

# Repressive Coping and Pain: Shifts in Attention from Distress toward Physical Pain May Partly Explain “Conversion”

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# Repression-like concepts have a long heritage in study of pain

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- Repression: a process whereby negative emotions aroused by threatening/anxiety-inducing memories, impulses or current stimuli are avoided (defended against) by driving provocative material from consciousness.
- Starting with Freud's notion of "conversion hysteria," theories (Szasz, Engel) developed that physical pain -- chronic pain -- may be product of repressed emotional distress that was transformed -- "converted" -- into physical symptoms.
- Common theme: "converted" chronic pain allows people to endure, explain, complain about, and seek help for symptoms that are *not* (psychologically) threatening.

# Repressive Coping Style

- Repression and conversion difficult to observe and assess
- Early empirical work focused on “conversion-V” profile of MMPI.
  - Are pain patients distinguished by this profile more than other patient groups and normals?
  - Inconsistent findings & did not take into account **individual differences**
- Study of repression and physical pain revived via construct of “repressive coping style” (Weinberger, Schwartz, & Davidson, 1979).
  - Integrates notion of “defensiveness” into definition and assessment.
  - Repressive coping = trait-like **individual difference** variable
  - Maintain self-concept of being composed, even-tempered, not prone to even experience negative emotion
  - Still, reveal signs of physiological & behavioral reactivity.
  - **Hypothesize that repressors may be “conversion-prone.”**

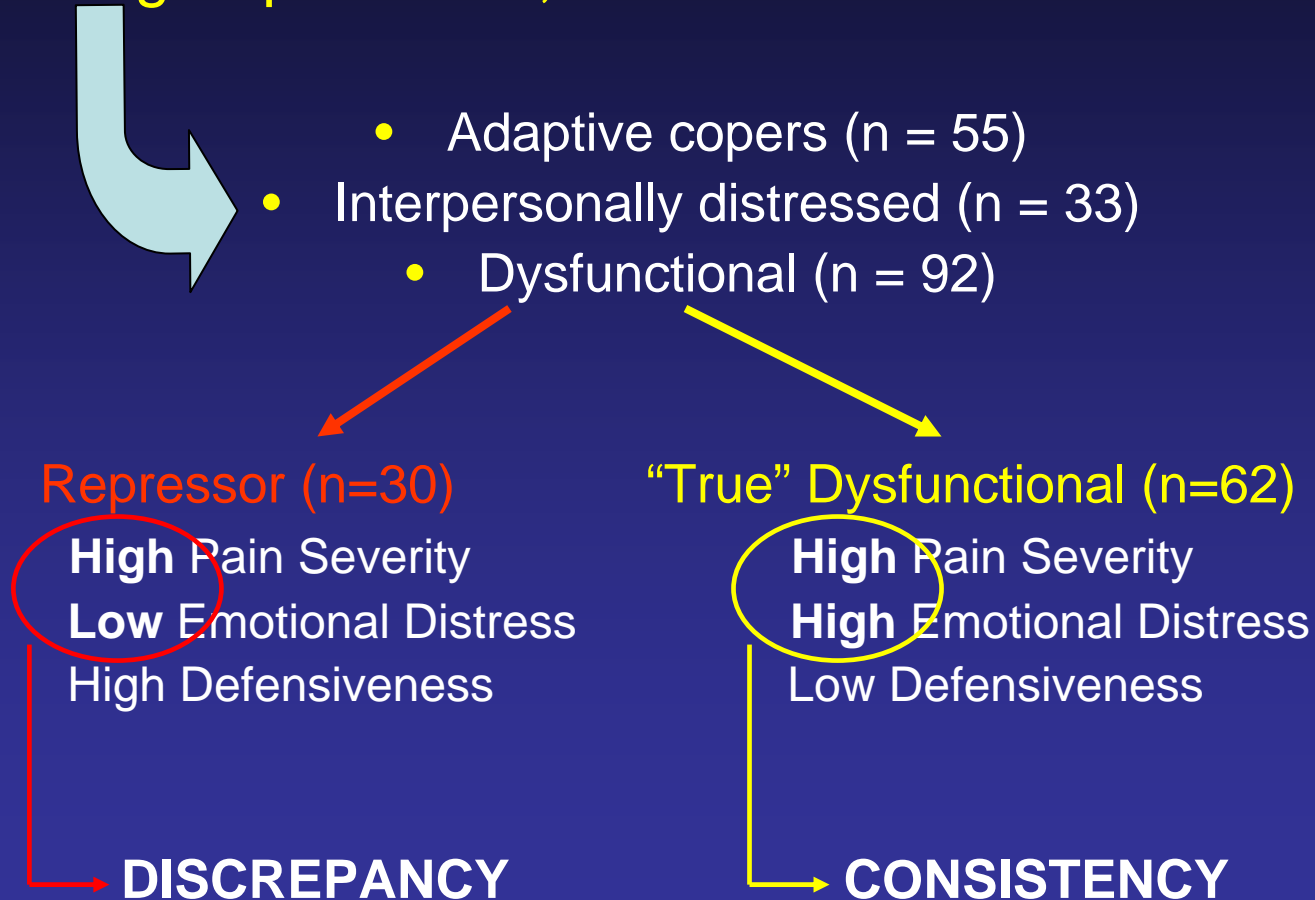
# Repressive Coping and Pain

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- Experience of “pain” comprised of physical sensations intertwined with feelings of negative emotion and distress
  - Typically, **strong positive relation** between level of physical pain severity and level of emotional distress.
- If repressors are prone to “convert” emotional distress into physical symptoms (pain), then expect
  - **Discrepancy or disconnect** between level of pain severity and level of distress.

