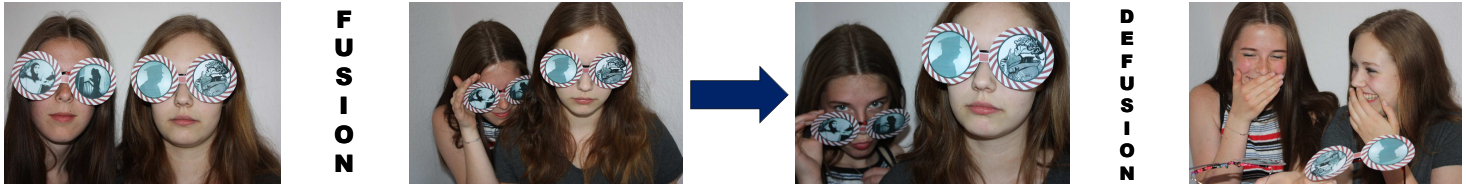


# Cognitive Fusion

## Concept and Validation of the German Version of the Cognitive Fusion Questionnaire CFQ-D



### Background

Within the ACT model of psychological flexibility, cognitive fusion (CF) refers to a person's attitude towards their own thoughts and beliefs, more specifically, the extent to which they identify with their own thoughts and beliefs. This concept is of growing interest for those treating chronic conditions, e.g. pain. Recently developed measures of CF are available in English but so far, are lacking in German.

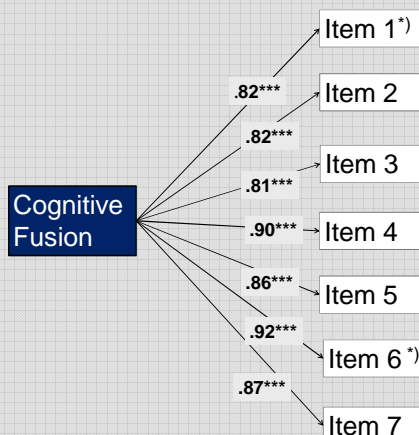
### Methods - Participants

This study aimed to explore the reliability and validity of the German translation of the Cognitive Fusion Questionnaire CFQ by Gillanders et al. (2014) within a mixed sample of chronic pain patients from a rehabilitation clinic and non-clinical clinic-employees, attendees of a conference and university students. The participants also completed a set of standard clinical measures as well as the German translation of the Psychological Inflexibility in Pain Scale (PIPS) to look into concurrent and convergent validity.

	N	Mean	SD
Age	296	50.82	10.99
Gender f / m	114 / 191		
Clinical / non-clinical	192 / 114		
CFQ-D-1	306	3.61	1.62
CFQ-D-2	306	2.74	1.57
CFQ-D-3	306	2.91	1.70
CFQ-D-4	306	3.21	1.66
CFQ-D-5	306	3.39	3.15
CFQ-D-6	306	3.15	1.73
CFQ-D-7	306	3.38	1.82
CFQ-D-total	306	22.45	10.60

### Results I – Factor Analysis

Several indicators were considered in order to assess model fit. Although the  $\chi^2$ -test was significant ( $\chi^2 = 34.4$ ,  $p < .001$ ), indicating significant deviation of the observed data from the model-implied data, the Root Mean Square Error of Approximation (RMSEA = .074) indicated acceptable model fit and the Tucker-Lewis-Index (TLI = .982) and Comparative Fit index (CFI = .989) indicated good model fit.



\*) The Intercorrelation of the residues of Items 1 and 6 (-.35\*\*\*) was included in the model.

### Methods - Measures

- Cognitive Fusion Questionnaire - German version (CFQ-D)
- Psychological Inflexibility in Pain Scale; PIPS-A measuring pain avoidance and PIPS-F measuring fusion (PIPS; Barke et al., 2015)
- Self Reported NRS: Pain (0-10); State of Health (1-5); Disability (0-10)
- Hannover Functional Questionnaire - Backpain (FFbH-R; Raspe et al., 1987)
- Nottingham Health Profile - Energy, - Sleep, - Pain - German version (NHP-E, SL, P; Kohlmann et al., 1997)
- Pain related Self Instructions Questionnaire, Subscale Catastrophising (FSS-CAT; Flor, 1991)
- Center for Epidemiological Studies Depression Scale - German version (CESD-K; Gerbershagen et al., 1998)

### Results II – Reliability and Validity

The internal consistency of Cronbach's alpha = .95 was excellent.

In terms of convergent and construct validity the CFQ-D achieved medium-sized correlations with measures of depression, catastrophizing, pain avoidance and fusion. Small-sized correlations occurred with measures of self reported pain severity, state of health, disability, level of functioning and quality of life.

	Depression CESD	Catastrophizing FSS-CAT	Pain Avoidance PIPS-A	Fusion PIPS-F
CFQ-D-total	.63**	.52**	.57**	.48**
N	290	292	288	288

	State of Health NRS	Disability NRS	Functioning FFbH	Lack of Energy NHP-E	Short of Sleep NHP-SL	Pain NHP-P	Pain NRS
CFQ-D-total	.37**	.42**	-.33**	.44**	.41**	.32**	.39**
N	283	273	291	292	292	292	289

### Discussion

We conclude that the CFQ-D is a reliable and valid tool to measure cognitive fusion in a German-speaking population. It achieved good internal consistency, and a one factor structure was confirmed. Convergent and construct validity of the CFQ-D are supported with significant correlations using several established constructs.

Limitations of the study: Data include only self-report measures. More research on the usefulness of the concept Cognitive Fusion for chronic pain is needed.

### References

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