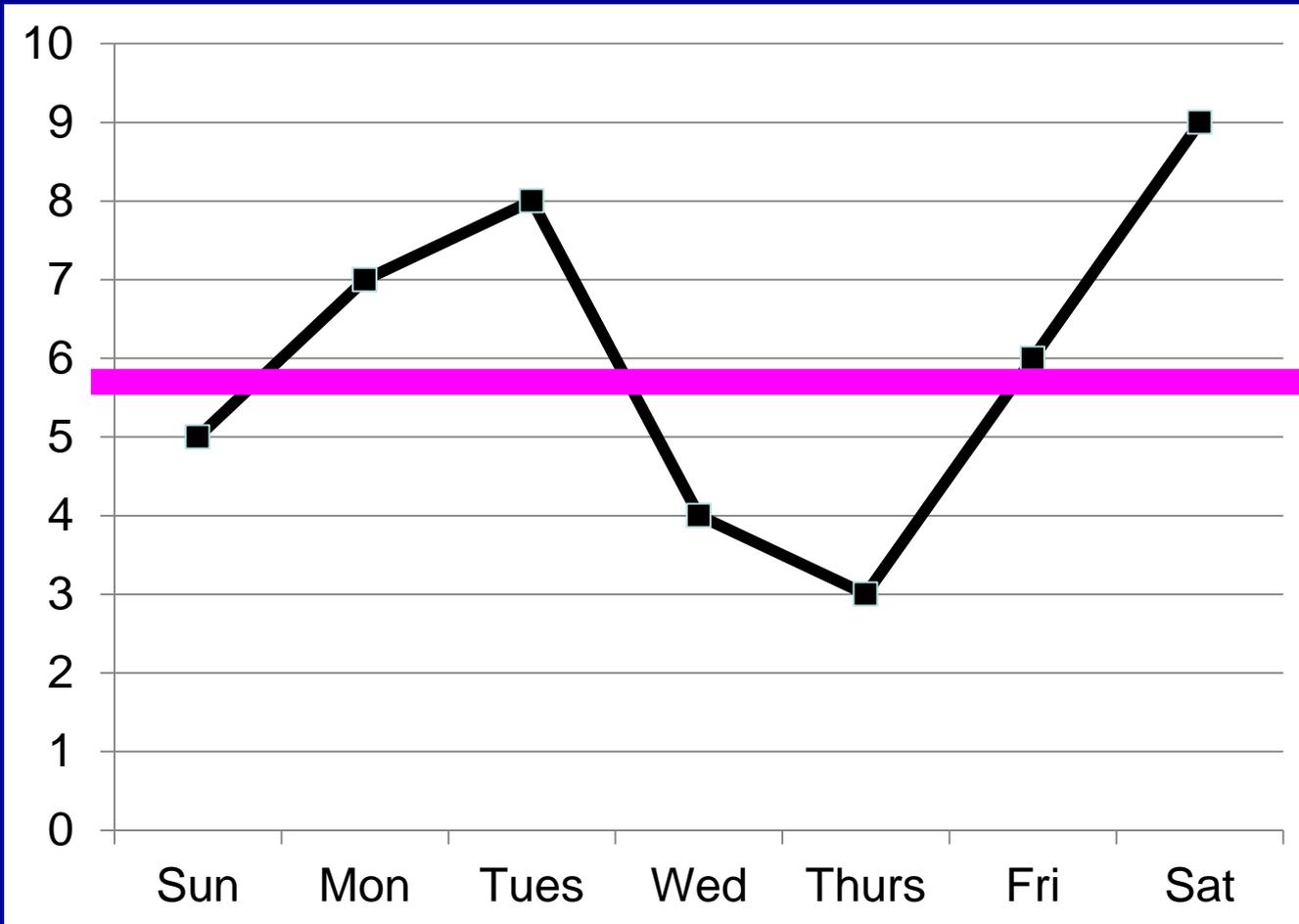
More than just negative: The role of the positive