# Study 1: Hierarchical cluster analysis of chronic pain patients: subscales of MPI **and** measure of defensiveness (BIDR)

Replicated 3 group solution, but 4-cluster solution fit data better



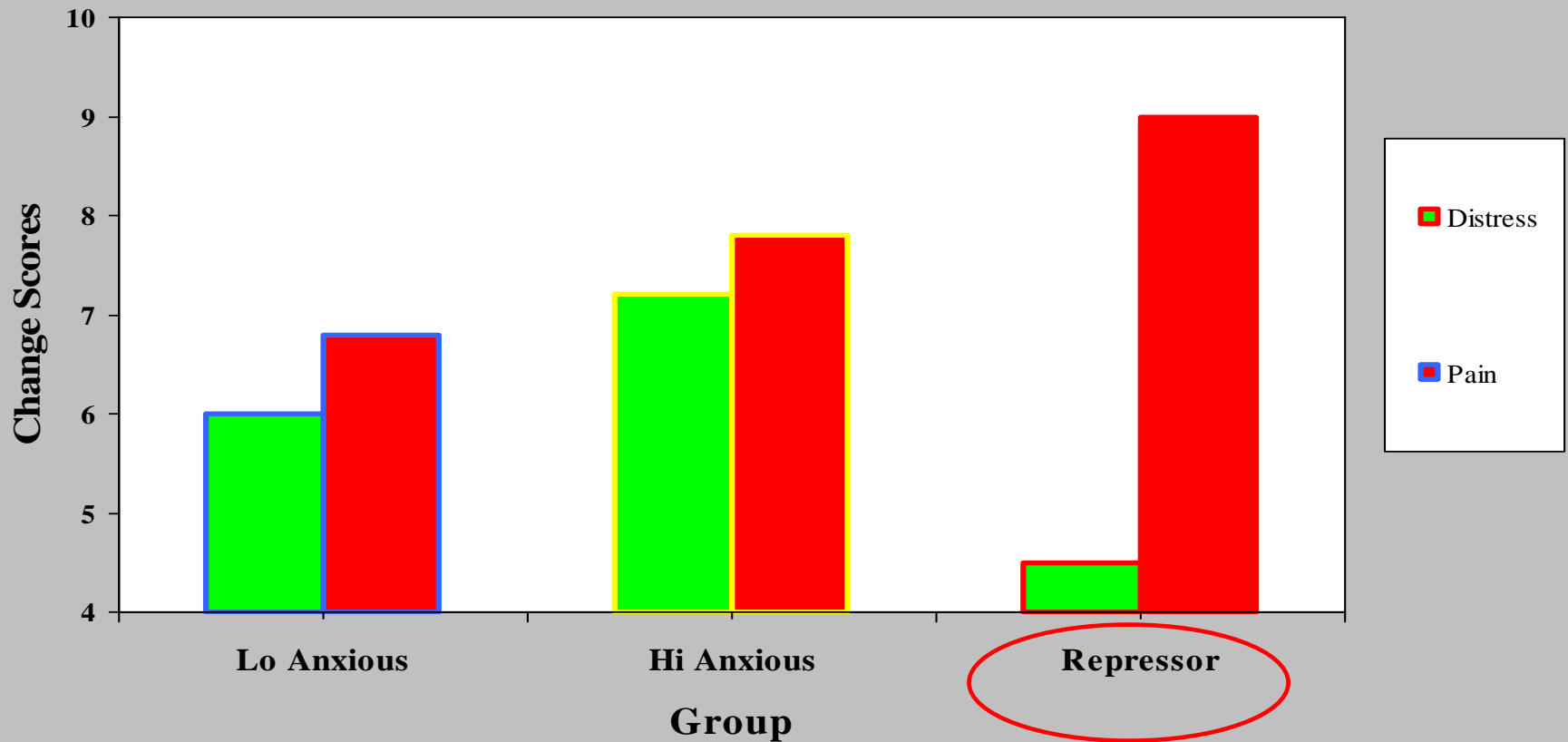
# Model: Repressive Copers May Shift Attention

- How should we understand these findings that suggest a “conversion” process?
- Conceptualize and empirically examine this process in terms of **attention allocation**
  - Flexible allotment but finite capacity
- Evidence: repressors avoid awareness of information that threatens self-concept by shifting attention away from this information and biasing attention toward low threat information.
- Proposed model with regard to pain,
  - repressors may direct attention **away** from emotional distress aroused during pain -- threatens self-concept
  - Instead, may direct attention **toward** physical sensations experienced during pain – less emotionally charged and less threatening to self-concept.
- Thus, repressors may **block** from conscious awareness their emotional upset, yet **focus on** (and fill up attention capacity with) their physical hurt.
  - Thereby, they appear to convert distress into pain.

