

Increased Pain Acceptance Mediates Outcomes Related To Improvements In Catastrophizing, Fear, and Self-efficacy

Gregg Tkachuk, Ph.D.¹, Marc Woods, Ph.D.²

¹Department of Clinical Health Psychology, University of Manitoba, and Pan Am Pain Clinic, Winnipeg Regional Health Authority, ² Chronic Pain Centre, Saskatoon Health Region



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OF MANITOBA



Introduction

- Traditional biopsychosocial approaches to pain management have focused on the purposeful reduction of pain as a means of improving both emotional and physical functioning.
- Working within this framework, researchers have uncovered several constructs such as catastrophizing, fear of pain, and self-efficacy that partially explain chronic pain severity, cognitive and emotional distress, and disability.
- Chronic pain acceptance is a relatively new and somewhat contrary approach to understanding the experience of chronic pain.

Acceptance-Based Principles

- **Pain-Related Suffering** = unwillingness to experience pain + ongoing struggle to eliminate it
- Human thought habitually interferes with mindful experiencing in the present moment
- Leads to experiential avoidance and psychological inflexibility
- **Pain-related Acceptance** = willingness to experience pain and negative thoughts/emotions (by giving up the struggle to change them) and to (re)engage in valued life activities (McCracken, 2005)

Previous Research

- Greater acceptance of chronic pain has been associated with lower pain intensity, pain-related anxiety, depression, and disability, and improved work status in cross-sectional (McCracken, 1998; Viane, 2003) and longitudinal (McCracken & Eccleston, 2005) research;
- Acceptance accounted for more variance in patient functioning than Coping Strategies Questionnaire variables (McCracken & Eccleston, 2003; 2005), and as much variance as catastrophizing in hierarchical regression analyses.

Aims

- To examine changes in treatment outcomes and process variables related to interdisciplinary chronic pain treatment.
- To examine whether pain-related acceptance mediated any improved outcomes related to changes in catastrophizing, fear, and self-efficacy.
- To explore whether there were any process-specific changes related to outcomes.

Clinical Research Sample

- 6 week, 3.5 hr/day interdisciplinary treatment based on biopsychosocial model with additional acceptance-based strategies.
- n = 138
- Mean age: 46.39 years (10.74)
- 64% female
- Type of Pain: 77% musculoskeletal, 13% neuropathic, 5% headache, 5% other
- 70% were unable to work
- 30% were receiving some form of compensation
- 63% opioids, 47% antidepressants

Method

- Procedure
 - Patients were administered self-report questionnaires prior to and upon completion of the interdisciplinary treatment program
- Design and Analyses
 - Longitudinal design examining pre- to post-treatment changes
 - Tested path models utilizing hierarchical linear regression approach as recommended by Baron and Kenny (1986)
 - Statistical significance of mediated relationships assessed with Sobel Tests (Sobel, 1982)

Measures

■ OUTCOMES:

- Canadian Occupational Performance Measure (Goal-Oriented Daily Functioning)
- Multidimensional Pain Inventory (Pain Severity, Interference)
- Beck Depression Inventory-II