Chronic pain varies day-to-day



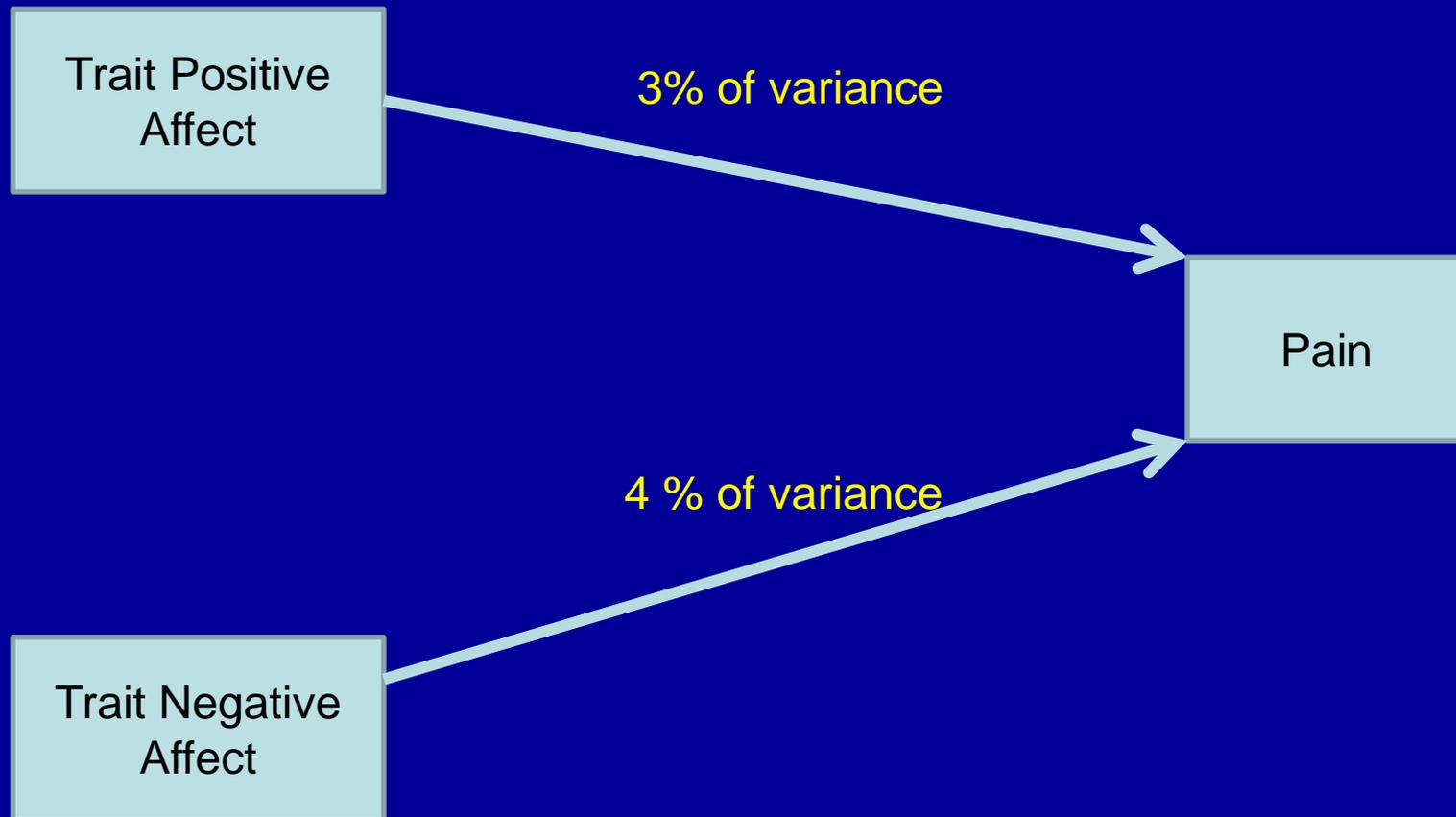
Day-to-day Pain Variation



6

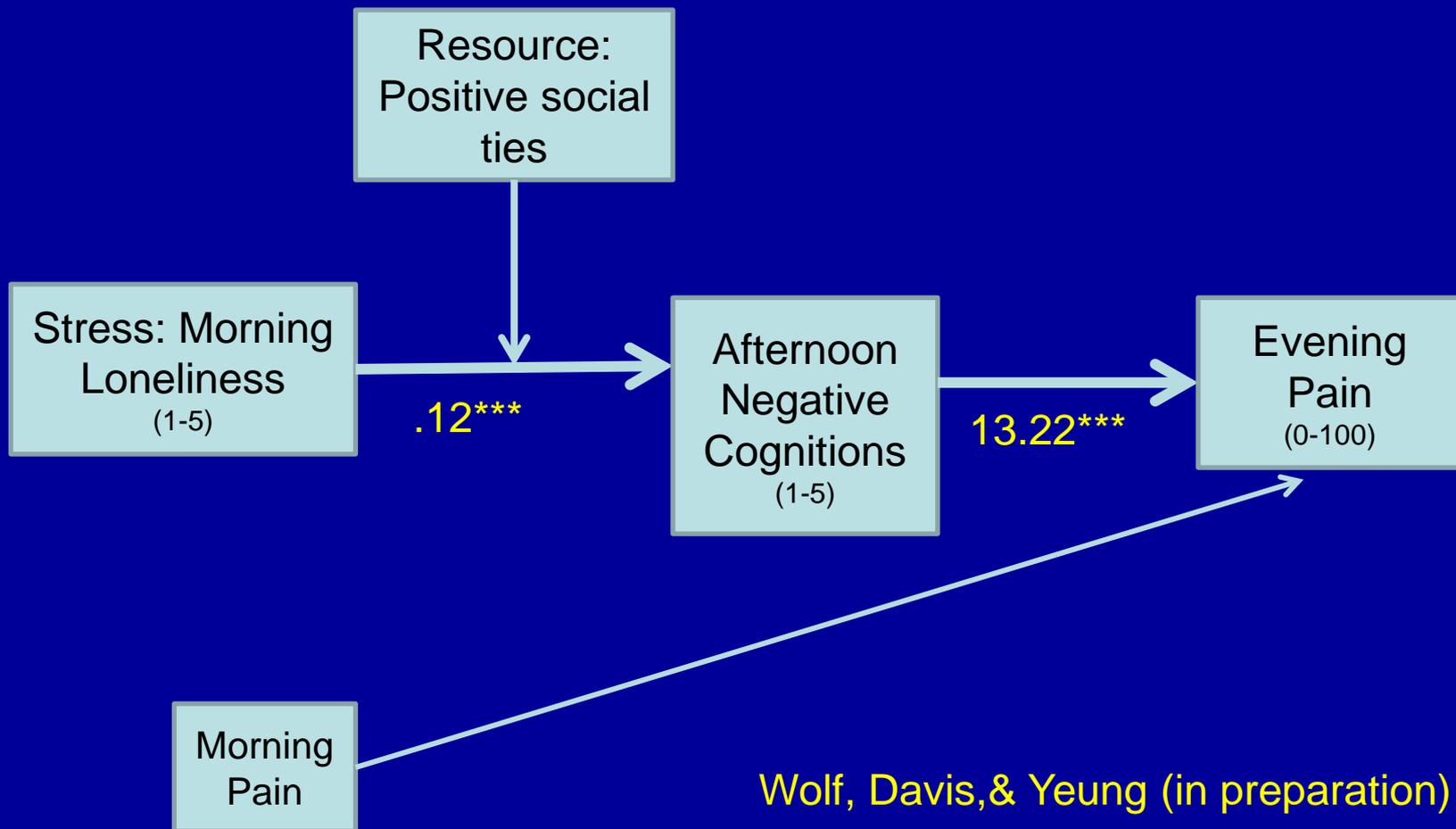
Trait Positive and Negative Affect and Weekly Pain

(N=124 FM & OA Women)



Stress and Pain Within a Day: Interrupting the Cycle

(N=220 FM, primarily women)



Wolf, Davis, & Yeung (in preparation)

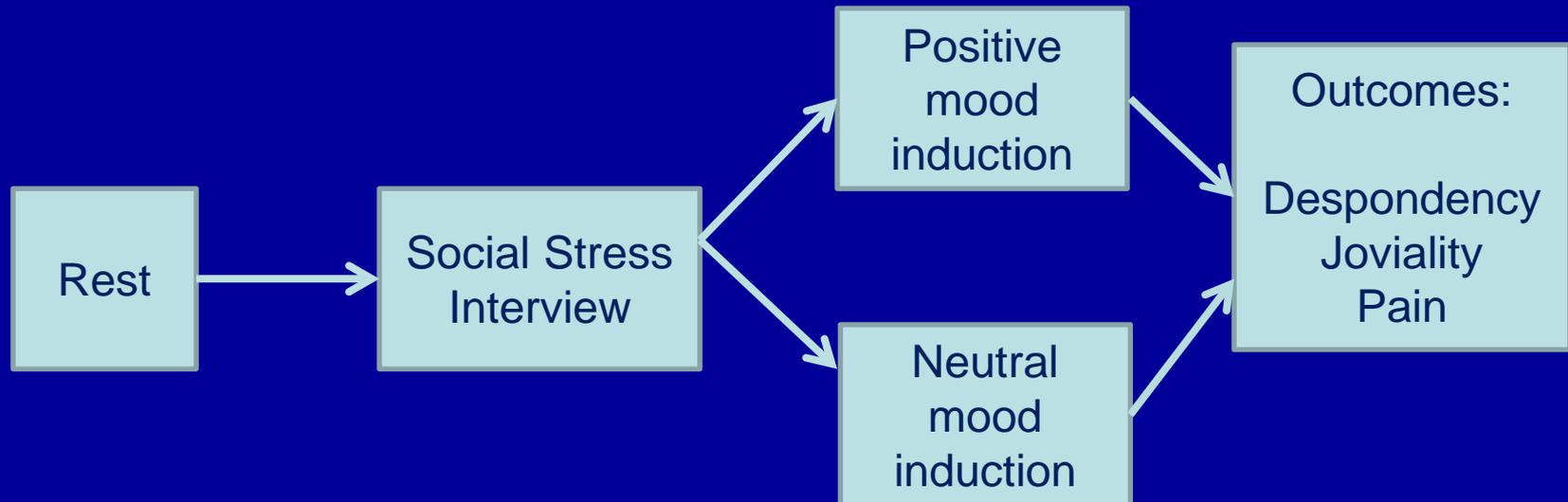
Resilience and Vulnerability

Resilient people with solid positive social ties experience fewer negative effects from stressors

What about those with vulnerability factors?
The case of depression....