## Study 2: Repressive Coping and Self-Reported Pain and Distress

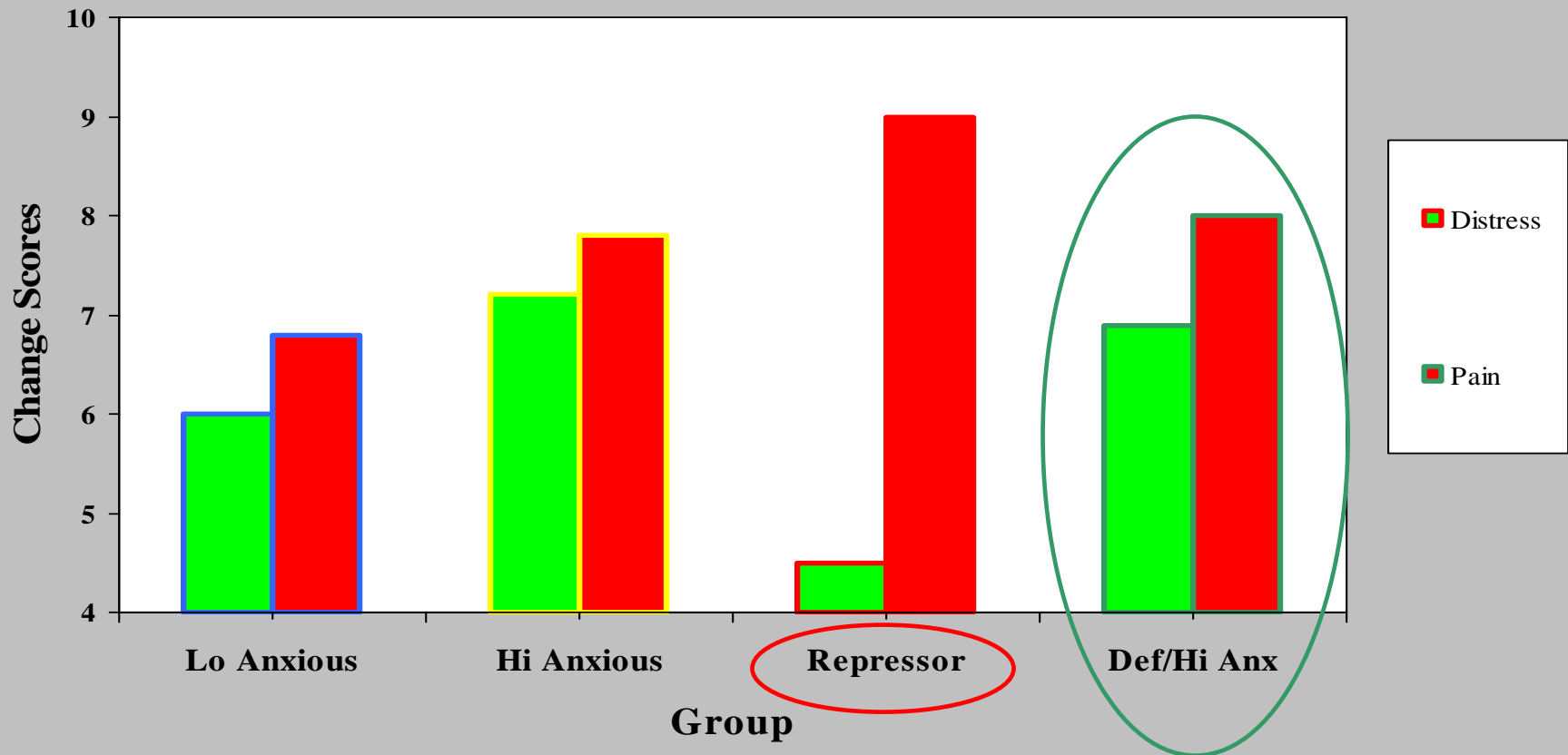
- NOTE!! Study 2 & 3 used actual acute pain as the stimulus to explore foundations of attention allocation model
- 110 healthy normals
- Cold-pressor
  - Self-reported “pain” and “distress” at end of cold pressor
- Weinberger et al., scheme crosses trait anxiety and Marlowe-Crowne Social Desirability (defensiveness)
  - Low anxious = low trait anxiety & low defensiveness
  - High anxious = high trait anxiety & low defensiveness
  - Repressors = low trait anxiety & high defensiveness
  - ~~Defensive/high anxious~~ = high trait anxiety & high defensiveness

## Post Cold Pressor



Group x Index:  $F = 19.7$ ;  $p < .01$

## Post Cold Pressor



## Study 2: Repressive Coping and Self-Reported Pain and Distress

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- Supports attention allocation model
- **Repressors**: discrepancy (low Distress/high Pain)
  - may signal that they directed attention away from negative emotion aspect of pain – threat to self-concept – and toward physical aspects of pain (perhaps magnifying the latter?).
- **Low** and **High** Anxious: consistency
  - may signal that attention was allocated in relatively unbiased way to both aspects of painful stimuli
- **But!!** Study not designed to fully address model
  - Ratings taken **following** pain-induction; cross-sectional, too
  - Self-report only
    - Repressors may have endorsed lesser of 2 evils
    - Conscious choice
  - Did not control for other emotional responses

# Study 3: Repressive Coping and Modified Dot-Probe During Pain-Induction

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- “Conversion” suggests an unfolding process by which unacceptable and threatening feelings or impulses are transformed **over time** into something else.
- Four expansions over Study 2:
  - Modified dot-probe
    - Directly assess attention allocation at less-than-conscious level
  - Sensory (eg throbbing) and affective (eg irritating) pain descriptors
    - allow clearer distinction between emotional and physical aspects of pain than simple terms “distress” and “pain”
  - Positive (eg wonderful) and social evaluative (eg teasing) words included
    - compare attention allocation to nonpain words

# Study 3: Repressive Coping and Modified Dot-Probe During Pain-Induction

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- **AND!!** Attention allocation assessed *DURING* pain-induction
  - Reveal attention bias **shifts over time** as subjects cope with persisting pain.
- If **repressors** are unique in allocating attention away from threatening emotion information only to fill attention capacity with nonthreatening sensory information, then,
  - should show progressive shift toward sensory and away from emotion information as pain stimulus continues
  - no preferential allocation of attention toward or away from positive or social evaluative words
  - No substantial longitudinal shifts of attention allocation should emerge for **low** anxious and **high** anxious.

