PERCEIVED INJUSTICE AND ITS IMPACT ON PHYSICAL AND EMOTIONAL FUNCTIONING: THE MEDIATING ROLE OF CHRONIC PAIN ACCEPTANCE

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INTRODUCTION

- **Perceived injustice (PI)** can be defined as a negative appraisal regarding irreparability and severity of loss associated to pain, and feelings of blame and injustice (Sullivan et al., 2008).

- Recent findings suggest that PI is an **important risk factor among chronic pain patients** (Sullivan, Scott, & Trost, 2012). To our knowledge, no research studies have examined its role within a theoretical framework, and the mechanisms by which this perception leads to disability are unknown.

- *Acceptance and Commitment Therapy* (ACT; Hayes, 2012) is considered a highly validated approach for chronic pain.

- **Pain acceptance** (staying active on a daily basis and cultivating an open attitude towards pain symptoms; McCracken, 2014) has been associated to better physical and emotional functioning in individuals who live with chronic pain, and it could potentially be an explanative variable between PI and pain disability (Scott et al., 2013).

- *Objective:* To examine the mediating role of chronic pain acceptance on the relation between PI and pain outcomes (pain disability and psychological distress).

METHOD

PARTICIPANTS

- **475 individuals** (81% women) who live with chronic pain.

- Participants' mean age was 51 years (*SD* = 11.4) and the majority (62%) had been living with pain for more than 7 years.

PROCEDURE

- Participants were recruited via an association for people with chronic pain in Quebec (Canada) that sent e-mails to its members and posted study information on its website.

MEASURES

- **Injustice Experience Questionnaire** ("IEQ"; Sullivan et al., 2008): alpha (α) = .90 compared to .92 for the original version.

- **Chronic Pain Acceptance Questionnaire** ("CPAQ"; Fish et al., 2010): α = .73 compared to coefficients ranging between .77 and 89 for other studies.

- **Brief Pain Inventory** ("BPI"; Cleeland, 1994): α = .90 compared to coefficients usually above .80 (Cleeland, 2009).

- **Hospital Anxiety and Depression Scale** ("HADS"; Zigmond & Snaith, 1983): α = .85 compared to .89 for the French version (Savard et al., 1998).

RESULTS

DESCRIPTIVE STATISTICS

> **Table 1:** Descriptive Statistics and Intercorrelations

	M	SD	1	2	3	4
1. Perceived Injustice (IEQ)	29.1	10.3	-	-.56**	.60**	.63**
2. Chronic Pain Acceptance (CPAQ)	21.0	6.8		-	-.60**	-.57**
3. Pain Disability (BPI)	57.3	20.1			-	.70**
4. Psychological Distress (HADS)	17.6	7.0				-

Note.** *p* < .01, two-tailed.

MEDIATION ANALYSIS

- Two models examining the degree to which chronic pain acceptance mediated the relation between PI and pain outcomes were tested.

- As recommended by Preacher and Hayes (2008), bias corrected (BC) confidence intervals were used with the bootstrapping (1000 samples) method in order to obtain indirect effects.

> **Table 2:** Results of Mediation Analysis for PI, Chronic Pain Acceptance, and Pain Disability

		Consequent						
		M (CPAQ)				Y (BPI)		
Antecedent	a	Coeff.	SE	p		Coeff.	SE	p
X (IEQ)		-.374	.025	<.001	c'	.742	.080	<.001
M (CPAQ)	i1	_____	_____	_____	b	-1.14	.121	<.001
Constant		31.885	.779	<.001	i2	59.706	4.357	<.001
		R²= .317				R²= .459		
		F(1,473) = 219.05, p = .000				F(2,472) = 200.43, p =.000		

- PI predicted lower pain acceptance (*a* = -.374) and low pain acceptance predicted higher pain disability (*b* = -1.14).

- There was also evidence of a significant relation between PI and pain disability (*c'* = .742). CIs were entirely above zero (CI = .325 to .529) for the indirect effect (*ab* = .427).

- Therefore, chronic pain acceptance significantly mediated the relation between perceived injustice and pain disability.
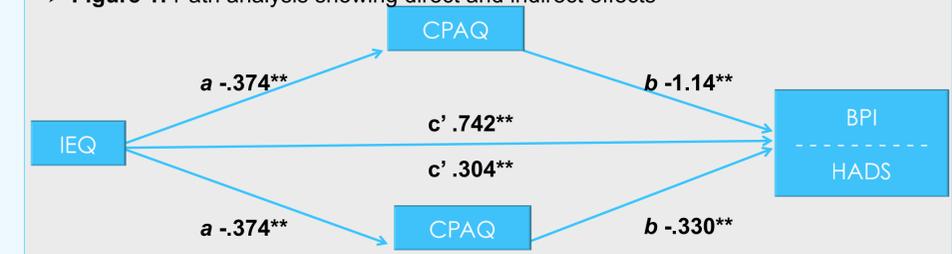
RESULTS

> **Table 3:** Results of Mediation Analysis for PI, Chronic Pain Acceptance, and Psychological Distress

		Consequent						
		M (CPAQ)				Y (HADS)		
Antecedent	a	Coeff.	SE	p		Coeff.	SE	p
X (IEQ)		-.374	.025	<.001	c'	.304	.028	<.001
M (CPAQ)	i1	_____	_____	_____	b	-.330	.042	<.001
Constant		31.885	.779	<.001	i2	15.650	1.518	<.001
		R²= .317				R²= .461		
		F(1,473) = 219.05, p = .000				F(2,472) = 202.26, p =.000		

- PI predicted lower pain acceptance (*a* = -.374) and low pain acceptance predicted higher psychological distress (*b* = -330).

- The direct effect was significant (*c'*= .304). CIs were entirely above zero (CI = .090 to .159) for the indirect effect (*ab* = .123), indicating that chronic pain acceptance significantly mediated the relation between PI and psychological distress.

> **Figure 1:** Path analysis showing direct and indirect effects

DISCUSSION

- As predicted, results showed that pain acceptance significantly mediated the relation between PI and physical and emotional functioning.

- **Empirical implications:** this is one of the first studies to have examined the process by which PI is linked to pain outcomes, and it is the first to examine PI within a theoretical framework.

- **Clinical implications:** interventions aimed at increasing pain acceptance could potentially help improve the functioning of individuals with heightened PI.

- **Limitations:** the sample was mostly comprised of women and the correlational research protocol prevents us from inferring causality between variables.

- **Future research studies** could examine the role of other ACT variables with PI.

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QUEBEC PAIN RESEARCH NETWORK

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Savoir. Surprendre.