Resilience resource: Induced positive mood

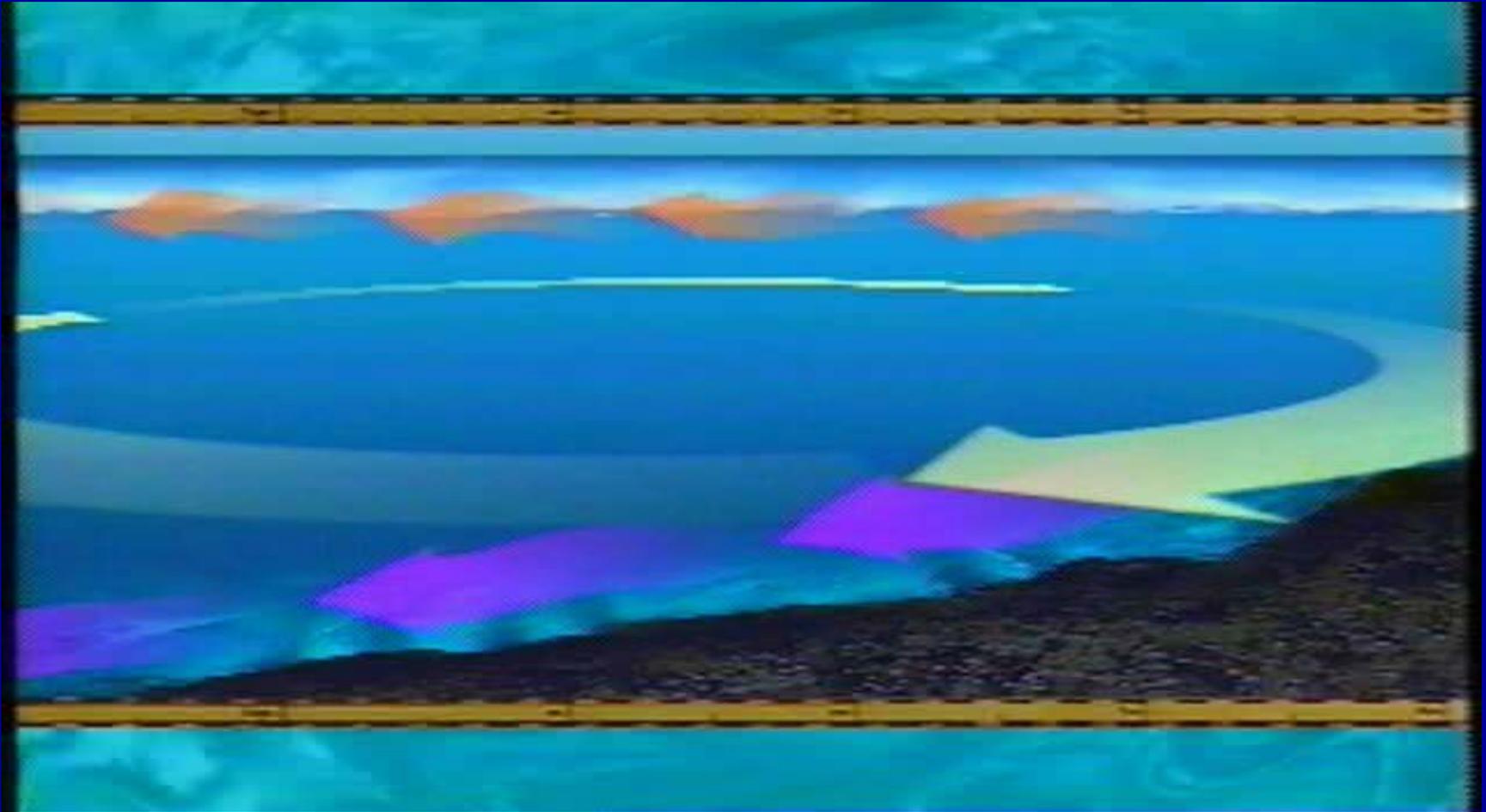
- 110 women with FM and/or osteoarthritis
- 29% depressed (>26 on CES-D)