# Study 3: Repressive Coping and Modified Dot-Probe During Pain-Induction

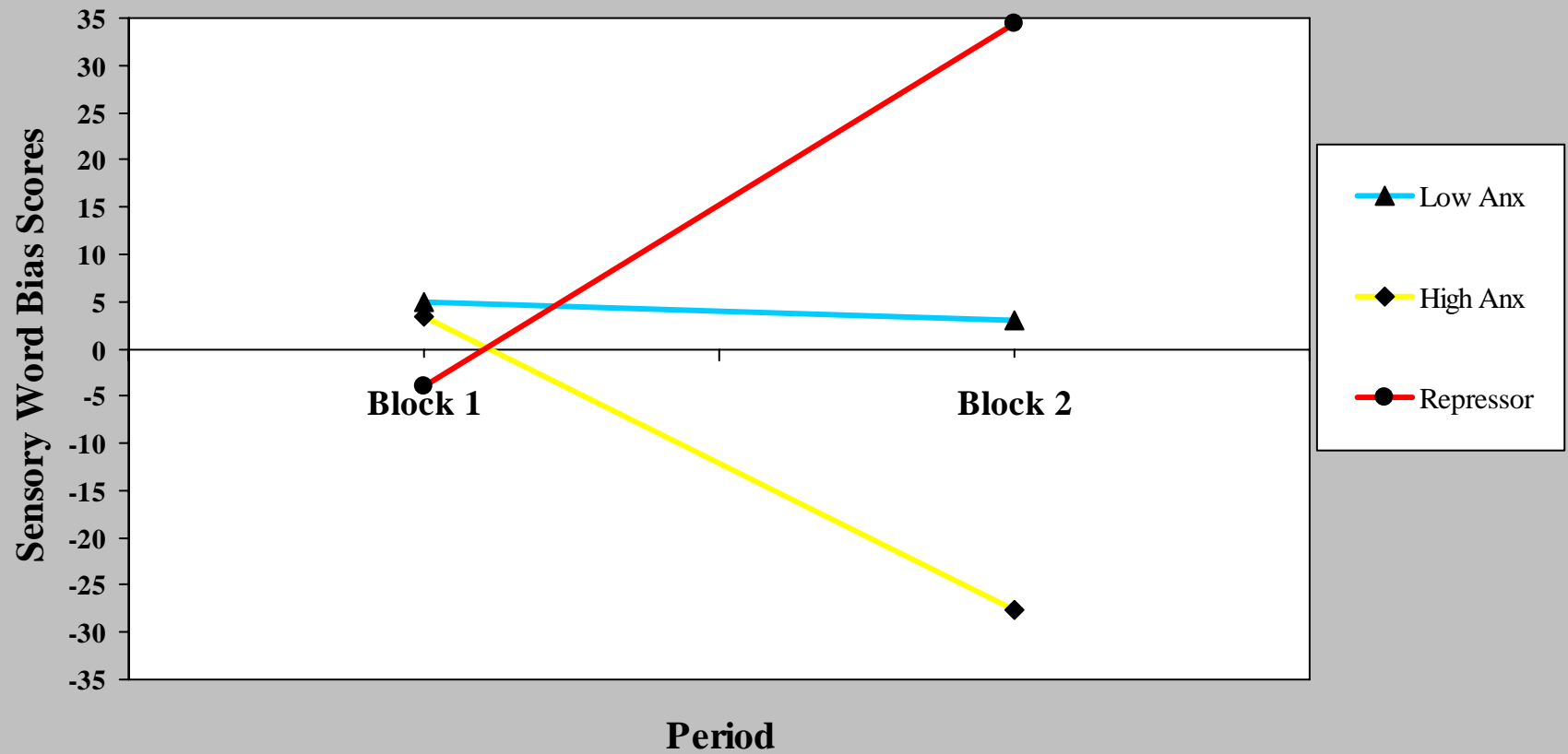
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- 77 healthy normals
- Underwent pain-induction (with forearm ischemia) **WHILE** performing modified dot-probe task.
- Modified dot-probe
  - affective and sensory pain descriptors, positive and social-evaluative words paired with neutral words (16 words each)
    - each trial block was 40 word pairs which took 1 min to complete
  - Attention bias index scores: subtract mean RTs to probes replacing ‘target’ words (eg throbbing) from the mean RTs to probes replacing the paired neutral word (eg chair)
  - positive value on an index = attention bias towards a word category
  - negative value = attention bias away from a word category.

