

PSYCHOLOGICAL INFLEXIBILITY FOR PAIN: TRANSLATION AND VALIDATION FOR A FRENCH-SPEAKING POPULATION

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INTRODUCTION

- A growing number of studies support the use of **Acceptance and Commitment Therapy (ACT)**; Hayes et al., 2012) for the treatment of **chronic pain (CP)**.
- Psychological flexibility**, the central concept of ACT, corresponds to the ability to act in accordance with one's values despite pain (McCracken et al., 2014).
- Recently, the **Psychological Inflexibility in Pain Scale (PIPS)**; Wickzell et al., 2010, 2008) has been developed to measure avoidance and fusion in pain patients.
- PIPS scores are linked to pain disability, but more research is needed to better understand psychological inflexibility in CP as well as its relation with other ACT processes. Furthermore, the PIPS is **not yet available in French**.
- This study aims to **translate and validate a French version of the PIPS**.

METHOD

PARTICIPANTS

- 1 077 French-speaking** individuals from Quebec (Canada) and France, who report different types of CP.
- Canadian participants were recruited through an association for people with CP that e-mailed its members and posted study information on its website. France participants were recruited through pain treatment centres.

PROCEDURE

- The **reversed parallel method** (Vallerand, 1989) has been used to translate this questionnaire (4 bilingual translators/researchers). The author of the original version verified the French versions. Small adjustments were made during the process.

STATISTICAL ANALYSES PERFORMED

- An exploratory factor analysis was first conducted, followed by a confirmatory factor analysis. Correlations and multiple hierarchical regressions were also conducted in order to establish convergent, divergent, and incremental validities.

MEASURES

- Pain Catastrophizing Scale** ("PCS"; French et al., 2005);
- Chronic Pain Acceptance Questionnaire** ("CPAQ-8"; Fish et al., 2010);
- Cognitive Fusion Questionnaire** ("CFQ"; Gillanders et al., 2014);
- Committed Action Questionnaire** ("CAQ"; McCracken et al., 2014);
- Brief Pain Inventory** ("BPI"; Cleeland, 1994);
- Hospital Anxiety and Depression Scale** ("HADS"; Zigmond & Snaith, 1983).

RESULTS

➤ **Table 1.** Rotated factor loadings (PCA, varimax rotation) for the 12 items of the PIPS (N= 1 077)

Items	Means (SD)	Avoid.	Fusion
1. J'annule les activités que j'avais prévu de faire lorsque j'ai mal. (I cancel planned activities when I am in pain).	4.51 (1.52)	.76	.13
2. Je dis des choses comme « Je n'ai pas d'énergie », « je ne vais pas assez bien », « Je n'ai pas le temps », « Je n'ose pas », « J'ai trop mal », « Je me sens trop mal » ou « je n'en ai pas envie ». (I say things like "I don't have the energy", "I am not well enough", "I don't have time", "I don't dare", "I have too much pain", "I feel too bad", or "I don't feel like it").	4.68 (1.51)	.73	.14
3. Je dois comprendre ce qui ne va pas pour pouvoir avancer dans ma vie. (I need to understand what is wrong in order to move on).	5.18 (1.64)	.22	.72
4. En raison de ma douleur, je ne fais plus de projets pour le futur. (Because of my pain, I no longer plan for the future).	4.03 (1.89)	.79	.09
5. J'évite de faire des choses quand il y a un risque que cela fasse mal ou empire les choses. (I avoid doing things when there is a risk it will hurt or make things worse).	4.82 (1.52)	.65	.27
6. Il est important que je comprenne ce qui cause ma douleur. (It is important to understand what causes my pain).	5.71 (1.38)	.08	.82

RESULTS

Items (continued)	Means (SD)	Avoid.	Fusion
7. Il y a des choses importantes pour moi que je ne fais pas pour éviter de ressentir ma douleur. (I don't do things that are important to me to avoid pain).	4.66 (1.54)	.73	.21
8. Je reporte les choses à plus tard en raison de ma douleur. (I postpone things because of my pain).	4.72 (1.44)	.79	.18
9. Je serais presque prêt(e) à tout pour me débarrasser de ma douleur. (I would do almost anything to get rid of my pain).	5.70 (1.45)	.41	.39
10. Ce n'est pas moi qui contrôle ma vie, c'est ma douleur. (It's not me that controls my life, it's my pain).	4.30 (1.77)	.81	.16
11. J'évite de prévoir des activités en raison de ma douleur. (I avoid planning activities because of my pain).	4.34 (1.62)	.83	.19
12. Il est important que j'apprenne à contrôler ma douleur. (It is important that I learn to control my pain).	5.76 (1.32)	.14	.75