Film sample: Positive

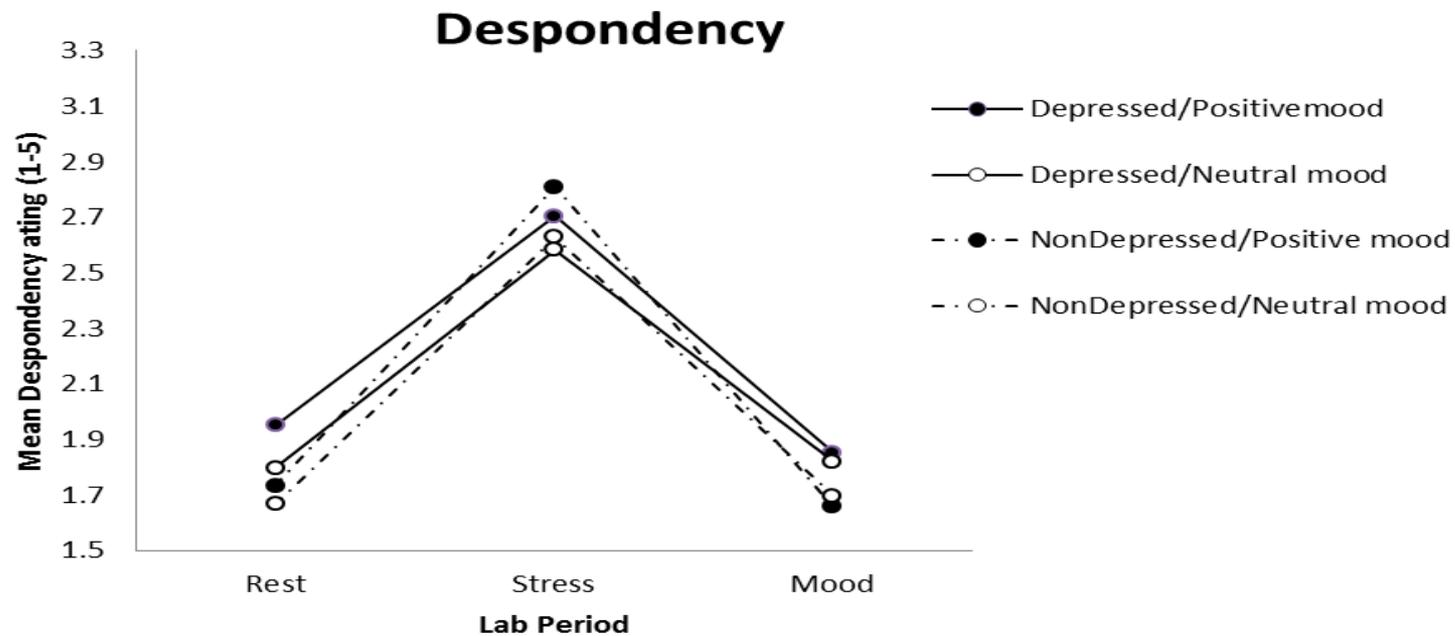


Film sample: Neutral

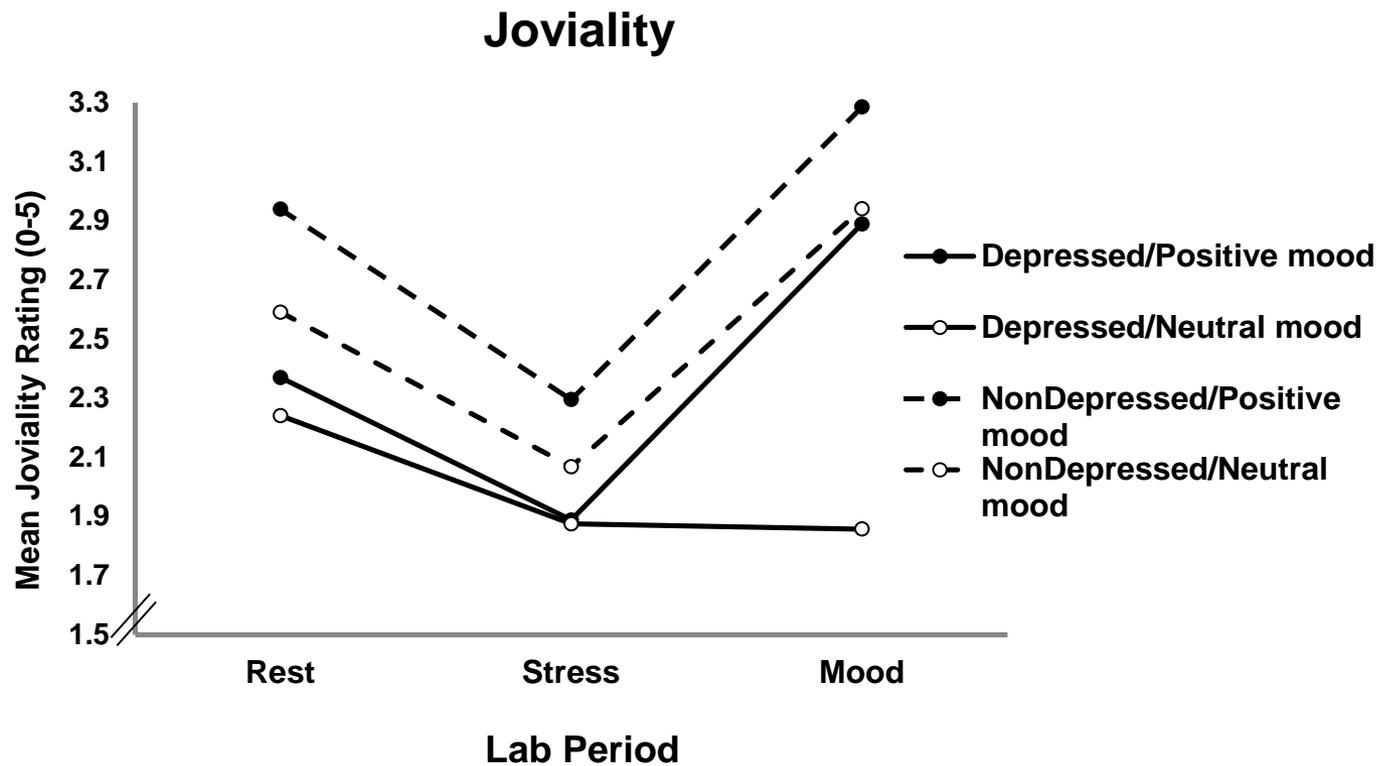


Despondent mood

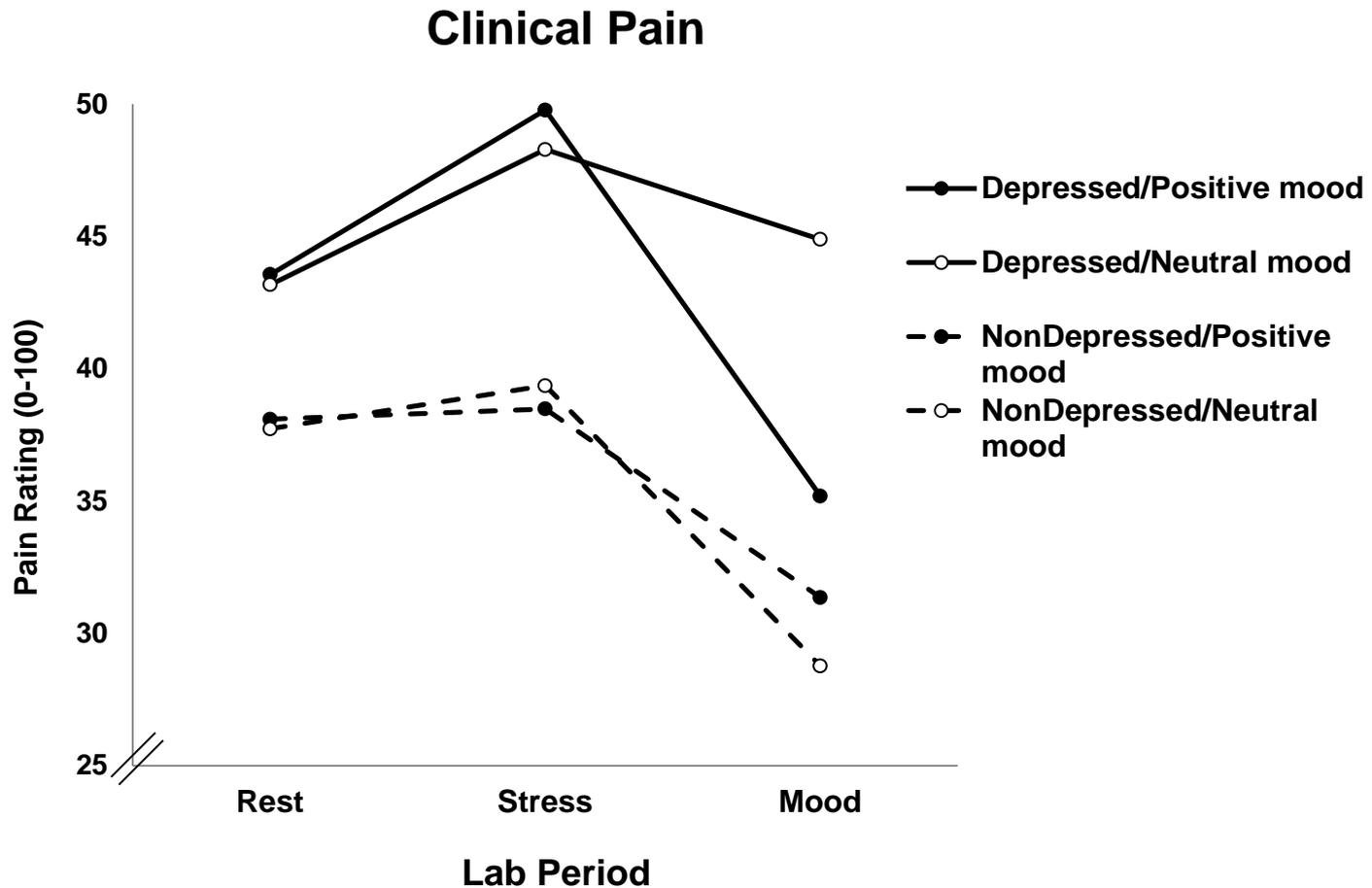
Depressed vs Non-depressed Patients



Jovial mood: Depressed vs Non-depressed Patients



Pain: Depressed vs Nondepressed Patients



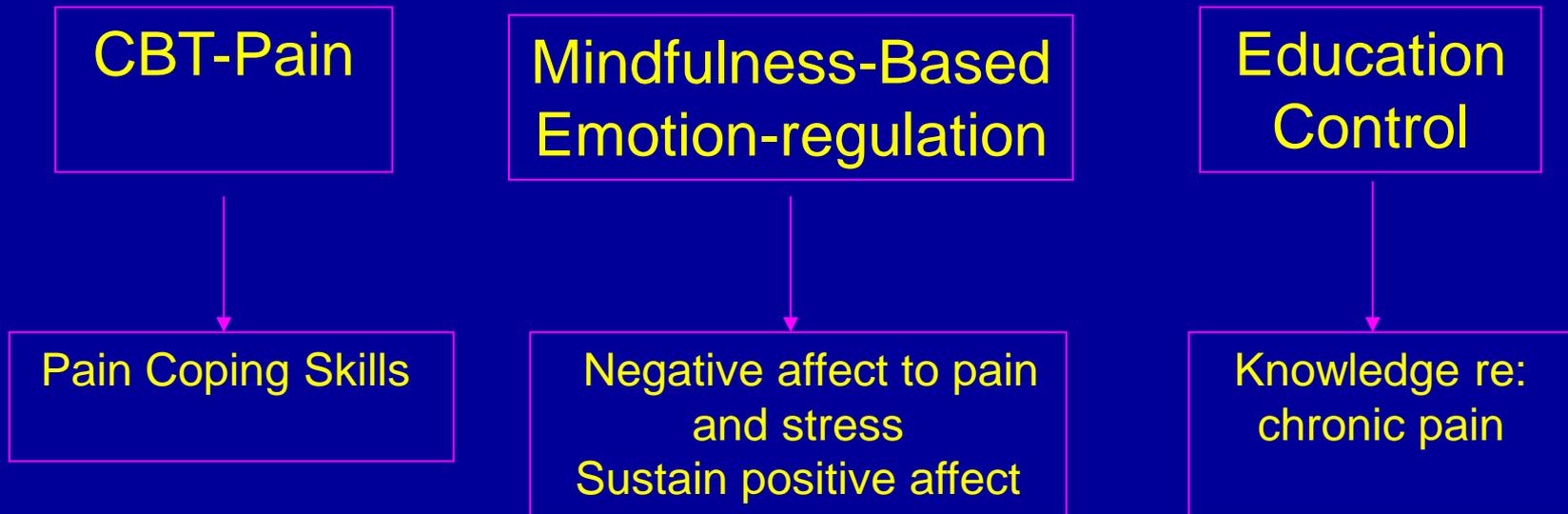
Can we bolster emotional resilience?