# Study 3: Repressive Coping and Modified Dot-Probe During Pain-Induction

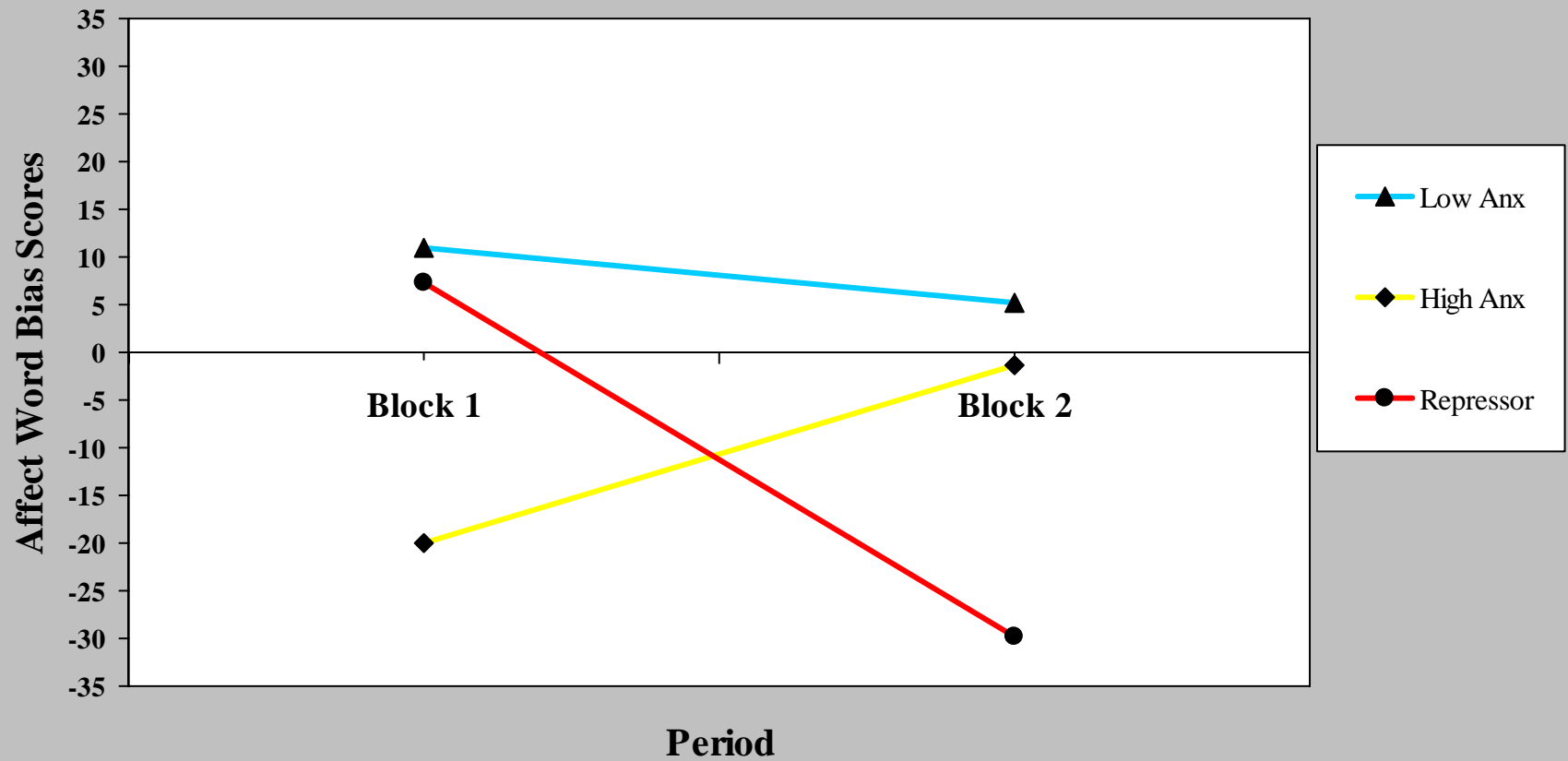
- Group (Low Anxious, High Anxious, Repressor) x Word Category (Sensory, Affective, Positive, Social-Evaluative) x Trial Block (1, 2);  $F(6,189) = 2.93, p < .01$ .
  - Group x Block effects at each Word Category
    - Sensory word attention bias:  $F = 4.70, p < .01$ .
      - **Repressors**: increase toward sensory words, Block 1 to Block 2,  $F = 6.90, p < .02$ .
      - nonsignificant for the **Low** Anxious groups (decrease for **High** Anxious)
    - Affective word attention bias:  $F = 3.53; p < .04$ .
      - **Repressors**: decrease from Block 1 to Block 2,  $F = 4.56, p < .05$
      - nonsignificant for the **Low** and **High** Anxious groups
    - Nonsignificant for positive and social-evaluative words,  $F$ 's  $< 1$ .