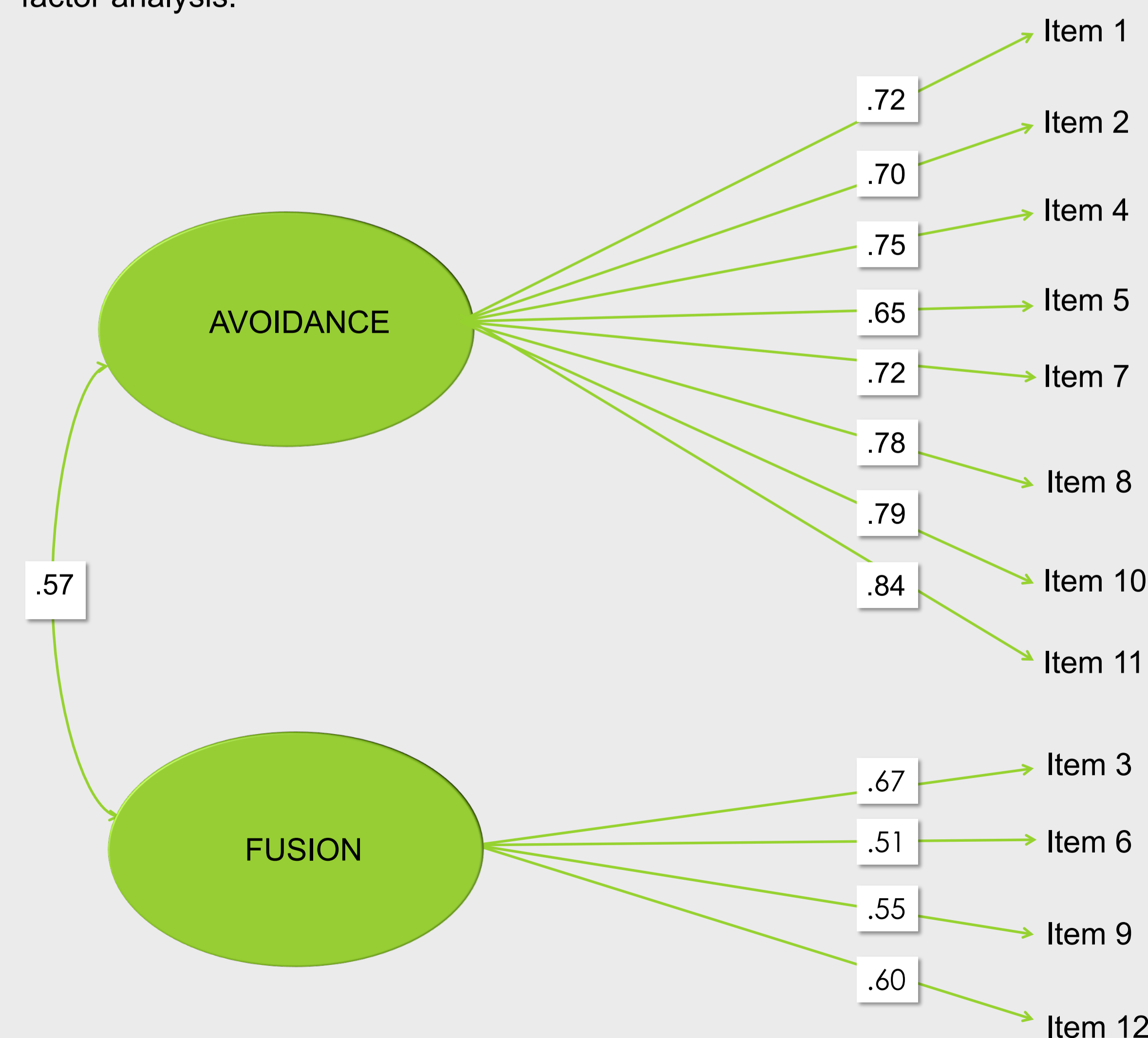
- Results show a two-factor solution (avoidance and fusion) and good internal consistency (Chronbach's alpha= .89).

➤ **Table 2.** Model fit indices of the Confirmatory Factor Analysis for the PIPS for the different models.

Model Fit indice PIPS	CMIN (DF)	CMIN/DF	TLI	CFI	RMSEA
Model 1 (N = 1 241)	675.1 (53)	12.7	.86	.90	.097
Model 2 (N = 1 077) Without missing data	605.2 (53)	11.41	.88	.91	.098
Model 3 (4 co-variances)	352.3 (49)	7.19	.93	.95	.076

Note. Model 1 : total sample (N= 1 241); Model 2 : without missing data (N= 1 077); Model 3 : with 4 co-variances. Indices : model fit : CFI > .9; TLI = .9; RMSEA < .05 (very good) or .08 (good); CMIN/df < 3

➤ **Figure 1.** Standardized regression weights of the PIPS obtained with confirmatory factor analysis.



Note. This figure refers to Model 2. Model 3 includes co-variances between items 1 and 2, 4 and 5, 9 and 10, as well as 9 and the avoidance dimension.

RESULTS

➤ **Table 3.** Convergent and divergent validities with other ACT and CP variables (N= 653 Canadians)

	PIPS
Pain Catastrophizing (PCS)	.62*
CP Acceptance (CPAQ)	-.73*
Cognitive Fusion (CFQ)	.53*
Committed Action (CAQ)	.54*

Note. * p < .01

➤ **Table 4** Multiple Hierarchical Regressions

	ΔR	ΔF	β
Regression 1 : Pain disability (BPI). N= 588 (Canadians)			
Step 1 Average pain	.24*	180.96*	
Step 2 CP Acceptance (CPAQ)	.25*	276.83*	
Step 3 Avoidance (PIPS)	.04*	25.94*	.33*
Cognitive Fusion (PIPS)			-.06
R² Total	.52*		
Regression 2 : Psychological distress (HADS). N= 582 (Canadians)			
Step 1 Average pain	0.11*	69.28*	
Step 2 CP Acceptance (CPAQ)	.26*	240.65*	
Step 3 Avoidance (PIPS)	.04*	134.59*	.31*
Cognitive Fusion (PIPS)			.005
R² Total	.41*		

Note. * p < .05

DISCUSSION

- Overall, results show that the French version of the PIPS has **good psychometric properties** (good model fit, good convergent and divergent validities with other ACT and CP measures).
- The French version of the PIPS has a two-factor structure like in the original version.
- The PIPS scores predict **unique variance** to pain disability and psychological distress, above pain intensity and CP acceptance.
- Similar to the original version, item 9 received a lower factor loading. Since the overall model (including this item) is generally good, we decided to keep this item.
- Despite some **limitations** (absence of retest, cross-sectional design), this study contributes to the study of Psychological Flexibility in chronic pain.

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