- Cognitive behavioral approaches are the most widely used behavioral tx
- Focus on restructuring maladaptive thoughts, relaxation, activity pacing
- Don't particularly focus on bolstering positive emotion and social relations

Clinical Trial for Chronic Pain

144 RA Patients

- Group-based, 8 Weeks

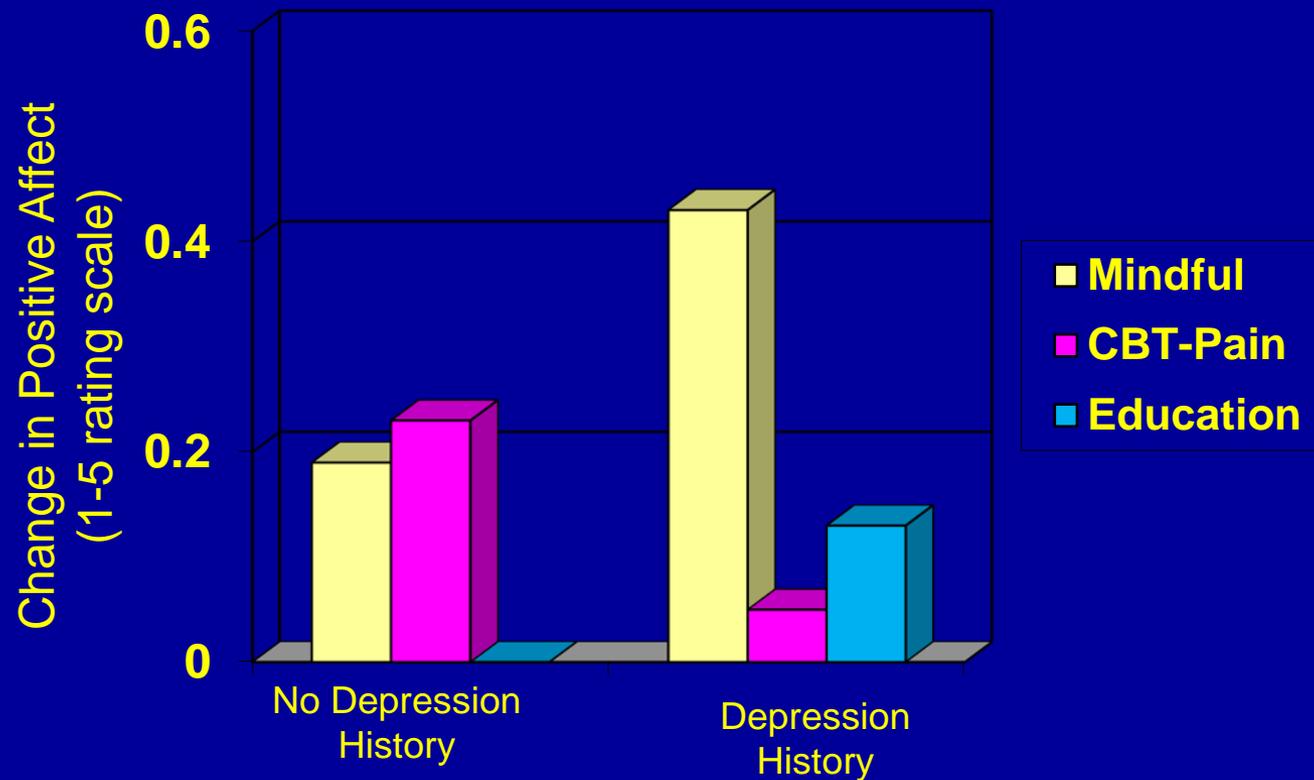


Recurrent Depression: Mindfulness

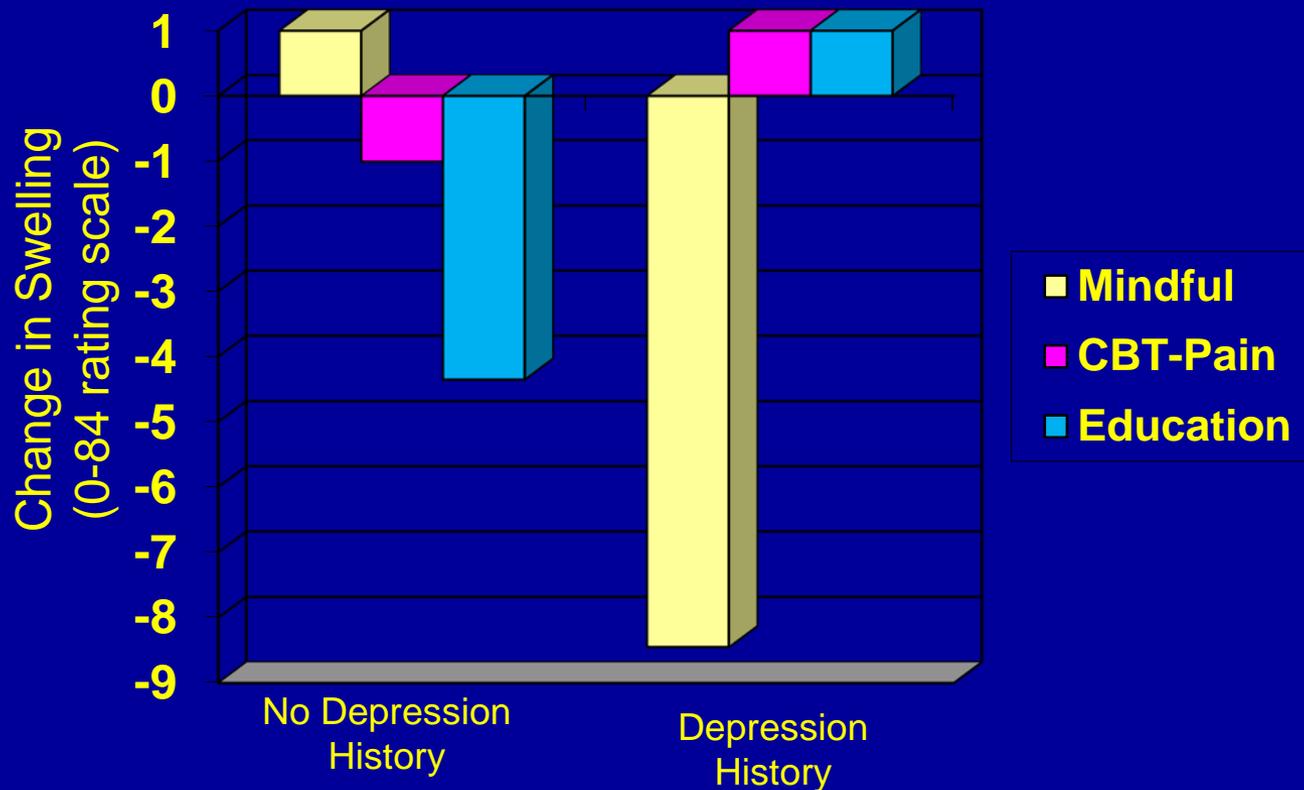
- For individuals with a history of 2+ episodes depression: M > CBT & Control