## Sensory Words



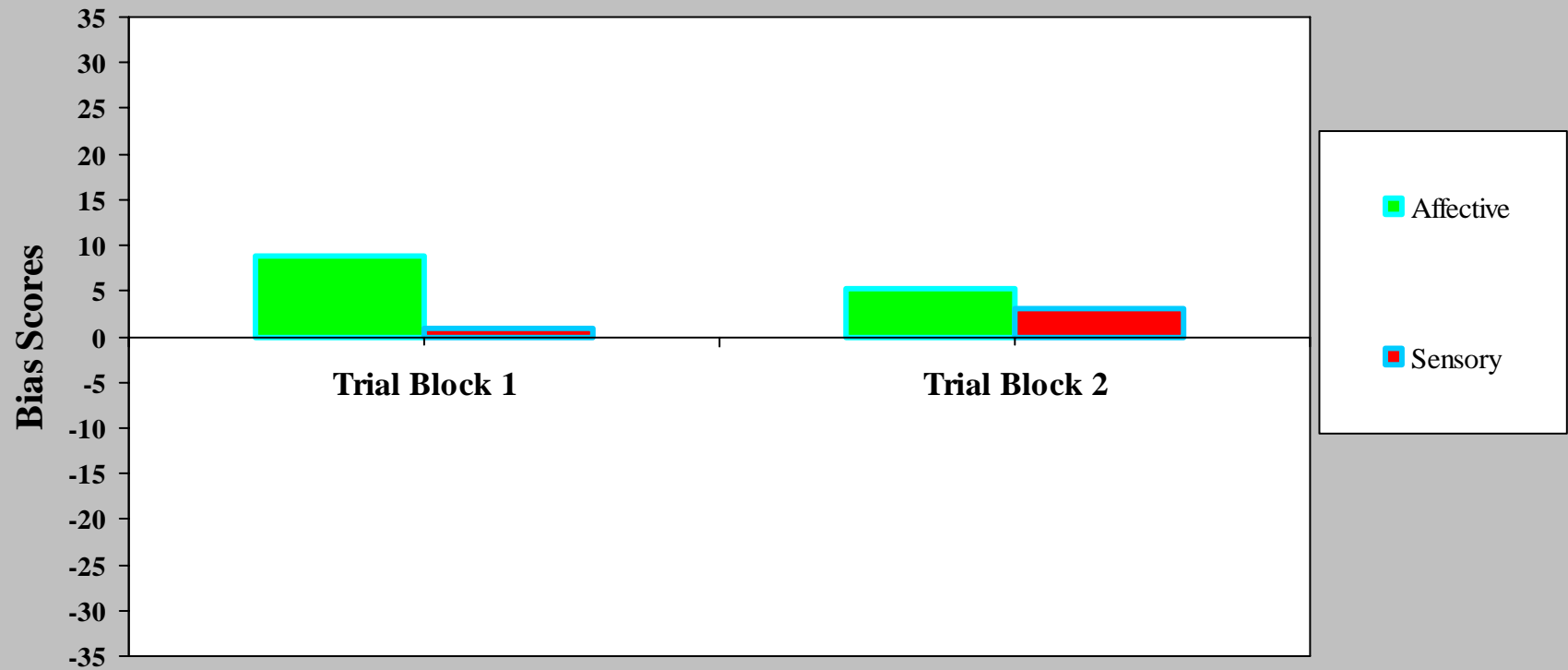
**Repressors:** increase from Block 1 to 2,  $F=6.9$ ;  $p<.01$

