

Validation of the Cognitive Fusion Questionnaire

in a French-Speaking Population

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Introduction

- One central concept in ACT is **Cognitive Fusion (CF)**.
- CF is the **pouring together of verbal/cognitive process and direct experience** such that the individual cannot discriminate between the two (Hayes et al., 2012).
- Others terms like **cognitive decentering** (Fresco et al., 2007) and **metacognitive awareness** (Segal et al., 2012) have been used.
- CF and Experiential Avoidance are key processes in the **development and maintenance of psychopathology** (Hayes et al., 2012).
- Despite the relevance of the concept of fusion, **very few questionnaires are available for the clinician and researcher, and none in French.**
- This poster addresses the **validation in French** of the Cognitive Fusion Questionnaire (CFQ) recently developed by Gillanders et al. (2014).

Method

- The first group consisted of **434 participants** from a **non-clinical population** with a mean age of 24.24 ($SD= 8.90$), 73.5% were female and 26.5% were male.
- The second group were **130 participants** from a **clinical population** with a mean age of 43.88 ($SD= 13.86$), 75.4% were female and 24.6% were male.

Table 1: Alphas and raw scores for each questionnaire. Comparison between clinical and non-clinical samples and the independent samples *t*-test result for the CFQ.

		Alphas		Means (<i>SD</i>) Raw scores	
		Clinical (<i>N</i> = 130)	Non clinical (<i>N</i> = 434)	Clinical	Non clinical
Cognitive Fusion Questionnaire (CFQ, Gillanders et al., 2014)	7 items 1 (always true) to 7 (never true)	.73	.92	33.27 (7.81)	21.02 (9.57)
Mindful Attention Awareness Scale (Brown & Ryan, 2003; Jermann et al., 2009)	15 items 1 (almost always) to 6 (almost never)	.89	.86	58.44 (15.99)	61.59 (11.51)
Acceptation and Action Questionnaire (AAQ-II, Bond et al., 2011; Monestès et al., 2009)	7 items 1 (always true) to 7 (never true)	.85	.88	34.78 (9.24)	20.11 (8.79)

An independent-samples *t*-test was conducted to compare the clinical ($M= 4.81$, $SD= 1.03$) and the non-clinical samples ($M= 3.02$, $SD= 1.35$). There was a significant difference in the scores for Cognitive Fusion; $t(275)= -16.10$, $p= .000$. These results suggest that the **clinical sample was associated with a higher mean score of Cognitive Fusion than the non-clinical sample.**

Results

Exploratory Factor Analysis

- The results of the initial Exploratory Factor Analysis (EFA) with **Principal Components Analysis** confirmed the unidimensional factor structure explaining **67% of the total variance**.
- The second EFA was conducted with the **Unweighted Least Squares method** (Table 2).

Table 2: Factor Structure of the CFQ (*N*= 434).

	Factor loadings	Means (<i>SD</i>)
1. Mes pensées me font souffrir ou me rendent tristes (My thoughts cause me distress or emotional pain)	.75	2.94 (1.51)
2. Je suis tellement pris par mes pensées que je suis incapable de faire les choses que je veux vraiment faire (I get so caught up in my thoughts that I am unable to do the things that I most want to do)	.77	2.60 (1.37)
3. J'analyse trop les situations au point que cela devient inutile pour moi (I over-analyse situations to the point where it's unhelpful to me)	.69	3.37 (1.76)
4. Je lutte contre mes pensées (I struggle with my thoughts)	.80	2.86 (1.66)
5. Je m'agace moi-même d'avoir certaines pensées (I get upset with myself for having certain thoughts)	.83	3.36 (1.72)
6. J'ai tendance à être très pris par mes pensées (I tend to get very entangled in my thoughts)	.83	3.25 (1.72)
7. Je dois lutter énormément pour laisser tomber mes pensées désagréables, même si je sais bien que cela m'aiderait (It's such a struggle to let go of upsetting thoughts even when I know that letting go would be helpful)	.84	2.79 (1.77)

Concurrent Validity

- Results of correlational analyses showed that **cognitive fusion is significantly related to two dimensions of psychological flexibility**, namely mindfulness and acceptance (Table 3).

Table 3: Correlations between Cognitive Fusion (CFQ), Mindfulness (MAAS) and Acceptance (AAQ-II) in a clinical (*N*= 130) and non-clinical (*N*= 434) population respectively.

	Cognitive Fusion Questionnaire (CFQ)	
	Clinical	Non clinical
MAAS	-.56**	-.49**
AAQ-II	.66**	.77**

** $p < .01$

Confirmatory Factor Analysis

- A Confirmatory Factor Analysis (CFA) was conducted using AMOS 22 with the **Maximum Likelihood Estimation** and the unidimensional structure of the CFQ was confirmed. The CFA also revealed overall **good fits of the structure model** for the non-clinical population but only **adequate fits** for the clinical population (Table 4).

Table 4: Main results of the Confirmatory Factor Analysis for the CFQ in the clinical (*N*= 130) and non-clinical (*N*= 434) samples.

Model Fits CFQ	<i>p</i>	CMIN /DF	GFI	CFI	SRMR	RMSEA
Clinical	$p < .01$	3.30	.91	.84	.07	.13
Non-Clinical	$p = .006$	2.21	.98	.99	.02	.05

- We then compared the results of our CFA with those of other studies conducted with different samples (Gillanders et al., 2014) (Table 5).

Table 5: Confirmatory Factor Analysis in Different Samples.

Sample	X^2	<i>df</i>	<i>P</i> value	NC (X^2 / df)	CFI	IFI	RMSEA	SRMR
Community (<i>N</i> = 448)	40.857	14	.001	2.918	.986	.986	.065	.049
Stress management (<i>N</i> = 242)	44.388	14	.001	3.171	.971	.971	.095	.072
Mixed Mental Health (<i>N</i> = 215)	20.333	14	.120	1.452	.991	.991	.046	.060
Multiple Sclerosis (<i>N</i> = 133)	25.852	14	.027	1.847	.983	.983	.080	.086
Dementia caregivers (<i>N</i> = 219)	45.024	14	.001	3.216	.962	.963	.101	.081
Non-clinical Population (<i>N</i>= 434)	30.904	14	.006	2.207	.991	.991	.053	.019
Clinical Population (<i>N</i>= 130)	46.218	14	.001	3.301	.843	.848	.134	.071

NC= Normed Chi Square, CFI= Comparative Fit Index, IFI= Iterative Fit Index, RMSEA= Root Mean Square Error of Approximation, SRMR= Standardised Root Mean Residual.

Conclusion

- The results of the French version of the CFQ are **comparable to the original study**.
- The **French version** of the CFQ is a **valid questionnaire for clinical and research purposes**.

Limitations

- Test-retest reliability has to be established for the French version.
- Establish further validity with other ACT processes such as values-based actions.