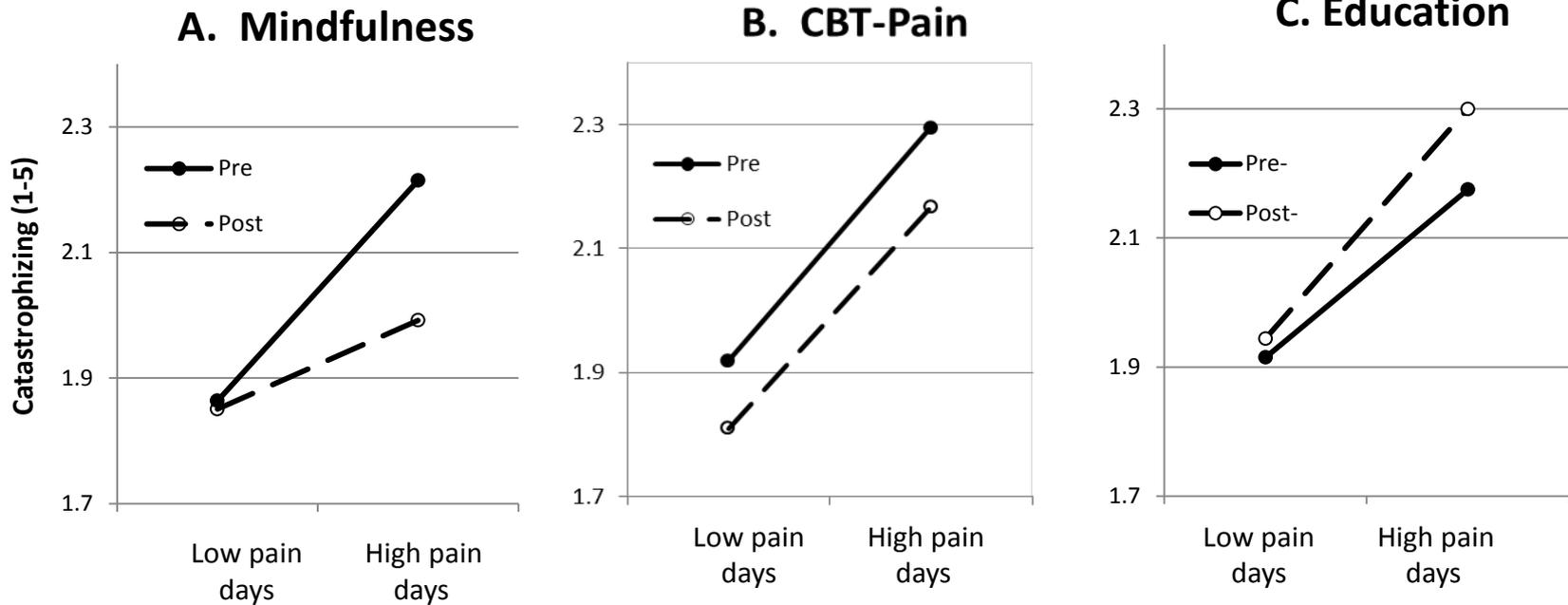
Pre-post Changes in Positive Affect



Pre-post Changes in Physician-rated Joint Swelling

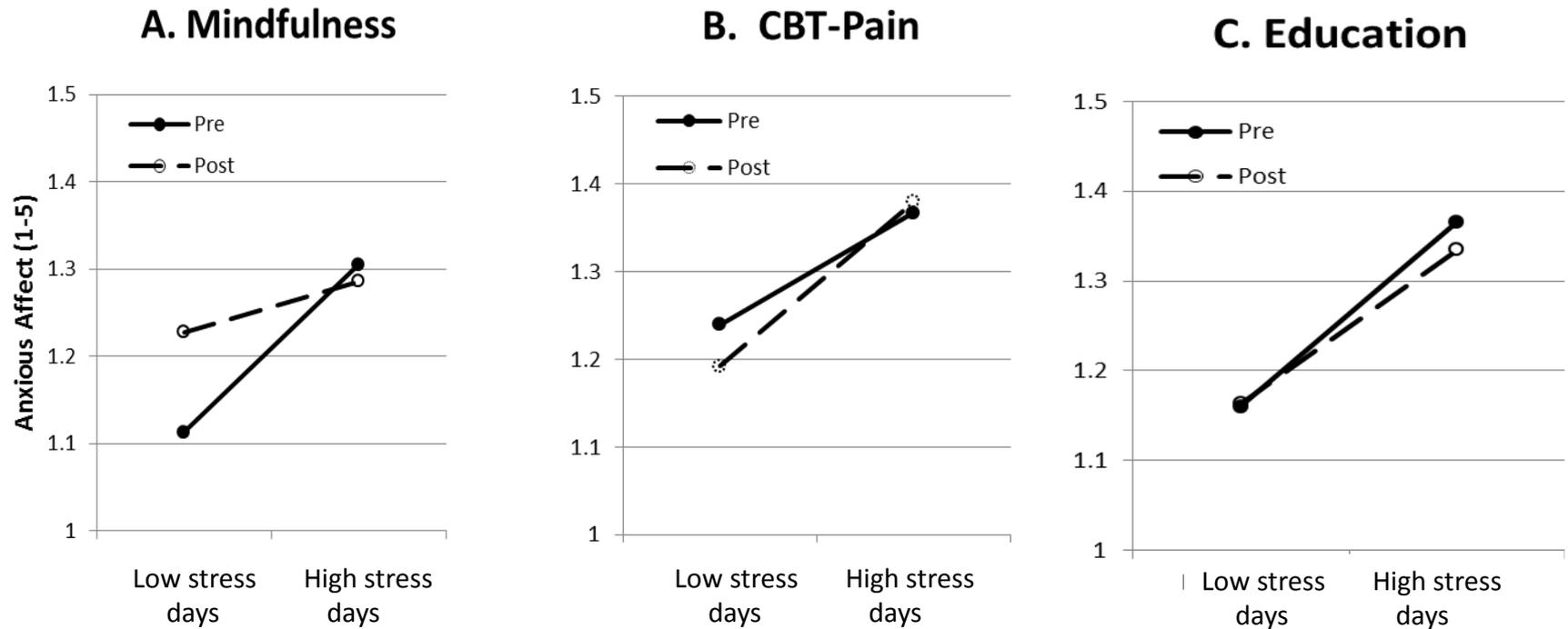


Pre-to-post change in cognitive reactivity: Mindfulness vs CBT vs Education



Davis, Thummala, & Zautra (under review)

Pre-to-post change in emotion reactivity: Mindfulness vs CBT vs Education



Davis, Thummala, & Zautra (under review)

For daily pain and stress flares....

- Mindfulness produced more resilient responding to pain and stress flares:
 - decreased day-to-day cognitive and affective reactivity
- Not so for CBT-Pain and Education

On-line Randomized Trial: 12 modules (N = 79 FM patients)

- **Mindfulness:**

- Brief daily meditations around a theme

- **Health Tips:**

- Information about a health behavior (e.g., sleep, sun protection, exercise)