## Affect Words

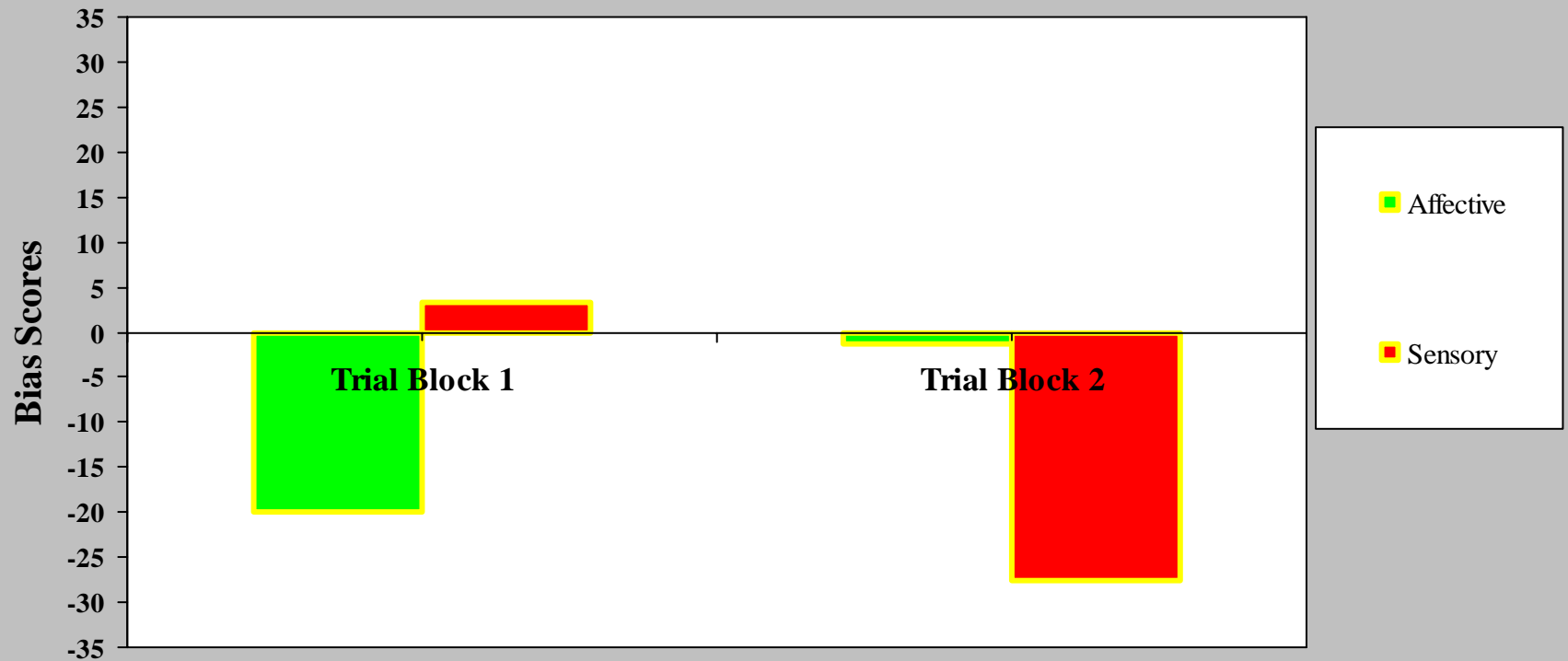


**Repressors:** decrease from Block 1 to 2,  $F = 4.6$ ,  $p < .05$

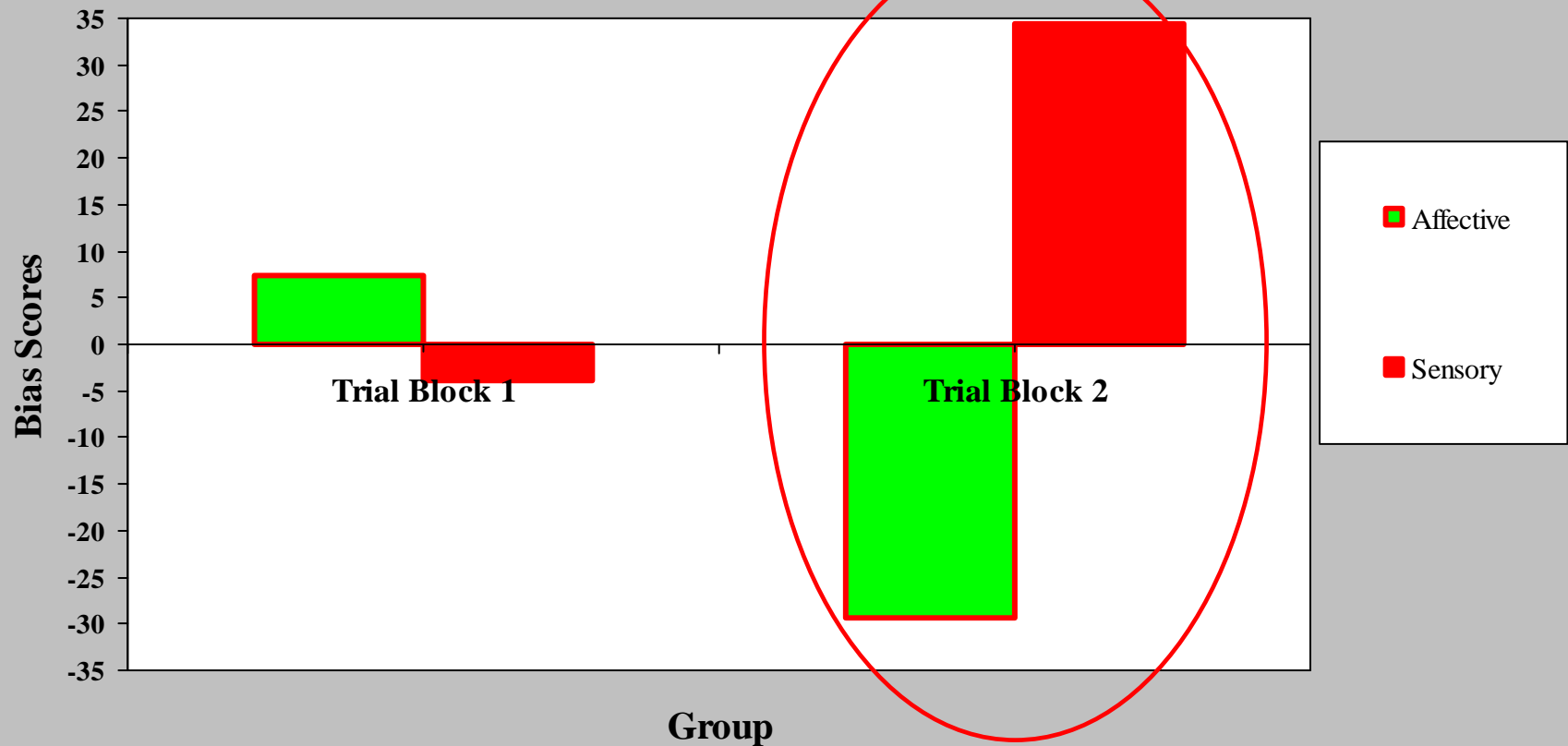
## Low Anxious: Block 1 to Block 2 Shifts in Attention