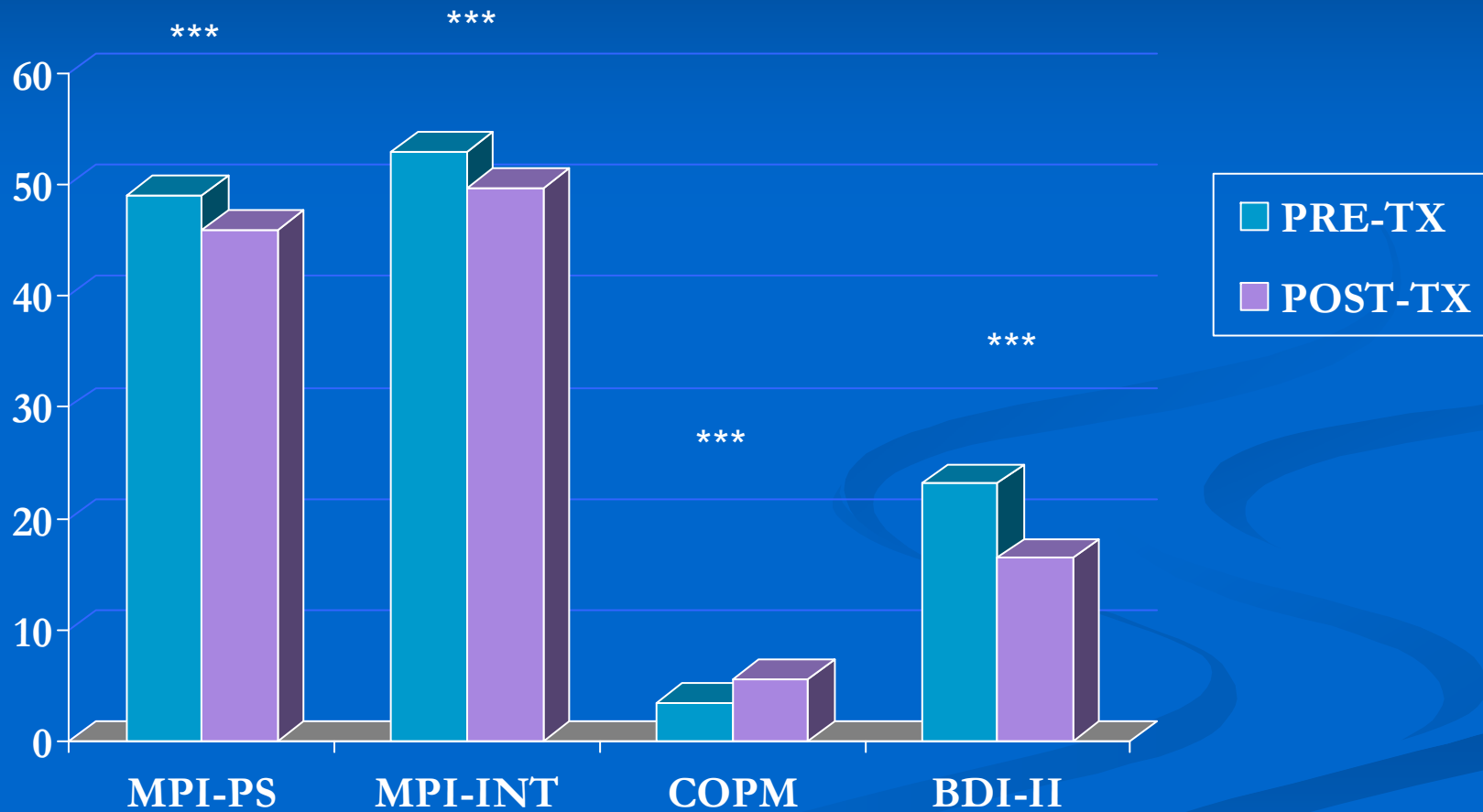
■ PREDICTORS:

- Pain Catastrophizing Scale
- Tampa Scale Kinesiophobia (Pain-Related Fear)
- Chronic Pain Self-efficacy Scale

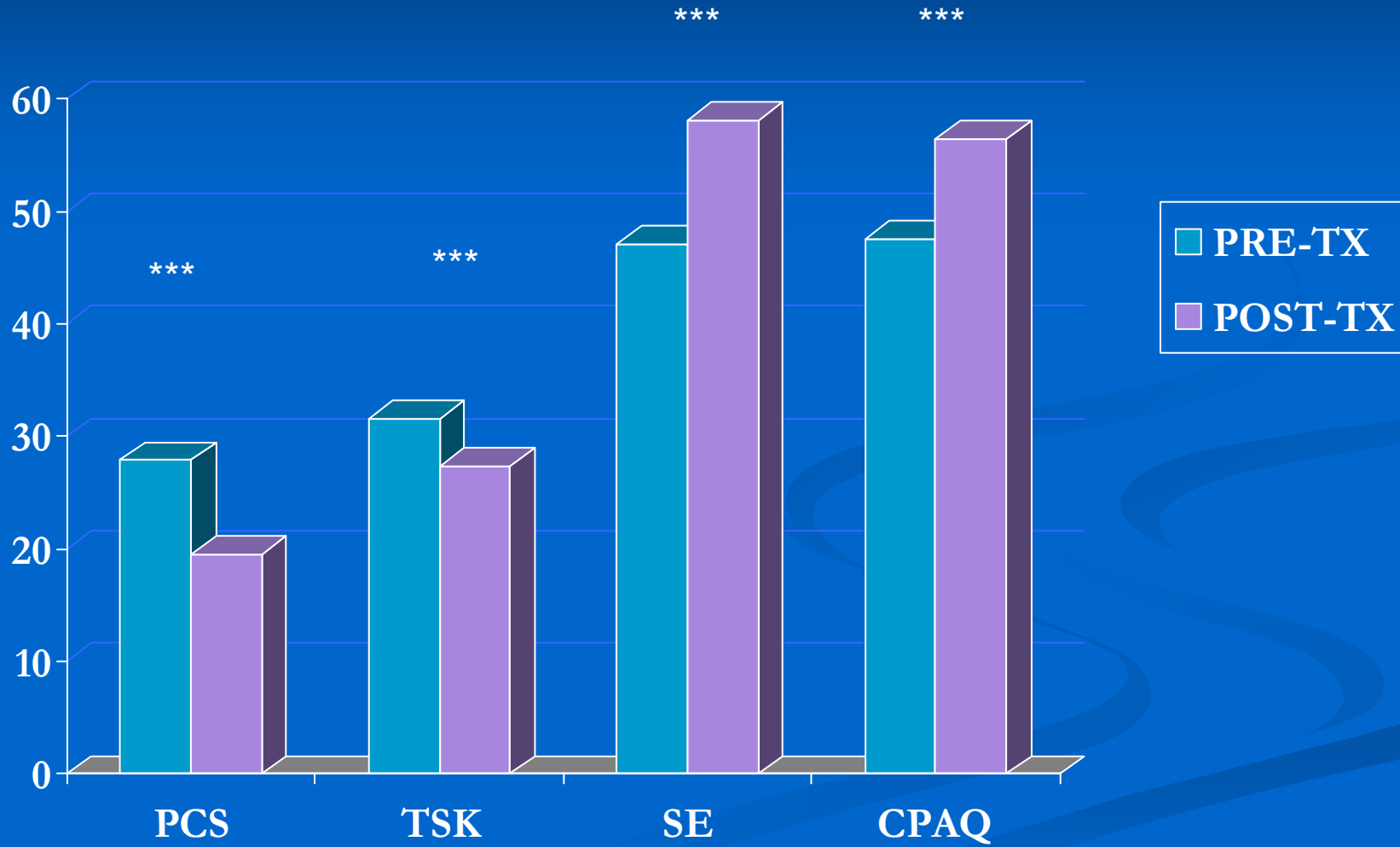
■ MEDIATOR:

- Chronic Pain Acceptance Questionnaire

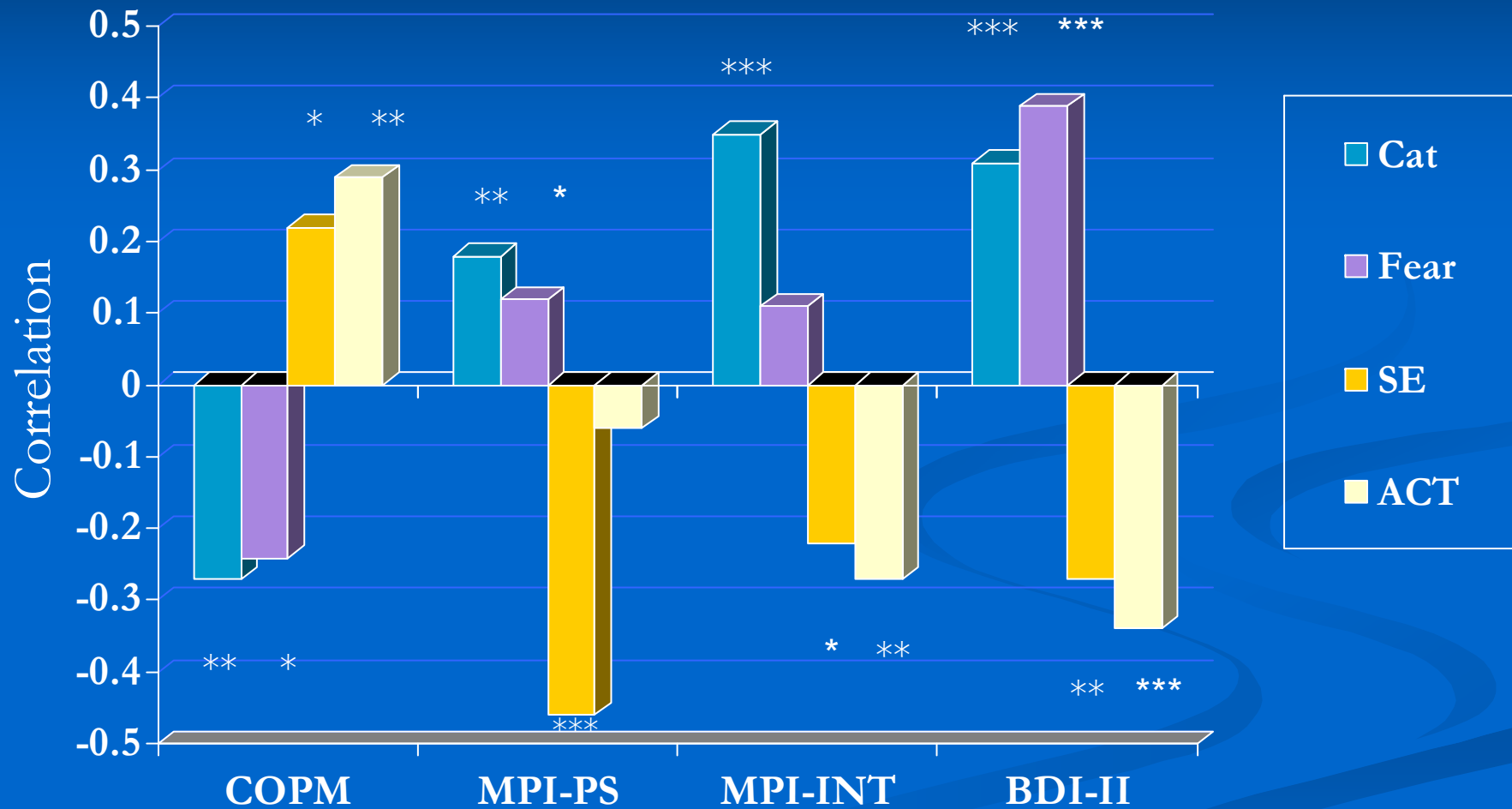
Outcome Variable Data: Pre vs. Post



Process Variable Data: Pre vs. Post



Associations Among Changes in Process and Outcome



Mediation Path Diagrams: Catastrophizing predicting daily functioning



Sobel test $Z = 2.15, p = 0.03$

Fear predicting daily functioning



Sobel test $Z = 2.16, p = 0.03$

Self-efficacy predicting daily functioning



Sobel test $Z = 2.07, p = 0.04$

Catastrophizing predicting depression



Sobel test $Z = 2.38, p = 0.02$

Fear predicting depression



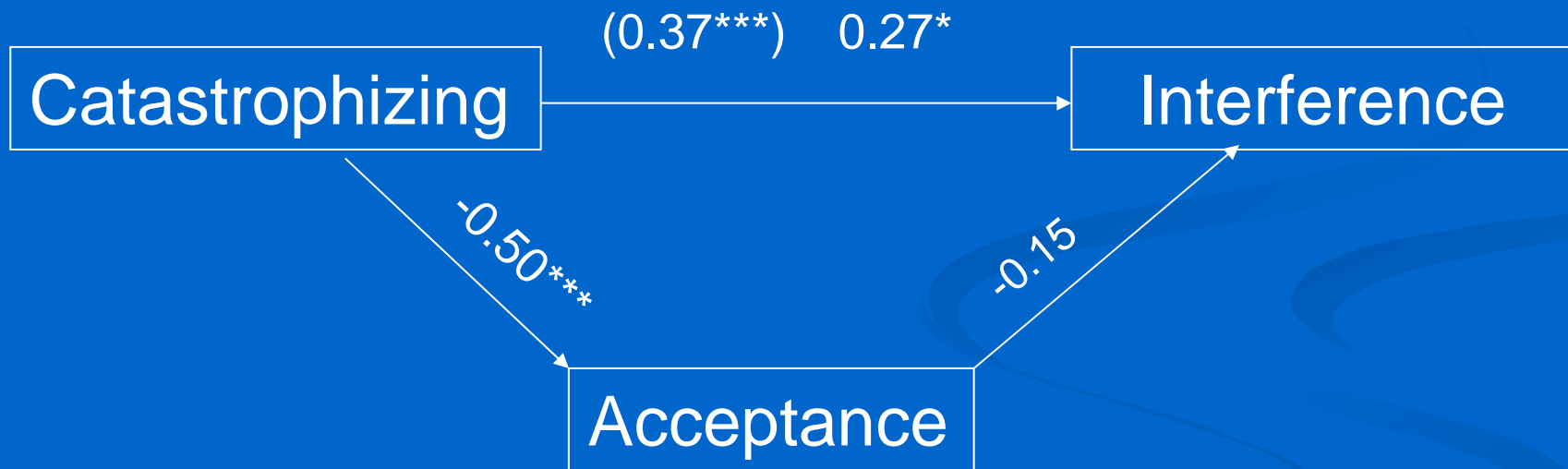
Sobel test $Z = 2.09, p = 0.04$

Self-efficacy predicting depression



Sobel test $Z = 2.19, p = 0.03$

Catastrophizing predicting interference



Fear predicting interference



Self-efficacy predicting interference



Sobel test $Z = 1.83, p = 0.07$

Self-efficacy predicting pain



Summary

- Pain acceptance fully mediated changes in goal-oriented daily functioning, suggesting that acceptance may buffer the effects of high catastrophizing and fear and low self-efficacy on this outcome.
- Pain acceptance also fully mediated the impact of catastrophizing on depression and partially mediated the impacts of fear and self-efficacy on depression, suggesting that it also facilitated changes in this outcome.
- Consistent with the model, changes in pain acceptance were unrelated to changes in pain, while changes in self-efficacy, focusing on pain reduction, were significantly associated with changes in pain level.

Summary

- The results are limited by the correlational design and thus do not demonstrate causal relationships.
- The results may not be generalizable to patients receiving treatment that differs in frequency, intensity, or type.
- Notwithstanding the above limitations, the results do suggest that pain-related acceptance is integral to living with and adjusting to chronic pain, and therefore, would appear to be important to address directly in chronic pain treatment.
- Acceptance-based treatments have shown promise in uncontrolled studies, controlled studies are needed.