- **Outcomes:**

~~•Pain~~

•Negative affect

-
-

Everyone improved

Positive Affect

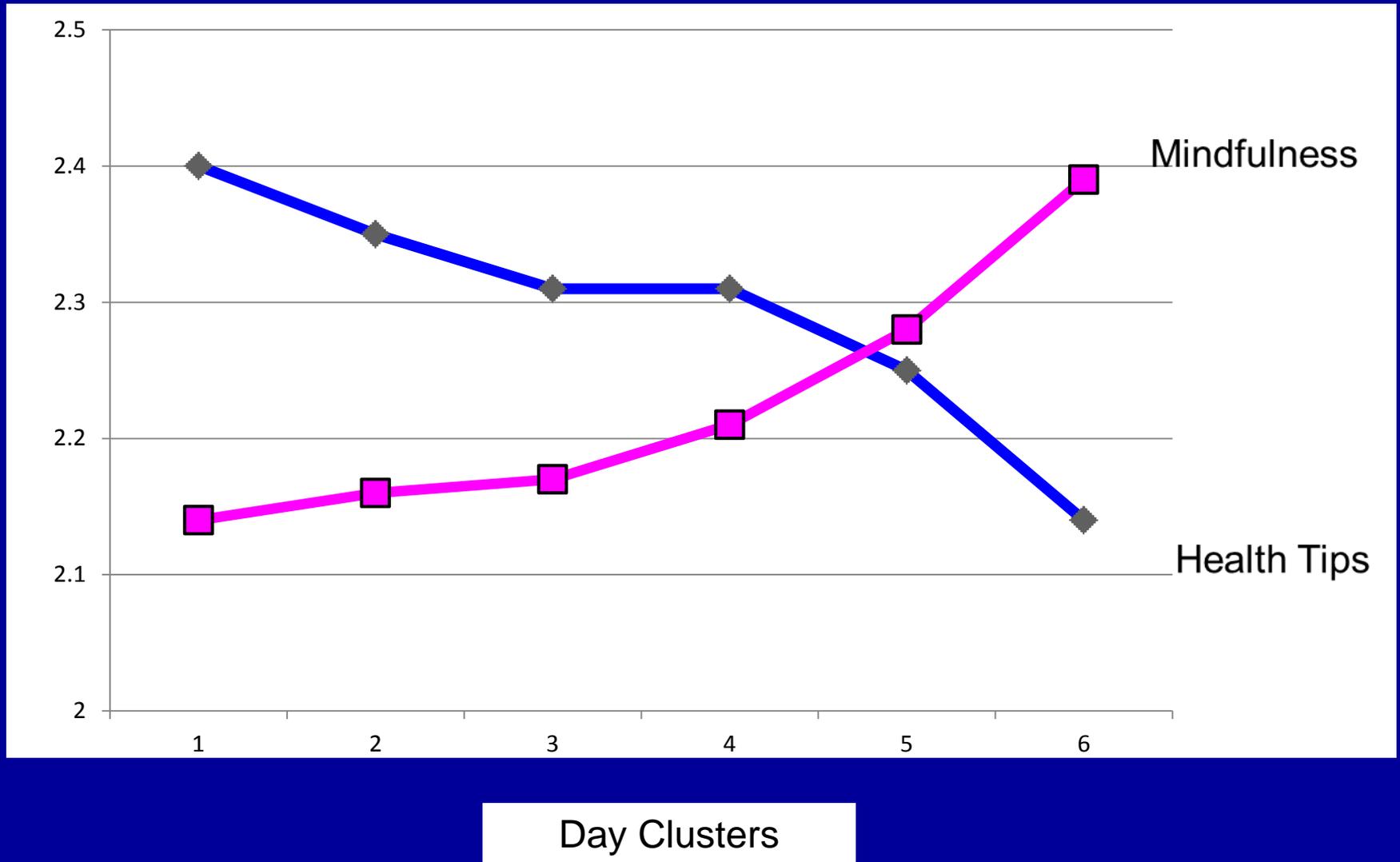
Social Activity

Family Enjoyment

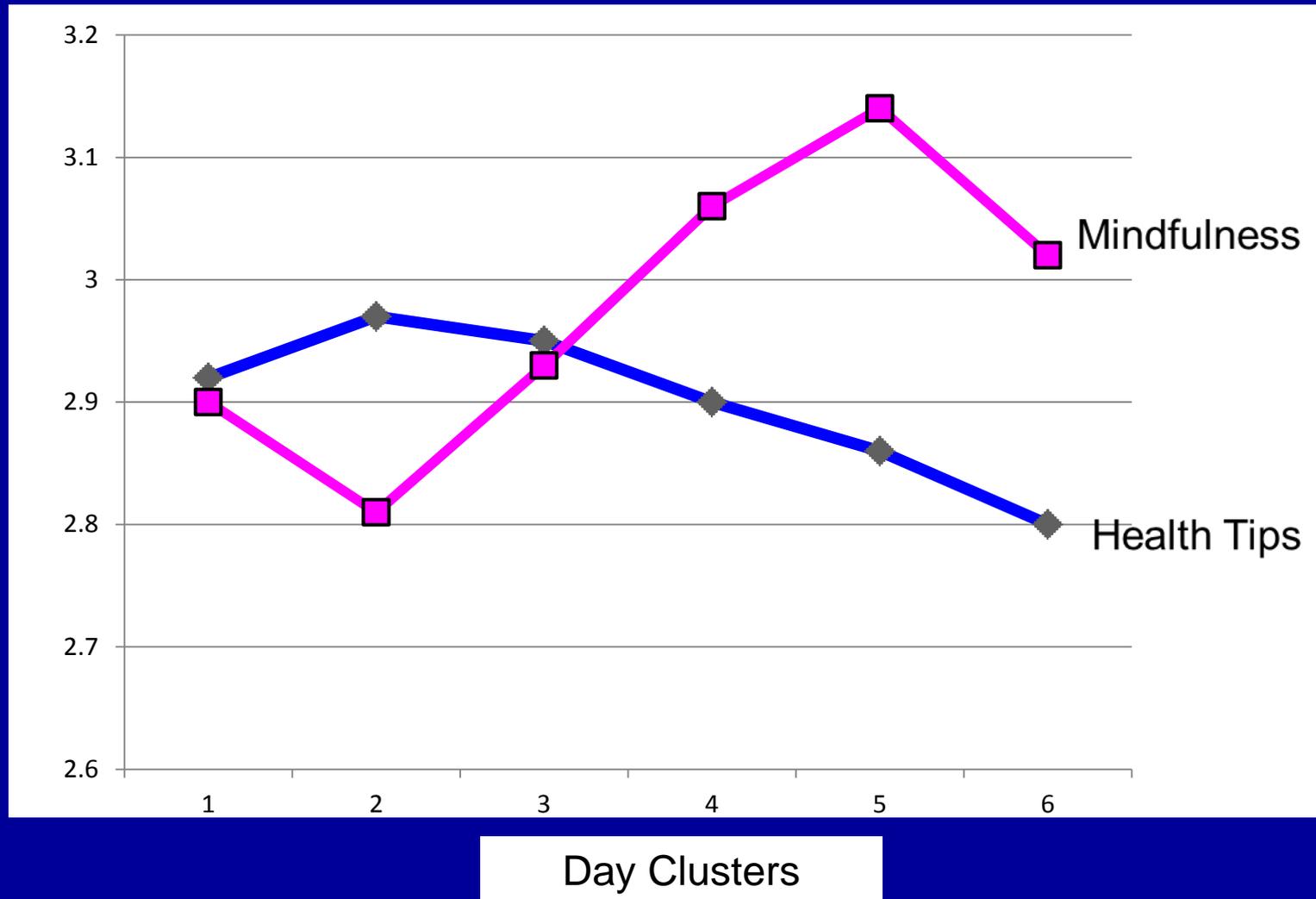
Loneliness

M > HT

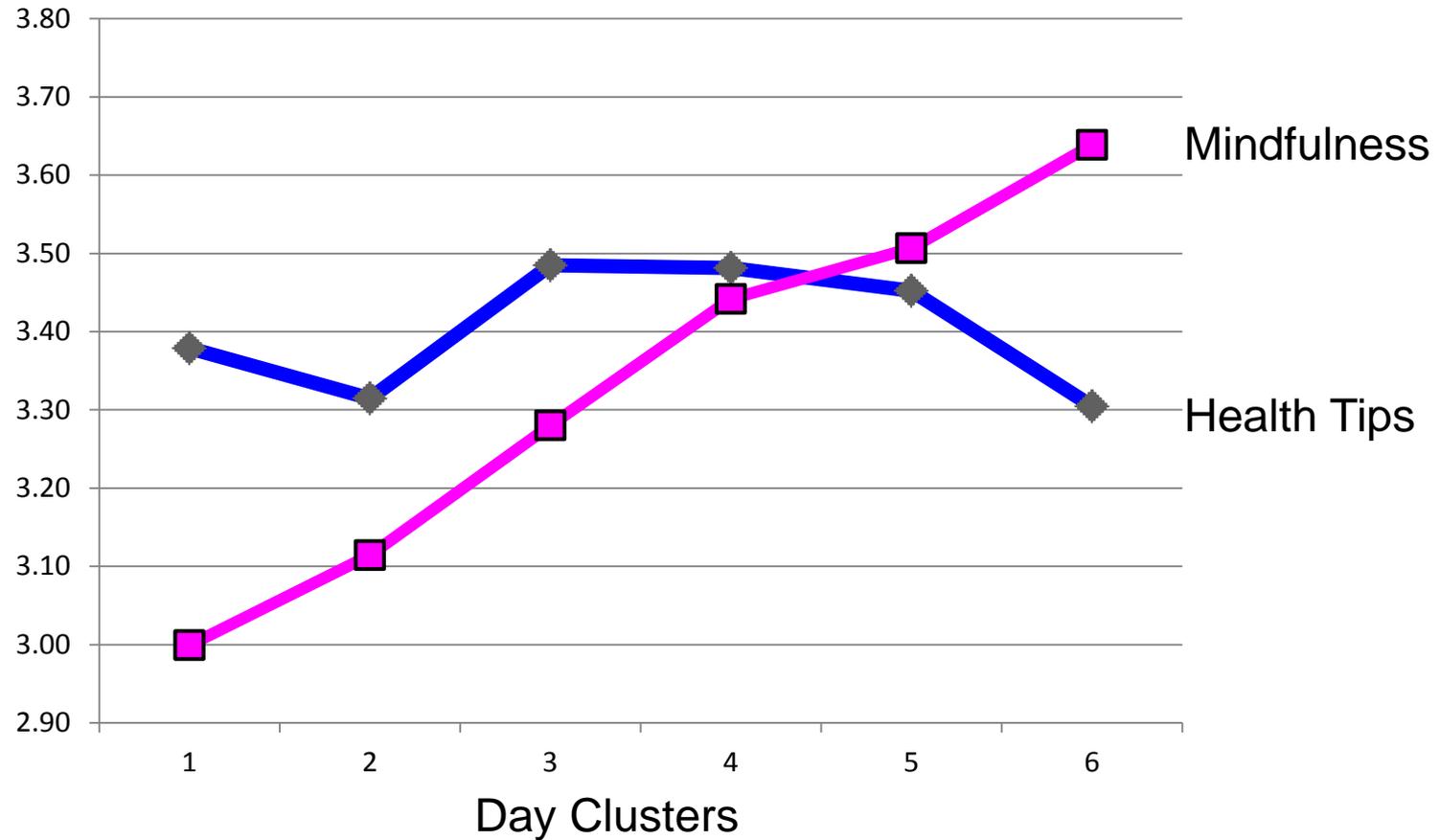
Positive Affect



Enjoyment of Family



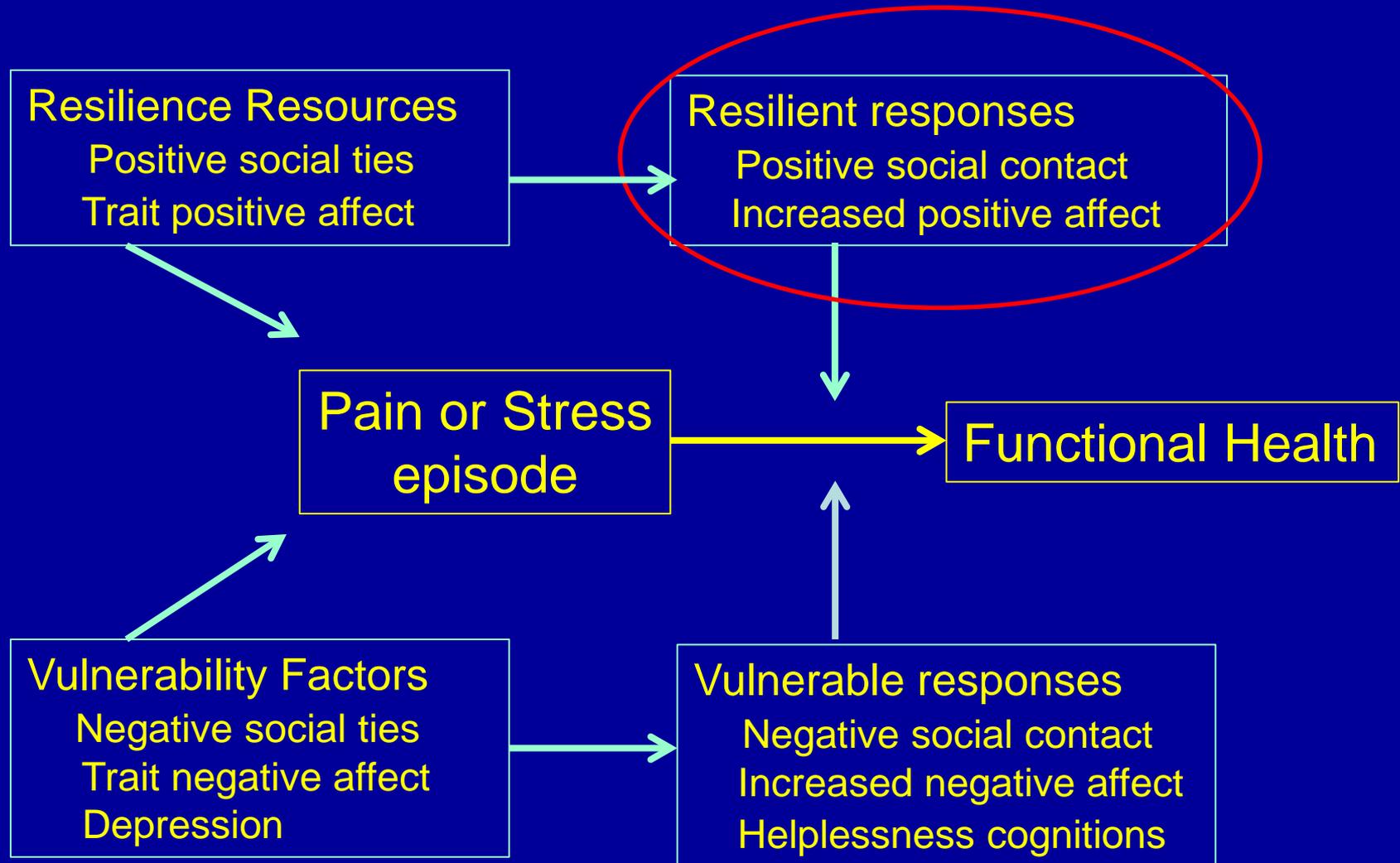
Pain Coping Efficacy



In summary....

- We can bolster resilient responding in chronic pain patients
- The approach we've applied is mindful acceptance-based
 - Improved in positive affect/social engagements
 - Dampened pain and stress reactivity

More than just negative: The role of the positive



Collaborators

Alex Zautra, Ph.D., ASU

John Reich, Ph.D., ASU

Perry Nicassio, Ph.D., UCLA

Michael Irwin, M.D., UCLA

Howard Tennen, Ph.D., U Conn

Glenn Affleck, Ph.D., U Conn

Patrick Finan, Ph.D., Johns Hopkins

Jarred Younger, UAB

Anna Kratz, Ph.D., U of Michigan

Mary Driscoll, Ph.D., CN VA

Heather Okvat, Ph.D.

Brendt Parrish, Ph.D.

John Allen, Ph.D., U of AZ

Drew Sturgeon, Ph.D., Stanford