## High Anxious: Block 1 to Block 2 Shifts in Attention

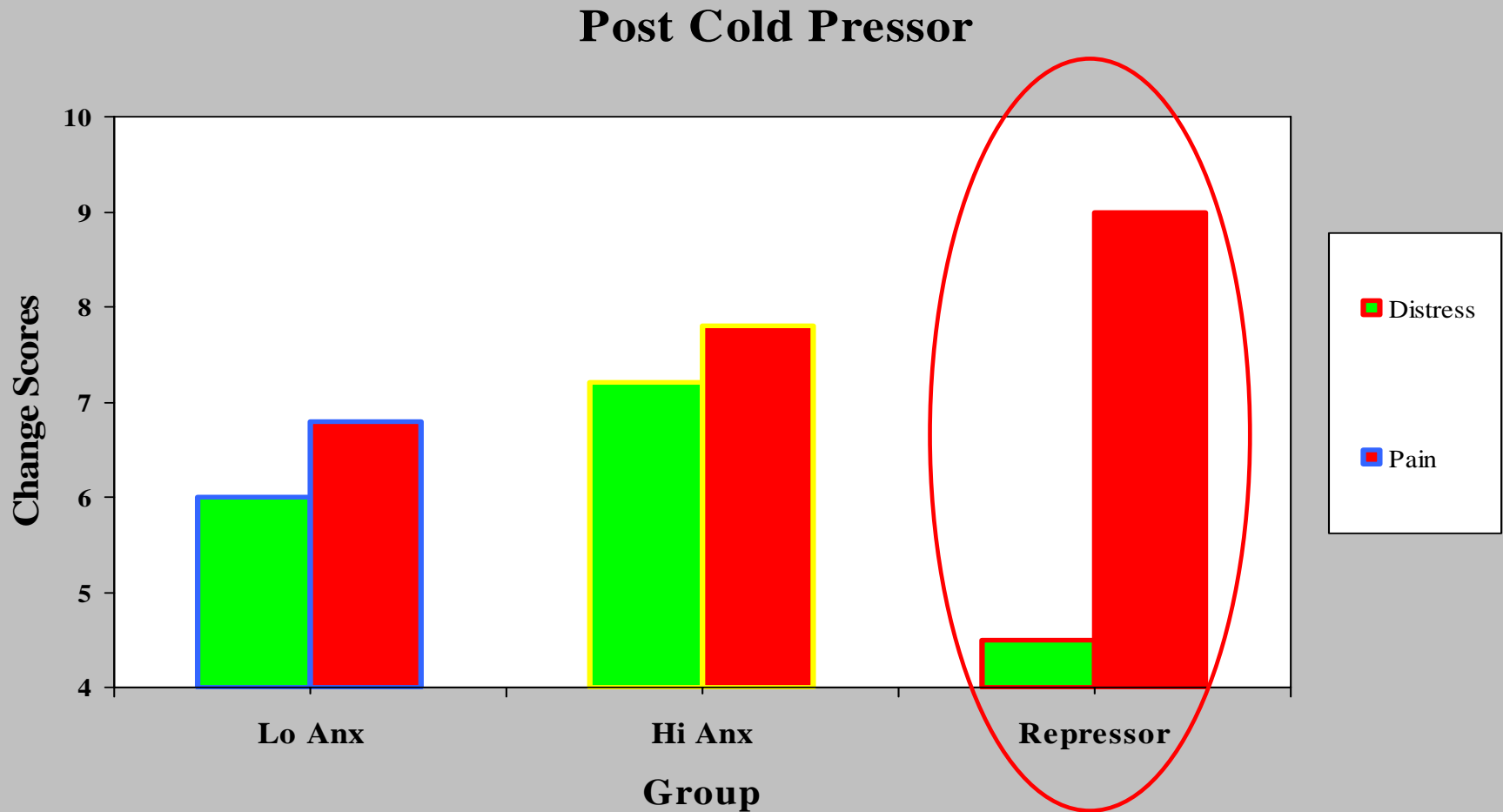


## Repressors: Block 1 to Block 2 Shifts in Attention



**Repressors:** difference in bias toward sensory and away from affect during Block 2,  $F = 12.60$ ,  $p < .002$

And recall this graph of post cold pressor effects...



# Study 3: Repressive Coping and Modified Dot-Probe During Pain-Induction

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- Attention allocation model extended.
- **Repressors** shifted their attention from Block 1 to 2 as they coped with intensifying emotional distress and physical pain
  - Over time, they came to avoid awareness of affective pain descriptors
  - Over time, they transferred attention to (innocuous) information about physical sensations
  - And NO significant effects for positive or social evaluative words.
- Dot-probe measures of attention bias tapped automatic cognitive processes more so than self-report.
  - Subjects unlikely to consciously choose to respond one way or another.
  - Results reflected attention shifts activated relatively automatically in response to continued exposure to a painful stimulus.
- This progressive attention shift from affect to physical sensation was not revealed by **low** or **high** anxious subjects.

# Should I stop here?



# What Might All This Mean?

- The elevated pain severity reported by repressors was not imagined or the product of (“hysterical”) intrapsychic processes.
  - Repressors were indeed hurting during acute pain-induction
  - So not a complete test of psychodynamic-style conversion, which would entail inspiring pain report in the face of purely mental anguish.
- Conversion, here, may mean that
  1. Repressors avoid awareness of emotional distress during acute or chronic pain
  2. Fill attention capacity with less threatening information – sensory pain qualities
  3. Make this information more salient and more available to cognitive processing (giving rise to speech or other expressive behavior)
  4. Because they are more and more aware of it, physical pain is magnified.
- Repressors did not direct attention away from threatening information only to focus on generic (non-pain) information.
  - Attention changes confined to shifts away from affect and toward sensory words.
  - Attention shifts did not constitute distraction from pain.
- In sum, repressors’ attempts to divert attention away from negative feelings and emotions leaves them to fill consciousness with ever-increasing awareness of how much they physically hurt
  - Repressors “convert” painful events or medical conditions into lopsided accounts heavily loaded with physical symptoms and ailments, which may then engender ever-increasing perceptions of disability.